

RS-20-019

10 CFR 50.90

March 31, 2020

U.S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
Washington, DC 20555-0001

Quad Cities Nuclear Power Station, Units 1 and 2  
Renewed Facility Operating License Nos. DPR-29 and DPR-30  
NRC Docket Nos. 50-254 and 50-265

Subject: Response to Request for Additional Information for the License Amendment Request to Change Technical Specifications to Increase Allowable MSIV Leakage Rates and Revise Secondary Containment Surveillance

- References:
1. Letter from P.R. Simpson (Exelon Generation Company, LLC) to U.S. Nuclear Regulatory Commission, "Application to Increase Technical Specifications Allowable MSIV Leakage Rates and Revise Secondary Containment Surveillance Requirement 3.6.4.1.1," dated March 5, 2019 (ML19064B369)
  2. E-mail from K. Green (U.S. Nuclear Regulatory Commission) to R.L. Steinman (Exelon Generation Company, LLC), "Request for Additional Information for Quad Cities Request to Revise Technical Specifications to Increase MSIV Leakage Rate (L-2019-LLA-0045)," dated January 31, 2020 (ML20031C833)
  3. Letter from P.R. Simpson (Exelon Generation Company, LLC) to U.S. Nuclear Regulatory Commission, "Response to Request for Additional Information for the License Amendment Request to Change Technical Specifications to Increase Allowable MSIV Leakage Rates and Revise Secondary Containment Surveillance," dated February 24, 2020 (ML20055E826)

In the Reference 1 letter, Exelon Generation Company, LLC, (EGC) requested an amendment to Renewed Facility Operating License Nos. DPR-29 for Quad Cities Nuclear Power Station (QCNPS), Unit 1 and DPR-30 for QCNPS, Unit 2. The proposed change would increase the main steam isolation valve (MSIV) leakage rate limit for all four steam lines from 86 to 156 standard cubic feet per hour (scfh) for Unit 1 and from 86 to 218 scfh for Unit 2; credit the residual heat removal (RHR) drywell spray system and add a new technical specification (TS) 3.6.2.6, "Residual Heat Removal (RHR) Drywell Spray"; and adopt Technical Specification Task Force Traveler (TSTF) 551, "Revise Secondary Containment Surveillance Requirements."

Attachment 1 contains the responses to the NRC ARCB request for additional information (RAI) questions in Reference 2. The response to the EENB RAI in Reference 2 was submitted

separately by letter dated February 24, 2020 (Reference 3). Attachment 2 provides the revised dose consequence calculation which supersedes the previous version provided in Reference 1.

EGC has reviewed the information supporting a finding of no significant hazards consideration, and the environmental consideration, that were previously provided to the NRC in Reference 1. The additional information provided in this submittal does not affect the bases for concluding that the proposed license amendment does not involve a significant hazards consideration. In addition, the information provided in this submittal does not affect the bases for concluding that neither an environmental impact statement nor an environmental assessment needs to be prepared in connection with the proposed amendment.

EGC is notifying the State of Illinois of this response related to a previous application for a change to the operating license by sending a copy of this letter and its attachments to the designated State Official in accordance with 10 CFR 50.91, "Notice for public comment; State consultation," paragraph (b).

There are no regulatory commitments contained within this letter.

Should you have any questions concerning this letter, please contact Ms. Rebecca L. Steinman at (630) 657-2831.

I declare under penalty of perjury that the foregoing is true and correct. Executed on the 31<sup>st</sup> day of March 2020.

Respectfully,



Patrick Simpson  
Sr Manager Licensing  
Exelon Generation Company, LLC

Attachments:

1. Response to NRC ARCB Request for Additional Information
2. QDC-0000-N-1481, Revision 4, Quad Cities Units 1 & 2 Post-LOCA EAB, LPZ, and CR Dose - AST Analysis

cc: NRC Regional Administrator, Region III  
NRC Senior Resident Inspector, Quad Cities Nuclear Power Station  
Illinois Emergency Management Agency – Division of Nuclear Safety

**ATTACHMENT 1**  
**Response to NRC ARCB Request for Additional Information**

**Regulatory Basis and Background for ARCB-RAI-1A, B & C – Spray Credit in the LOCA Model:**

RG 1.183, Appendix A, Section 3.3 states, in part, that, "Reduction in airborne radioactivity in the containment by containment spray systems that have been designed and are maintained in accordance with Chapter 6.5.2 of the SRP (Ref. A-1) may be credited." Section 3.3 also states, in part, that, "The evaluation of the containment sprays should address areas within the primary containment that are not covered by the spray drops... The containment building atmosphere may be considered a single, well-mixed volume if the spray covers at least 90% of the volume and if adequate mixing of unsprayed compartments can be shown."

Enclosure B, "QDC-0000-N-1481, Revision 3, Quad Cities Units 1 & 2 Post-LOCA EAB, LPZ, and CR Dose – AST Analysis," Section 2.1.3, "Reduction In Airborne Activity Inside Containment," page 13 of the LAR, acknowledges that the drop size spectrum emitted by the spray nozzles is a key parameter in determining the fission product removal effectiveness and states that detailed drop size information for the spray nozzles could not be located. Section 5.3.2.12, "Drywell Spray Parameters," of the LAR provides a spray pump volumetric flow rate of 2,352 gallons per minute (gpm). Sprays would be initiated by manual action 10 minutes post-accident with an assumed termination at 4 hours and a fall height of 11.41 meters (m) (37.43 feet).

The NRC staff examined the QCNPS Updated Final Safety Analysis Report (UFSAR), Section 6.2.2, "Containment Heat Removal Systems," for evidence that the containment spray systems have been designed to provide a reduction in airborne activity consistent with SRP Section 6.5.2. Based on this examination, it appears that the spray systems were designed for pressure reduction and not specially for reducing airborne radioactivity. The NRC staff notes that containment spray design requirements regarding the ability to reduce airborne radioactivity are discussed in Enclosure B, Section 2.1.3, "Reduction in Airborne Activity Inside Containment," in a comparison between SRP Section 6.5.2 review items.

The NRC staff examined the calculation of the particulate removal coefficient as documented in Enclosure B, Section 7.11, "Spray Calculations," page 64 of the LAR. Based on this examination, it appears that the spray drop fall height of 11.41 m (37.43 feet) was determined by the difference in elevations between the lower drywell spray header and the bottom of the drywell floor. This method does not appear to consider the obstructions that are present in the drywell, which could reduce the effective spray drop fall height. In addition, the analysis assumes a spray flow rate of 2,352 gpm. As with spray drop fall height, obstructions in the drywell could reduce the effective spray flow rate available for reducing airborne radioactivity. The NRC staff notes that both the unobstructed free fall height and spray flow rate are important factors in determining the ability of the containment sprays to effectively reduce airborne radioactivity. This issue related to reductions in spray fall height and spray flow rate resulting from impingement has been addressed in previous AST applications.

NUREG/CR-5966, "A Simplified Model of Aerosol Removal by Containment Sprays," Section H, (ADAMS Accession No. ML063480542) discusses the issue of obstructions interfering with the effectiveness of sprays as follows:

**ATTACHMENT 1**  
**Response to NRC ARCB Request for Additional Information**

H. Droplet-Structure Interactions

Reactor containment buildings are not simple, open volumes. Immediately below spray headers there is often a substantial open space. But, eventually, falling drops begin to encounter equipment, structures and operating floor of the reactor. The drywells of Mark I containments are well-known for the congestion that can interfere in the free fall of water droplets.

The flooring in many reactor containments is grating or so-called "expanded sheet metal." Below the flooring are large volumes which, in a severe reactor accident, would hold aerosol-contaminated gas. It is of interest to know, then, if spray droplets, after hitting structures and the open flooring, would continue to sweep aerosols from the containment atmosphere. Certainly, in the case of the design basis analysis of iodine removal from containment atmospheres, it has been traditional to assume droplets are ineffective once they have hit a structure or the flooring.

**ARCB-RAI-1A**

Please describe how the design characteristics of the drywell spray system that effect its ability to provide a reduction in airborne activity, as discussed in Enclosure B, Section 2.1.3 of the LAR, will be incorporated into the QCNPS UFSAR.

**Response to ARCB RAI-1A**

The Quad Cities Nuclear Power Station (QCNPS) Updated Final Safety Analysis Report (UFSAR) will be updated in accordance with 10 CFR 50.71(e) as part of implementation of the approved amendment. A summary of the proposed changes is provided below.

- Sections 6.0.1.2, 6.2.2.1, and 6.3.1.2 will be updated to include how drywell spray aids in removal of airborne fission products.
- Section 6.2.1.3.2.2 will be revised to remove statements about drywell spray not being necessary. The statement about there being no time requirement for initiation of the containment cooling system will also be removed.
- Section 6.5.2 will be revised to summarize the design characteristics of the drywell spray system that impact its ability to provide a reduction in airborne activity. The level of detail will be similar to that included in the table in Section 2.1.3 of QDC-0000-N-1481 and includes meeting the requirements of ANS/ANSI 56.5 as it relates to calculation of airborne fission product removal following a LOCA such as geometry, physical features, flow characteristics, and mixing considerations as described in Standard Review Plan Section 6.5.2.

**ARCB-RAI-1B**

Please provide additional information to justify the use of the fall height of 11.41 m (37.43 feet) in the determination of the particulate removal coefficient, including an explanation of how obstructions present in the drywell were considered.



**ATTACHMENT 1**  
**Response to NRC ARCB Request for Additional Information**

**Response to ARCB RAI-1B**

The spray removal coefficient used in Revision 3 of QDC-0000-N-1481 for a decontamination factor (DF)  $\leq 50$  is  $15.0 \text{ hr}^{-1}$ . This value was based in part on a spray fall height calculated as the difference between the lower spray header elevation (607'-3") and the bottom of drywell elevation (569'-10"). The calculated value of  $20.44 \text{ hr}^{-1}$  was reduced to  $15.0 \text{ hr}^{-1}$  when input into the RADTRAD model as a conservatism.

QDC-0000-N-1481 Revision 4 Section 7.11 clarifies that the calculated spray removal coefficient is conservative as compared to the methodology used for Nine Mile Point Unit 1 and Oyster Creek, which made specific reductions in the calculation based on obstructions in the drywell or blocked nozzles that may impede flow. In addition to the equipment installed in the drywell, these obstructions include two floors of grating between the spray headers and the bottom of the drywell: one between the two spray headers at elevation 614'-7 1/4" and one below the lower spray header at elevation 592'-11 3/4". The Revision 4 fall height calculation is based on the drywell floor elevation (579'-10") rather than the bottom of drywell elevation and the overall spray removal coefficient is calculated using the lower spray header elevation. In conjunction with the conservatisms in the flow rate discussed in the response to ARCB RAI-1C, the overall spray removal coefficient is conservative as compared to the methodology used for Nine Mile Point Unit 1 (ADAMS Accession No. ML073230597) and Oyster Creek (ADAMS Accession No. ML050940234), which reduced the average spray header fall height to account for obstructions including grating and equipment. Since both elevations of spray nozzles (upper at 628'-8" and lower at 607'-3") will be available following a LOCA, the average fall height between these two elevations could have been used to calculate the fall height but using the lower header elevation provides some additional conservatism. QDC-0000-N-1481 Revision 4 is provided in Attachment 2 and shows that the Revision 3 RADTRAD spray removal coefficient input of  $15.0 \text{ hr}^{-1}$  remains conservative considering the margin available in the fall height and the flow rate as discussed in the response to ARCB RAI-1C.

**ARCB-RAI-1C**

Please provide additional information to justify use of the full spray flow rate of 2,352 gpm in the determination of the particulate removal coefficient, including an explanation of how obstructions present in the drywell were considered.

**Response to ARCB RAI-1C**

As described in the supplement dated May 23, 2019 (ADAMS Accession No. ML19143A347), the conservative drywell spray flow rate of 2,352 gallons per minute (gpm) is based on 160 drywell spray nozzles providing 14.7 gpm each. Each ring header contains 160 nozzles spaced around the drywell. The flow rate assumed in the analysis is based on only a single header providing flow even though both headers can be supplied simultaneously by a single residual heat removal (RHR) pump. UFSAR Section 6.2.1.3.3 states that the design basis drywell spray flow is 4,750 gpm and the wetwell spray flow rate is 250 gpm. TS Surveillance Requirement (SR) 3.6.2.3.2 specifies that each required RHR pump develops a flow rate greater than or equal to 5000 gpm while operating in the suppression pool cooling mode, which is substantially greater than the 2,352 gpm assumed for the calculation of the spray removal coefficient.

**ATTACHMENT 1**  
**Response to NRC ARCB Request for Additional Information**

Overall, the spray removal coefficient used in QDC-0000-N-1481 is more conservative than the methodology used for Oyster Creek and Nine Mile Point Unit 1 due to using a reduced flow rate as compared to the design flow. The Oyster Creek methodology (ADAMS Accession No. ML050940234) uses the average spray header fall height with a 1/3 reduction for obstructions along with a 1/3 reduction in the spray flow rate. Section 7.11 of QDC-0000-N-1481 Revision 4 demonstrates the spray removal coefficient based on the lower spray header fall height and a flow rate of 2,352 gpm is conservative when compared to the Oyster Creek Methodology with a 1/3 reduction of the average fall height and a 1/3 reduction of the design flow rate of 4,750 gpm (i.e., reduced to 3,167 gpm).

Therefore, the drywell spray flow rate of 2,352 gallons per minute (gpm) used in the determination of the particulate removal coefficient is conservative and sufficient to account for the effect of drywell obstructions and/or potential spray nozzle blockage.

**Regulatory Basis and Background for ARCB-RAI-2 – Crediting Iodine Removal in Previously Not Credited Steam Line Piping:**

RG 1.183, Appendix A, Section 6.3 states, in part, that the "Reduction of the amount of released radioactivity by deposition and plateout on steam system piping upstream of the outboard MSIVs may be credited, but the amount of reduction in concentration allowed will be evaluated on an individual case basis."

Attachment 1, Table 3-1, "Summary of LOCA Analysis Revisions," of the LAR presents changes to the current licensing basis (CLB) for the revised LOCA radiological analysis. One of the proposed changes involves a change to the elemental iodine removal credited in the main steam lines (MSLs). The CLB credits elemental iodine removal in the two intact steam lines but not in the line with the failed MSIV. The LAR proposes to substantially increase the elemental iodine removal in the MSLs between the reactor pressure vessel (RPV) and the outboard MSIV by crediting elemental removal in the line with the assumed failed MSIV and by increasing the removal in the previously credited volumes from 50 percent to up to about 98 percent.

From the NRC staff's examination of Enclosure B and Section 7.3, "Main Steam Line Volumes & Surface Area for Plateout of Activity," page 54 of the LAR, some discrepancies in the tabulated data and parameter values applied as parameters in the revised LOCA radiological analysis were observed:

- Table 1B, "Rate Constant ( $\lambda_s$ ) for Aerosol Settling in Main Steam Piping," page 77. The 40<sup>th</sup> percentile settling velocity given as "0.0081 m/s" should be "0.00081 m/s."
- Table 20, "MSIV Failed & Intact Steam Line Volumes for Elemental Iodine Removal Efficiency Calculation," page 95. The calculated volume for "D" (Volume V4) given as "4.33 m<sup>3</sup>" should be "4.64 m<sup>3</sup>." The calculated volume of "E" (Volume V5) of "4.33 m<sup>3</sup>" should be "1.39 m<sup>3</sup>."
- Table 26, "Elemental Iodine Deposition Rate - Intact Steam Line Volume V4," page 98. The Main Steam Line Total Surface Area given as "10.07 m<sup>2</sup>" should be "12.35 m<sup>2</sup>." As a result, the Elemental Iodine Removal Rates (hr<sup>-1</sup>) and Elemental

**ATTACHMENT 1**  
**Response to NRC ARCB Request for Additional Information**

Iodine Deposition Efficiencies for all listed post-LOCA times in Table 26 are impacted.

- Table 31, "Net Elemental Iodine Removal Efficiency - Intact Steam Line Volume V<sub>4</sub>," page 101. As a result of Table 26 observed discrepancies, the Elemental Iodine Deposition Efficiencies, Elemental Iodine Resuspension Efficiencies, and Elemental Net Deposition Efficiencies (%) for all listed post-LOCA times in Table 31 are impacted.
- As a result of the Table 31 observed discrepancies, the RADTRAD model input parameter values for elemental iodine are impacted.

**ARCB-RAI-2**

Please address the observed discrepancies described above and evaluate their impact on the calculated control room and offsite doses in the revised LOCA radiological analysis.

**Response to ARCB RAI-2**

- Table 1B, "Rate Constant ( $\lambda_s$ ) for Aerosol Settling in Main Steam Piping," page 77. The 40<sup>th</sup> percentile settling velocity given as "0.0081 m/s" should be "0.00081 m/s."

Corrected the settling velocity to 0.00081 m/s. This was a typographic error in Table 1B; the correct value for the settling velocity is used to calculate the values used in the RADTRAD models. Therefore, this correction has no impact on the calculation result.

- Table 20, "MSIV Failed & Intact Steam Line Volumes for Elemental Iodine Removal Efficiency Calculation," page 95. The calculated volume for "D" (Volume V<sub>4</sub>) given as "4.33 m<sup>3</sup>" should be "4.64 m<sup>3</sup>." The calculated volume of "E" (Volume V<sub>5</sub>) of "4.33 m<sup>3</sup>" should be "1.39 m<sup>3</sup>."

Corrected the calculated volumes for "D" and "E" in the note of Table 20. This was a typographic error in the note; the correct volumes are provided in the body of Table 20 and are used to calculate the values used in the RADTRAD models. Therefore, this correction has no impact on the calculation result.

- Table 26, "Elemental Iodine Deposition Rate - Intact Steam Line Volume V<sub>4</sub>," page 98. The Main Steam Line Total Surface Area given as "10.07 m<sup>2</sup>" should be "12.35 m<sup>2</sup>." As a result, the Elemental Iodine Removal Rates (hr<sup>-1</sup>) and Elemental Iodine Deposition Efficiencies for all listed post-LOCA times in Table 26 are impacted.

Corrected the surface area ("B") used in Table 26 from 10.07 m<sup>2</sup> to 12.35 m<sup>2</sup> for all timesteps. The corresponding Elemental Iodine Removal Rate ("D") and Elemental Iodine Deposition Efficiency ("E") are also updated for each timestep. This change increases the removal of elemental iodine ultimately resulting in a slight decrease in the calculated doses.

**ATTACHMENT 1**  
**Response to NRC ARCB Request for Additional Information**

- Table 31, "Net Elemental Iodine Removal Efficiency - Intact Steam Line Volume V<sub>4</sub>," page 101. As a result of Table 26 observed discrepancies, the Elemental Iodine Deposition Efficiencies, Elemental Iodine Resuspension Efficiencies, and Elemental Net Deposition Efficiencies (%) for all listed post-LOCA times in Table 31 are impacted.

Updated the Elemental Iodine Deposition Efficiency ("A") in Table 31 for all timesteps to the corrected values from Table 26. The resulting Elemental Iodine Net Deposition Efficiency ("C") is also updated for each timestep. The net deposition efficiency from Table 31 is used as input into the MSIV leakage RADTRAD cases. The 10 MSIV leakage cases, five for each fuel type, were updated and rerun using these revised values.

The identified discrepancies were captured in the corrective action program of the vendor that prepared the calculation. As part of the associated corrective action, a separate review was performed to ensure that there are no other discrepancies that would affect the calculated dose results. Based on this review, it was determined that a containment leakage pathway should be added from the unsprayed drywell volume to the reactor building for the containment leakage RADTRAD cases. (See revised Figure 1 of QDC-0000-N-1481 Revision 4 in Attachment 2.) The updated bounding design basis dose consequences, including this additional pathway and correction of the previously mentioned discrepancies, are provided below. The Revision 3 dose is provided in parenthesis for ease of comparison. If there is no entry in parenthesis the numerical value is unchanged. The additional pathway is responsible for all of the differences in post-LOCA total effective dose equivalent noted in Table RAI-2a.

**Table RAI-2a Revised Bounding LOCA Dose Consequence Summary**

Post-LOCA Activity Release Path	Post-LOCA TEDE Dose (Rem) Receptor Location		
	Control Room	EAB	LPZ
Containment Leakage	2.36E-01 (2.02E-01)	3.31E-01 (2.88E-01)	6.86E-01 (4.36E-01)
ESF Leakage	8.95E-03	5.37E-03	9.90E-02
MSIV Leakage	2.92E+00	1.66E+01	2.94E+00
Reactor Building Shine	1.43E-01 (9.21E-2)	0.00E+00	0.00E+00
External Cloud Shine	3.59E-01	0.00E+00	0.00E+00
CR Filter Shine	negligible	0.00E+00	0.00E+00
<b>Rev. 4 Total</b>	<b>3.66E+00</b> (3.58E+00)	<b>1.69E+01</b>	<b>3.72E+00</b> (3.47E+00)
<b>CLB Doses</b>	<b>4.07E+00</b>	<b>8.85E+00</b>	<b>2.45E+00</b>
<b>Allowable TEDE Limit</b>	<b>5.00E+00</b>	<b>2.50E+01</b>	<b>2.50E+01</b>

**ATTACHMENT 1**  
**Response to NRC ARCB Request for Additional Information**

**Regulatory Basis and Background for ARCB-RAI-3 – Aerosol Removal in Steam Lines with Sprays Credited:**

RG 1.183, Appendix A, Section 6.3 states, in part, that the "Reduction in the amount of radioactivity upstream of the outboard MSIVs may be credited, but the amount of reduction is evaluated on an individual case basis." Section 6.5 states, in part, that the "Reduction in the MSIV releases due to deposition in the main steam piping downstream of the MSIVs may be credited if the components and piping systems used are capable of performing their safety function during and following a safe shutdown earthquake and that the amount allowed will be evaluated on an individual case basis."

SRP Section 15.0.1 states, in part, that "Independent calculations should be performed as necessary to conclude, with reasonable assurance, that the applicant's analyses are acceptable."

Attachment 1, "Evaluation of Proposed Changes," page 16 of the LAR states, in part:

The approved main steam line aerosol removal model does not include deposition by thermophoresis, diffusiophoresis, or flow irregularities.

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

Enclosure B, Section 5.8, "Changes Between Revision 2 and Revision 3," page 43 of the LAR, states, in part, that the "Drywell spray meets the requirements in NUREG-0800 Section 6.5.2 as demonstrated in Section 2.1.3 and has been previously accepted for Nine Mile Point Units 1 and 2, Oyster Creek, and Hatch."

The NRC staff notes that the AST applications cited above with credited drywell sprays were previously accepted on an individual case basis that included considerations on the particular design and under different conditions, such as credit applied for the condenser, lower MSIV leakage rates and decontamination factors, and a "penalty" applied for sedimentation (aerosol settling) to account for the recognition that the sprays preferentially remove large particles in primary containment. For example, in the Nine Mile Point 2 (NMP2) AST application, an aerosol settling velocity of 0.000066 m/s (compared to an aerosol settling velocity of 0.00081 m/s proposed in the QCNPS LAR) was applied to reflect the spray removal credited in the NMP2 containment, and to address the NRC staff's concerns regarding the use of AEB 98-03. In its approval of the NMP2 application, the NRC staff found this value to be sufficiently conservative (along with other conservatisms) to reflect the effectiveness of the sprays.

NUREG/CR-5966 provides details on how sprays impact aerosols. This guidance document indicates that the sprays shift the sizes of aerosols in the containment towards those that are removed most slowly (the mean aerosol size decreases as the sprays operate). Estimates of aerosol deposition in the steam lines is determined using, in part, Equation 5 of AEB 98-03.

**ATTACHMENT 1**  
**Response to NRC ARCB Request for Additional Information**

Equation 5 provides the aerosol settling (and thus the aerosol deposition) in the steam line and indicates that the aerosol settling is proportional to the square of the diameter of the aerosols. Because the sprays shift the size of the aerosols to smaller sizes, the aerosols settling in the steam lines would decrease due to these smaller diameter aerosols.

The LAR proposes to credit sprays to remove fission products following a design basis LOCA, but it does not appear to adjust the MSL aerosol deposition from the impact of the sprays in the revised LOCA radiological analysis. Enclosure B, Table 1B, "Rate Constant ( $\lambda_s$ ) for Aerosol Settling in Main Steam Piping," page 77 of the LAR shows the same 40th percentile aerosol settling velocity (0.00081 m/s) in all control volumes as used in the CLB with no credit for sprays. This is non-conservative when applying credit for sprays and considering the additional conservatism in the CLB, which would be removed through this LAR. The sprays change the aerosols on a time-dependent basis through each control volume that impacts its removal in the MSLs.

From the NRC staff's examination of the submitted information, it appears that the revised LOCA radiological analysis considers the aerosol removal by sprays and aerosol removal in the MSLs as independent removal mechanisms. The NRC staff notes that regardless of the specific removal mechanisms involved, larger aerosol particles in the containment atmosphere will be the preferentially removed, thereby making subsequent removal by deposition in downstream piping more challenging.

**ARCB-RAI-3**

Please provide justification as to why the current aerosol settling velocity and model to credit sprays in the QCNPS design is consistent with Reg 1.183, Revision 0. Please include sufficient technical detail to enable the NRC staff to perform an independent assessment on this aerosol settling velocity and model, and the subsequent calculated control room and offsite doses.

**Response to ARCB RAI-3**

The QCNPS current licensing basis (CLB) includes a number of specific conservatisms included in the LOCA dose consequence assessment that were credited as part of the approval of the Alternate Source Term (AST) amendment, whose design basis was provided by QDC-0000-N-1481 Revision 1. Regulatory Guide (RG) 1.183, "Alternative Radiological Source Terms for Evaluating Design Basis Accidents at Nuclear Power Plants" defines AST as a fission product release from the reactor core into the containment (more specifically in the drywell for BWRs). As indicated in Appendix A to RG 1.183, Regulatory Position 6.1, the NRC accepts the practice of treating fission product concentration in the drywell as representative of that available for release via the MSIV leakage pathway.

Both the CLB and the revised LOCA AST dose analysis assume the drywell is the source of MSIV leakage in accordance with the NRC guidance summarized above, so it is appropriate to consider radionuclide removal mechanisms in the drywell before release via the MSIV leakage pathway. A sensitivity analysis was performed to evaluate the impact of sprays on the aerosol settling velocity and to identify other inputs with well-defined uncertainty or conservatism that could be used to offset the uncertainty associated with the current aerosol deposition model. This sensitivity analysis concludes that conservatism associated with crediting aerosol



## **ATTACHMENT 1**

### **Response to NRC ARCB Request for Additional Information**

impaction on the first closed MSIV and aerosol deposition in the outboard steam lines is sufficient to offset the uncertainty introduced by the drywell spray effects on the aerosol deposition model.

In order to address the reduced aerosol removal rates due to drywell spray, sensitivity cases on various conservatisms were evaluated. Some of the inherent conservatisms in the AST LOCA model are listed below. This list is not a complete list of every conservatism that may be present. However, these conservatisms are ones that are reasonable to define and model deterministically.

- Credit full drywell spray lambdas (not included in this study)
- Credit for plateout and deposition in drywell (not included in this study)
- Inclusion of all four main steam lines for holdup and deposition
- Outboard main steam line piping holdup and deposition
- More realistic control room operator breathing rate
- Aerosol impaction on first closed MSIV
- Condenser holdup and deposition

There are other significant conservatisms associated with the AST LOCA model. For example, control room atmospheric dispersion factors have readily defined uncertainty distributions and if incorporated would demonstrate there is a substantial amount of margin in the input parameters. However, for simplicity, the distribution of potential values for such input parameters were not evaluated in the sensitivity study.

#### Nodalization Changes

The sensitivity analysis modified the nodalization of the main steam line to overcome limitations of the RADTRAD code. The Unit 1 QDC-0000-N-1481 nodalization was modified to separately model each of the four main steam lines as shown in Figure RAI-3b. As a result, each sensitivity case includes four RADTRAD models, one for each line with three well-mixed nodes per line. The outboard steam line up to the turbine stop valve at QCNPS is seismically qualified, so including holdup and deposition in this piping as part of the outboard compartment (third well-mixed node in Figure RAI-3b) conforms with the requirements of RG 1.183.

#### Impact of Spray on Aerosol Settling Velocity

A simplified model was developed using first principles as identified in NUREG/CR-5966, "A Simplified Model of Aerosol Removal by Containment Sprays." Specifically, the ordinary differential equation shown on page 1 of NUREG/CR-5966 was solved to provide an analytical solution of the suspended aerosol mass in the drywell. The spray removal rate in this simplified model is the same as that identified in QDC-0000-N-1481 Section 2.1.3 and RG 1.183, Appendix A, Section 3.3. Since sprays will remove aerosols at different rates depending on their particle size, the spray removal rate is adjusted by collection efficiency variation as provided in Figure 19 of NUREG/CR-5966. The suspended aerosol mass was solved from the beginning of the accident through the termination of the sprays at 4 hours for 20 distinct particle size groups. The mass of particles in each group is defined by the probability distribution associated with the source distribution.

## ATTACHMENT 1 Response to NRC ARCB Request for Additional Information

The size distribution of the particles released from the fuel was assumed to be a log-normal with 2 micron Aerodynamic Mass Median Diameter (AMMD) (0.473 micron geometric mean diameter) with a Geometric Standard Deviation (GSD) of 2. The aerosol mass was calculated for each group independently with no consideration of particles interacting with one another. Therefore, agglomeration is not accounted for, and this conservatism will artificially and permanently lower the average particle size as large particles are removed and not replaced. The result is a much smaller gravitational settling and spray removal rate. Table RAI-3a summarizes the results of the 20-group particle size distribution in the drywell. Figure RAI-3a visually illustrates the time-dependent nature of the aerosol particle size distribution. As shown in Figure RAI-3a, the effect of the drywell spray in reducing the size of the particles is accounted for in the model.

These particle size and settling velocity distributions were then used to recalculate the aerosol removal rate using the equation provided in Section 7.4.1 of QDC-0000-N-1481. The resulting aerosol removal factors are summarized in Table RAI-3d. The aerosol removal factors including spray combined with the nodalization adjustments described in the previous section are represented by the "Base Sensitivity Case" row in Table RAI-3e.

Note that although this sensitivity uses the Unit 1 RADTRAD model inputs, the relative change in the calculated doses are expected to be similar for the Unit 2 RADTRAD model inputs.

### Breathing Rate Sensitivity

QDC-0000-N-1481 uses a constant control room operator breathing rate consistent with the value given in RG 1.183. However, a review of breathing rate data in Table 6-17 of EPA/600/R-09/052F, "Exposure Factors Handbook: 2011 Edition" indicates that the RG 1.183 value is conservative. To evaluate the sensitivity of the dose result to the assumed breathing rate, the rate is adjusted. For the first 2 hours, the CLB breathing rate assumption from RG 1.183 was retained for conservatism. However, after 2 hours the breathing rate was reduced using the 95<sup>th</sup> percentile data for light intensity work typical of control room operator activity from the EPA handbook (3.28E-4 m<sup>3</sup>/sec from 2 to 12 hours and 3.06E-4 m<sup>3</sup>/sec from 12 hours to 30 days).

### Aerosol MSIV Impaction Sensitivity

The Nine Mile Point Unit 1 AST LOCA licensing basis described in H21C092 (ADAMS Accession No. ML070110240) credits the phenomenon of impaction at the first closed MSIV. In this scenario, some of the travelling aerosol particles will be deposited on the MSIV valve sealing surface as the aerosols entrained with the carrier gas pass through the closed MSIV. Nine Mile Point Unit 1 conservatively determined this impaction results in a Decontamination Factor (DF) of 2, which is modeled as a 50% filter in the transfer pathway through the first closed MSIV. This reduction is only accounted for once in each main steam line. This approach was previously approved for Nine Mile Point Unit 1 (ADAMS Accession No. ML081230439) and is reasonable given that the aerosol settling rates calculated in this sensitivity analysis are conservatively low and are even lower than those used in the Nine Mile Point Unit 1 analysis.

**ATTACHMENT 1**  
**Response to NRC ARCB Request for Additional Information**

Condenser Holdup and Aerosol Deposition Sensitivity

A further conservatism that is not currently modeled in QDC-0000-N-1481 is the holdup and aerosol deposition provided by the condenser. Depending on the event scenario, multiple pathways could exist to route activity to the condenser including the drain lines and the turbine itself. In this sensitivity, the leakage is assumed to travel to the condenser through the drain lines from the main steam line piping between the MSIVs. This conservatively neglects any holdup and deposition in the outboard main steam line piping. Modelling the release to the condenser from the piping between the MSIV is consistent with other plants in the Exelon fleet (e.g., LaSalle and Limerick). Operating experience associated with the North Anna earthquake and post-Fukushima evaluations have shown that components and piping systems typically used in this release path are sufficiently rugged to ensure they are capable of performing some level of radioactivity removal during and following a safe shutdown earthquake (SSE). Thus, it is reasonable to assume that the condenser pathway could be made available for mitigating the consequences of MSIV leakage.

The data used to calculate the steam line and condenser aerosol removal rates are provided in Tables RAI-3b and 3c and are essentially duplicated from QDC-0000-N-1481 Sections 7.2 and 7.3.

Individual Sensitivity Cases and Results

A total of seven sensitivity cases were performed by varying the base case. The base case is essentially the Unit 1 QDC-0000-N-1481 Revision 4 model including the nodalization adjustments and the revised aerosol removal factors described above. As Table RAI-3e indicates, the seven sensitivity cases are various combinations of the three sensitivities described above (breathing rate, MSIV impaction, and condenser holdup/aerosol deposition). The sensitivity case results are summarized in Table RAI-3e.

As expected, the base case indicates the conservative modelling of the drywell spray impact on the aerosol removal in the main steam lines without adjusting any other inherent conservatisms in the RADTRAD inputs results in increased doses.

The increase in dose is due to the conservative modeling approach taken to incorporate the effects of the drywell sprays. In order to analyze the effect of drywell spray, simplifications of the aerosol physics were made. As a result, the calculated lambdas are very low compared to values typically seen with high fidelity computer codes. For example, as discussed briefly before, the Nine Mile Point Unit 1 AST licensing basis calculation (ADAMS Accession No. ML070110240) employed a higher fidelity approach and, in general, calculated higher steam line lambdas. As a result, the overall decontamination factor for aerosols in this sensitivity analysis is conservatively lower than what could typically be afforded by a higher fidelity approach. Given this larger conservatism it is not unusual or unexpected that the calculated doses increased substantially, even over the 10 CFR 50.67 limits. This under estimation of the aerosol settling also justifies the usage of the aerosol impaction, which is consistent with the Nine Mile Point Unit 1 approval.

Only considering the sensitivity of the calculated dose consequence to a limited number of RADTRAD inputs allows demonstration of margin between the site-specific dose and the

**ATTACHMENT 1**  
**Response to NRC ARCB Request for Additional Information**

acceptance criteria limits. For example, considering the combined effect of the nodalization changes and impaction, the calculated doses remain below the 10 CFR 50.67 regulatory limits.

As described above, there are other inherent conservatisms included in the dose consequence assessment, such as those associated with the atmospheric dispersion factors and source term, that are not included in the evaluated sensitivity cases. Taking these additional inherent conservatisms into account would further offset the impact of the revised aerosol removal factors. The availability of these margins provides reasonable assurance that the applicable dose limits would not be exceeded.

The sensitivity results also demonstrate that the condenser is very effective at substantially reducing the dose consequences. Even if this capability is limited to a small fraction of the reduction shown in the sensitivity analyses in Table RAI-3e, the condenser credit has the capability to ensure post-LOCA releases remain well within the 10 CFR 50.67 limits.

In conclusion, the sensitivity analysis results confirm adequate margin is present in the QDC-0000-N-1481 calculated dose, as revised by the response to ARCB RAI-2, when using existing AEB-98-03 aerosol deposition with a 40<sup>th</sup> percentile settling velocity including drywell spray.

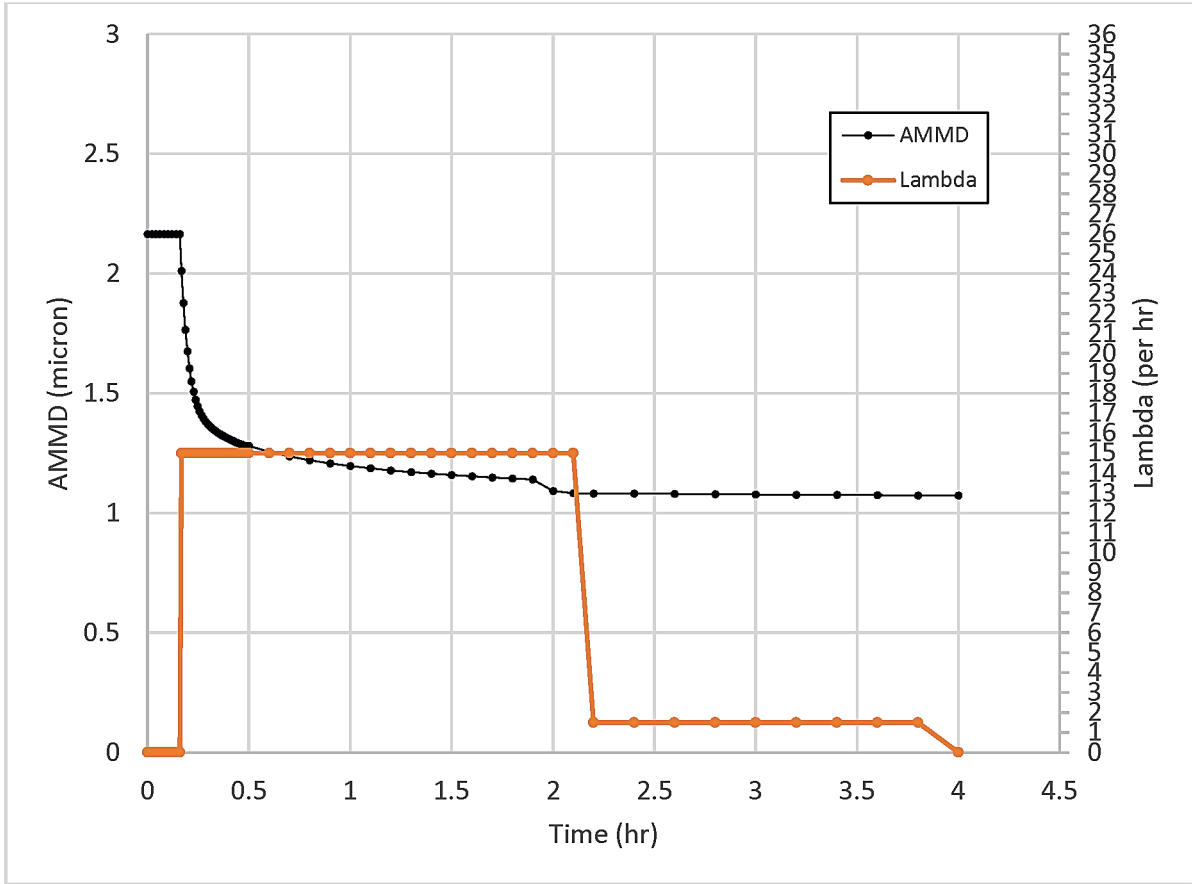
**ATTACHMENT 1**  
**Response to NRC ARCB Request for Additional Information**

**Table RAI-3a: Drywell Particle Size Distributions**

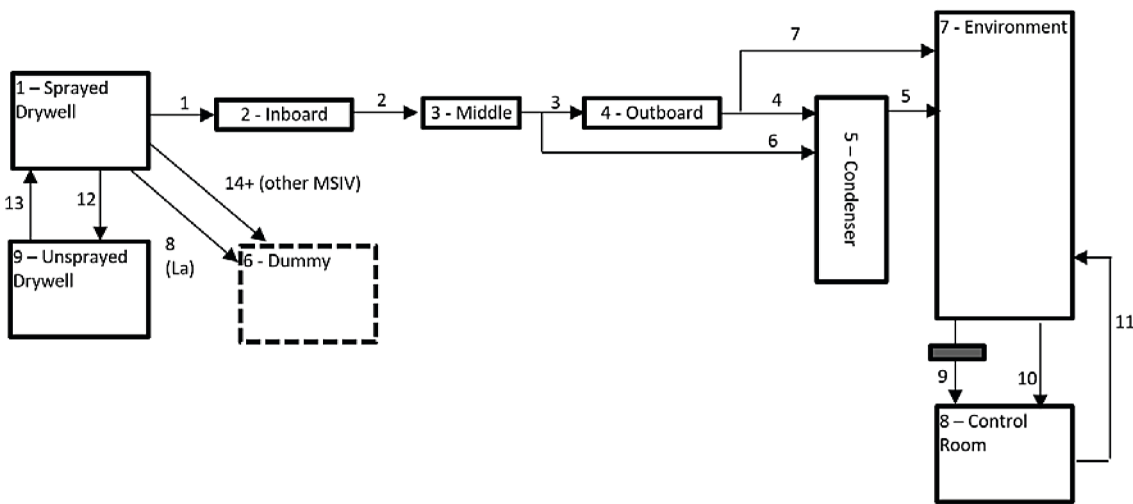
Group	D <sub>a</sub> (micron)	Settling Velocity (m/s)	Cumulative Probability		
			No Spray Release	With Spray	
				During Release	After Release
1	0.091	2.33E-07	0.0001	0.00022	0.00026
2	0.106	3.14E-07	0.003	0.00672	0.00769
3	0.326	3.00E-06	0.01	0.02229	0.02536
4	0.409	4.71E-06	0.03	0.06648	0.07522
5	0.552	8.61E-06	0.05	0.11034	0.12435
6	0.642	1.16E-05	0.08	0.17574	0.19720
7	0.750	1.59E-05	0.1	0.21902	0.24505
8	0.850	2.04E-05	0.15	0.32675	0.36369
9	0.984	2.73E-05	0.2	0.43368	0.48058
10	1.140	3.67E-05	0.25	0.53994	0.59605
11	1.268	4.53E-05	0.3	0.64516	0.70927
12	1.410	5.61E-05	0.35	0.74960	0.82085
13	1.552	6.79E-05	0.4	0.85226	0.92869
14	1.683	7.99E-05	0.45	0.93218	0.99361
15	1.840	9.55E-05	0.5	0.96127	0.99998
16	1.997	1.13E-04	0.6	0.97445	1.00000
17	2.371	1.59E-04	0.7	0.98084	1.00000
18	2.897	2.37E-04	0.8	0.98723	1.00000
19	3.600	3.66E-04	0.9	0.99361	1.00000
20	4.859	6.66E-04	1	1.00000	1.00000

**ATTACHMENT 1**  
**Response to NRC ARCB Request for Additional Information**

**Figure RAI-3a: Time-Dependent Aerosol Particle Size Distribution**



**Figure RAI-3b: Modified Nodalization for a Single Steam Line**





**ATTACHMENT 1**  
**Response to NRC ARCB Request for Additional Information**

**Table RAI-3b: Steam Line and Condenser Geometry Data**

Steam Line "A"			
Parameter*	Inboard	Between	Outboard
A (ft <sup>2</sup> )	75.37		57.50
V (ft <sup>3</sup> )	200.24		169.90
Steam Line "B"			
Parameter*	Inboard	Between	Outboard
A (ft <sup>2</sup> )	34.54	40.83	57.50
V (ft <sup>3</sup> )	152.96	47.28	169.90
Steam Line "C"			
Parameter*	Inboard	Between	Outboard
A (ft <sup>2</sup> )	42.33	42.41	57.50
V (ft <sup>3</sup> )	163.75	49.11	169.90
Steam Line "D"			
Parameter*	Inboard	Between	Outboard
A (ft <sup>2</sup> )	34.52	42.41	57.50
V (ft <sup>3</sup> )	152.93	49.11	169.90

Parameter*	Condenser
A (ft <sup>2</sup> )	2695
V (ft <sup>3</sup> )	129431

\* A is the horizontal settling area of the inside of the pipe and V is the volume.

**ATTACHMENT 1**  
**Response to NRC ARCB Request for Additional Information**

**Table RAI-3c: Steam Line Leak Rate Data**

Inboard Flow Rate Q (cfh)				
Time Period	Steam Lines			
	"A"	"B"	"C"	"D"
0 to spray initiation*	3.57E+01	1.78E+01	1.78E+01	1.78E+01
spray initiation* to 2 hr	3.57E+01	1.78E+01	1.78E+01	1.78E+01
2 hr to 24 hr	2.10E+01	1.05E+01	1.05E+01	1.05E+01
24 hr+	1.05E+01	5.22E+00	5.22E+00	5.22E+00

Between Flow Rate Q (cfh)				
Time Period	Steam Lines			
	"A"	"B"	"C"	"D"
0 to spray initiation*	3.57E+01	5.00E+01	5.00E+01	5.00E+01
spray initiation* to 2 hr	3.57E+01	5.00E+01	5.00E+01	5.00E+01
2 hr to 24 hr	2.10E+01	2.94E+01	2.94E+01	2.94E+01
24 hr+	1.05E+01	1.47E+01	1.47E+01	1.47E+01

Outboard Flow Rate Q (cfh)				
Time Period	Steam Lines			
	"A"	"B"	"C"	"D"
0 to spray initiation*	1.00E+02	5.00E+01	5.00E+01	5.00E+01
spray initiation* to 2 hr	1.00E+02	5.00E+01	5.00E+01	5.00E+01
2 hr to 24 hr	5.87E+01	2.94E+01	2.94E+01	2.94E+01
24 hr+	2.94E+01	1.47E+01	1.47E+01	1.47E+01

\* Drywell sprays are initiated 10 minutes after the event.

**ATTACHMENT 1**  
**Response to NRC ARCB Request for Additional Information**

**Table RAI-3d: Steam Line and Condenser Aerosol Removal Factors**

Inboard Aerosol Deposition $\lambda_s$ (hr <sup>-1</sup> )				
Time Period	Steam Lines			
	"A"	"B"	"C"	"D"
0 to spray initiation *	n/a	0.211	0.230	0.211
spray initiation* to 2 hr	n/a	0.091	0.102	0.091
2 hr to 24 hr	n/a	0.076	0.084	0.076
24 hr+	n/a	0.068	0.076	0.068

Between Aerosol Deposition $\lambda_s$ (hr <sup>-1</sup> )				
Time Period	Steam Lines			
	"A"	"B"	"C"	"D"
0 to spray initiation *	0.344	0.511	0.484	0.507
spray initiation* to 2 hr	0.151	0.300	0.291	0.299
2 hr to 24 hr	0.125	0.244	0.236	0.243
24 hr+	0.113	0.200	0.192	0.198

Outboard Aerosol Deposition $\lambda_s$ (hr <sup>-1</sup> )				
Time Period	Steam Lines			
	"A"	"B"	"C"	"D"
0 to spray initiation *	0.210	0.136	0.130	0.135
spray initiation* to 2 hr	0.120	0.099	0.096	0.099
2 hr to 24 hr	0.098	0.078	0.075	0.077
24 hr+	0.081	0.057	0.055	0.057

Time Period	Condenser $\lambda_s$ (hr <sup>-1</sup> )
0 to spray initiation *	0.00864
spray initiation* to 2 hr	0.00546
2 hr to 24 hr	0.00441
24 hr+	0.00359

\* Drywell sprays are initiated 10 minutes after the event.

**ATTACHMENT 1**  
**Response to NRC ARCB Request for Additional Information**

**Table RAI-3e: Sensitivity Study Results**

Case		Condenser Credit	Breathing Rate	MSIV Impaction	Dose (rem TEDE)		
Id	Description				Control Room	EAB	LPZ
N/A	QDC-0000-N-1481				3.66	9.51	2.59
S0	Base Sensitivity Case				6.47	10.55	2.77
S1	Sensitivity 1		X		6.01	10.55	2.77
S2	Sensitivity 2			X	4.12	6.91	2.16
S7	Sensitivity 7		X	X	3.85	6.91	2.16
S3	Sensitivity 3	X			0.84	0.38	0.81
S4	Sensitivity 4	X	X		0.82	0.38	0.81
S5	Sensitivity 5	X		X	0.83	0.37	0.80
S6	Sensitivity 6	X	X	X	0.81	0.38	0.80

**ATTACHMENT 1**  
**Response to NRC ARCB Request for Additional Information**

**Regulatory Basis and Background for ARCB-RAI-4 – Transport of Radioactivity in the Drywell:**

RG 1.183, Appendix A, Section 3.1 states, in part:

The radioactivity released from the fuel should be assumed to mix instantaneously and homogeneously throughout the free air volume of the primary containment in PWRs or the drywell in BWRs as it is released. This distribution should be adjusted if there are internal compartments that have limited ventilation exchange. The suppression pool free air volume may be included provided there is a mechanism to ensure mixing between the drywell to the wetwell.

Section 3.3 states, in part, that the "Evaluation of the containment sprays should address areas within the primary containment that are not covered by the spray drops." Section 6.1 states, in part, that the "activity available for release via MSIV leakage should be assumed to be that activity determined to be in the drywell for evaluating containment leakage."

Enclosure B, Section 2.1.2, "Transport in Primary Containment," page 9 of the LAR states, in part, that "For calculating the MSIV leakage flow rates between the drywell and the environment, the flow rate analysis is based on the total drywell volume during the first 2 hours of the LOCA, and then the combined drywell plus suppression chamber air volume after 2 hours, at which time the containment volume is expected to become well mixed following the restoration of core cooling."

Section 7.2.3, "MSIV Leakage During 2-24 hrs," page 51 of the LAR states, in part:

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

Enclosure B, Section 2.1.2, "Transport in Primary Containment," page 9 of the LAR references Table 2 of AEB 98-03, which shows the dependence of radiological consequences on containment mixing conditions for the Perry Nuclear Power Plant. However, the Perry Nuclear Power Plant has a Mark III containment, which is significantly different than the Mark I containment at QCNPS. These differences are not addressed in the proposed LAR.

The LAR proposes a significant change to the CLB transport modeling in primary containment by adding a compartment in the drywell to credit sprays and by crediting transport between the sprayed and unsprayed portions of the drywell. As a result, it is not clear that the assumption of equilibrium conditions at 2 hours exists between drywell and wetwell volumes. The proposed credit for sprays and the addition of the sprayed compartment decreases the activity in the drywell from the activity in the CLB and, therefore, will create a difference in the modelled activity in the sprayed drywell compartment as compared to the activity in the wetwell.

**ATTACHMENT 1**  
**Response to NRC ARCB Request for Additional Information**

From the NRC staff's examination of Enclosure B, Attachment 13.1 - RADTRAD Output File "QDC39CL02.o0," starting on page 404 of the LAR, it appears that the I-131 activity concentrations for the sprayed and unsprayed portions of the drywell do not reach equilibrium conditions until after 5 hours beyond the time when RHR drywell sprays are assumed to terminate at 4 hours post-accident for aerosol removal.

**ARCB-RAI-4**

Please provide additional information to explain why the high flow rates necessary to create equilibrium conditions between the drywell and wetwell would exist for the time period from 2 hours in the QCNPS design.

**Response to ARCB RAI-4**

The assumption of equilibrium conditions between the drywell and wetwell is based on the steaming / condensing phenomenon associated with the restoration of core cooling at 2 hours. Although the wetwell is not modeled separately in the containment leakage and MSIV leakage RADTRAD cases, the wetwell volume is used in the main steam line flow rate calculations starting at 2 hours. Crediting drywell sprays for airborne fission product removal does not change this well mixed assumption.

The RADTRAD modeling is based on separating the unsprayed and sprayed drywell volumes because the drywell sprays are assumed to cover less than 90% of the drywell volume (see Regulatory Guide 1.183 Section 3.3). The RADTRAD modeling is intended to conservatively concentrate the airborne activity in the sprayed volume directly connected to the MSIV leakage pathways. This modeling technique is intended to maximize dose, not to accurately reflect the thermal-hydraulic conditions that would be present in the drywell. The discrepancy noted in the I-131 inventory between the sprayed and unsprayed volumes is unrelated to the well mixed assumption between the drywell and wetwell at 2 hours and is instead a byproduct of this conservative modeling technique inside the drywell.

To demonstrate that the modeling technique is conservative, a RADTRAD sensitivity case that greatly increases the flow rate between the sprayed and unsprayed drywell volumes at 2 hours is added as Attachment 13.9 to QDC-0000-N-1481 Revision 4 (See Attachment 2). This sensitivity case is based on the main steam line leakage case with the elemental iodine removal corrected as discussed in the response to ARCB-RAI-2. As expected, the large flow rate between the sprayed and unsprayed drywell volumes leads to decreased control room and offsite doses because more activity is being "diluted" by the unsprayed volume rather than being released through the MSIV leakage pathway.



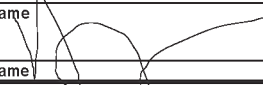



**Exelon Letter No. RS-20-019 dated March 31, 2020**

**ATTACHMENT 2**

**QDC-0000-N-1481, Revision 4  
Quad Cities Units 1 & 2 Post-LOCA EAB, LPZ, and CR Dose – AST Analysis**

Design Analysis Cover Sheet Form

<b>Design Analysis</b>		<b>Last Page No. <sup>6</sup> B-220</b>	
<b>Analysis No.:</b> <sup>1</sup> QDC-0000-N-1481		<b>Revision:</b> <sup>2</sup> 4 Major <input checked="" type="checkbox"/> Minor <input type="checkbox"/>	
<b>Title:</b> <sup>3</sup> Quad Cities Units 1 & 2 Post-LOCA EAB, LPZ, and CR Dose – AST Analysis			
<b>EC No.:</b> <sup>4</sup> 626084		<b>Revision:</b> <sup>5</sup> 0	
<b>Station(s):</b> <sup>7</sup> Quad Cities		<b>Component(s):</b> <sup>14</sup>	
<b>Unit No.:</b> <sup>8</sup> 1 & 2		N/A	
<b>Discipline:</b> <sup>9</sup> NUDC			
<b>Descrip. Code/Keyword:</b> <sup>10</sup> R01, R02			
<b>Safety/QA Class:</b> <sup>11</sup> SR			
<b>System Code:</b> <sup>12</sup> XX			
<b>Structure:</b> <sup>13</sup> N/A			
<b>CONTROLLED DOCUMENT REFERENCES</b> <sup>15</sup>			
<b>Document No.:</b>	<b>From/To</b>	<b>Document No.:</b>	<b>From/To</b>
NF-BEX-13-65, Rev 0	From	QDC-7500-M-2341, Rev. 0	From
QDC-1100-N-1259, Rev 0	From	QDC-0000-N-2373, Rev. 0	To
GE-NE-A22-00103-08-01, Rev 1	From	<b>For Additional Documents See Section 9.0</b>	
QDC-0000-M-1408, Rev 2	From		
<b>Is this Design Analysis Safeguards Information?</b> <sup>16</sup> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, see SY-AA-101-106			
<b>Does this Design Analysis contain Unverified Assumptions?</b> <sup>17</sup> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, ATI/AR#: _____			
<b>This Design Analysis SUPERCEDES:</b> <sup>18</sup> _____ in its entirety.			
<b>Description of Revision (list changed pages when all pages of original analysis were not changed):</b> <sup>19</sup>			
This revision reflects changes made to support response to a NRC Request for Additional Information. See Letter RS-20-019. Changes are also made to enhance the calculation to reflect an alternative methodology for calculating margin along with incorporating a set of 3 <sup>rd</sup> party review comments.			
<b>Preparer:</b> <sup>20</sup>	Jeffrey Head (ENERCON)	<b>Jeffrey Head</b>	Digitally signed by Jeffrey Head Date: 2020.03.26 10:09:56 -04'00'
	Print Name	Sign Name	Date
<b>Method of Review:</b> <sup>21</sup>	Detailed Review <input checked="" type="checkbox"/>	Alternate Calculations (attached) <input type="checkbox"/>	Testing <input type="checkbox"/>
<b>Reviewer:</b> <sup>22</sup>	Dwayne Blaylock (ENERCON)		Dwayne Blaylock 2020.03.26 14:40:14 -04'00'
	Print Name	Sign Name	Date
<b>Review Notes:</b> <sup>23</sup>	Independent review <input checked="" type="checkbox"/>	Peer review <input type="checkbox"/>	
The document has been reviewed in its entirety and found to be acceptable. All recommended changes have been discussed, accepted, and incorporated into the final document.			
(For External Analyses Only)	<b>External Approver:</b> <sup>24</sup> Jared Monroe (ENERCON)		Digitally signed by Jared Monroe Date: 2020.03.26 16:29:48 -04'00'
	Print Name	Sign Name	Date
<b>Exelon Reviewer:</b> <sup>25</sup>	Annie Wong		3/27/2020
	Print Name	Sign Name	Date
<b>Independent 3<sup>rd</sup> Party Review Req'd?</b> <sup>26</sup> Yes <input type="checkbox"/> No <input type="checkbox"/>			
<b>Exelon Approver:</b> <sup>27</sup>	John Massari		3/27/2020
	Print Name	Sign Name	Date

**Attachment 2  
Owner's Acceptance Review checklist for External Design Analysis  
Page 1 of 3**

Design Analysis No.: QDC-0000-N-1481 Rev: 4

Contract #: 00597114 Release #: 00151

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

**Attachment 2**  
**Owner's Acceptance Review checklist for External Design Analysis**  
**Page 2 of 3**

**Design Analysis No.: QDC-0000-N-1481 Rev: 4**

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

**Attachment 2  
Owner's Acceptance Review checklist for External Design Analysis  
Page 3 of 3**

**Design Analysis No.: QDC-0000-N-1481 Rev: 4**

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

Create an SFMS entry as required by CC-AA-4008. SFMS Number:  
67581

### REVISION HISTORY

Revision	Revision Description
0	Original Issue
1	<ol style="list-style-type: none"> <li>1) Control room unfiltered inleakage during normal CR HVAC operation increased from 2,000 to 60,000 cfm.</li> <li>2) EAB and LPZ chimney release atmospheric dispersion X/Q values changed to revised values calculated in QDC-0000-M-1408, Revision 2</li> <li>3) Revised the elemental iodine natural deposition cutoff time from 3.615 hrs to 3.05 hrs.</li> </ol>
1A	Evaluated acceptability of Revision 1 results for utilization of the Westinghouse Optima2 fuel source terms.
1B	Evaluated various SGTS filtration efficiencies. No changes to Technical Specification or UFSAR are done.
2	<ol style="list-style-type: none"> <li>1) Corrected typographic errors in prior revisions</li> <li>2) Used the AREVA core reload design having core exposure of 39 GWD/MTU and the maximum discharge isotopic inventory between the 3.9% and 4.5% enrichment for the AREVA ATRIUM 10XM fuel assembly.</li> <li>3) Revised SBGTS HEPA efficiency from 99% to 98% and SBGTS charcoal filter efficiency from 50% to 80%</li> <li>4) The analysis for Westinghouse Optima2 fuel core design having core exposure of 39 GWD/MTU is placed in Appendix A of the calculation.</li> </ol>
3	<ol style="list-style-type: none"> <li>1) Increased the combined MSIV leakage from 150 scfh to 250 scfh for Unit 1 and 350 scfh for Unit 2</li> <li>2) Credited reduced containment and MSIV leakage after 24 hours with respect to RADTRAD flow rates</li> <li>3) Drywell spray added to the model</li> <li>4) Credited aerosol deposition in horizontal main steam line upstream of the line with the MSIV that failed to close</li> <li>5) Time-dependent elemental iodine removal coefficients for the main steam lines are used</li> <li>6) Reduced control room normal intake from 60,000 cfm to 4,000 cfm</li> <li>7) A secondary containment drawdown time of 25 minutes is used.</li> <li>8) Removed credit for Powers' aerosol deposition model and natural iodine plateout in containment</li> <li>9) SGT System Exhaust Charcoal Filter Efficiencies changed from 80% to 90%</li> </ol> <p>Due to the large numbers of changes associated with this revision, the entire document is revised and revision bars are not used.</p>



Revision	Revision Description
4	<ol style="list-style-type: none"> <li>1) Corrected settling velocity from 0.0081 m/sec to 0.00081 m/sec in note of Table 1B. This was a typographic error.</li> <li>2) Corrected RADTRAD file names in Table 8-2. This was a typographic error.</li> <li>3) Corrected the calculated volumes for “D” and “E” in the note of Table 20. This was a typographic error.</li> <li>4) Editorial changes made throughout the document.</li> <li>5) Corrected the surface area and resulting elemental iodine removal rates and deposition efficiencies in Table 26.</li> <li>6) Corrected the elemental iodine deposition efficiency in Table 31 with the corrected Table 26 values. Updated the resulting elemental iodine resuspension efficiency and net deposition efficiency in RADTRAD cases. Replaced Attachments 13.3, 13.4, and 13.5 in their entirety.</li> <li>7) Added sensitivity runs in Attachment 13.9 to demonstrate the sprayed and unsprayed flow rate modeling is conservative.</li> <li>8) Added further information to Section 7.11 to demonstrate the spray removal coefficients are conservative.</li> <li>9) Added a containment leakage pathway between the unsprayed drywell volume and the reactor building in the containment leakage RADTRAD models which resulted in updating Attachment 13.1. Updated resulting Microshield files and doses in Appendix A, Appendix B, and Section 8.</li> <li>10) Corrected spray cutoff timings in the RADTRAD models.</li> </ol> <p>Revision bars are used for all changes other than the replacement of the RADTRAD outputs.</p>



## TABLE OF CONTENTS

<u>Section</u>	<u>Sheet No.</u>
Design Analysis Cover Sheet	1
Revision History	5
Page Revision Index	7
Table of Contents	8
1.0 Purpose	9
2.0 Methodology	9
3.0 Acceptance Criteria	30
4.0 Assumptions	31
5.0 Design Inputs	38
6.0 Computer Codes & Compliance With Regulatory Requirements	46
7.0 Calculations	54
8.0 Results Summary & Conclusions	72
9.0 References	76
10.0 Tables	80
11.0 Figures	107
12.0 Affected Documents	112
13.0 Attachments	112
Attachment 13.1 - RADTRAD Output File "QDC39CL02.o0" .....	113
Attachment 13.2 - RADTRAD Output File "QDC39ESF02.o0" .....	183
Attachment 13.3 - RADTRAD Output File "QDC39MS03.o0" .....	213
Attachment 13.4 - RADTRAD Output File "QDC39MS03_spray.o0" .....	273
Attachment 13.5 - RADTRAD Output File "QDC39MS33.o0" .....	335
Attachment 13.6 - RADTRAD Nuclide Inventory File "DQLOCA_ATRIUM_DEF.nif" .....	395
Attachment 13.7 - RADTRAD Release Fraction and Timing File "bwr_dba.rft" .....	406
Attachment 13.8 - MicroShield Output Files "QA[667, 2, 4, 8, 16, & 24].MSD" .....	407
Attachment 13.9 - RADTRAD Output File "QDC39MS03_spray_sens.o0" .....	426
Attachment 13.10 – Sprayco Data Sheet No. 11825-8 .....	486
Appendix A - Westinghouse SVEA-96 Optima 2 core inventory .....	A-1
Appendix B – Evaluation of 350 scfh MSIV leakage for Unit 2.....	B-1

## 1.0 PURPOSE

The purpose of this calculation is to evaluate the post-LOCA Exclusion Area Boundary (EAB), Low Population Zone (LPZ), and Control Room (CR) doses for the Quad Cities Nuclear Power Station (QCNPS) using the Framatome ATRIUM 10XM core inventory having a core average exposure of 39 GWD/MTU (Ref. 9.6), as-built design inputs and assumptions, the Alternative Source Term (AST), the guidance in Regulatory Guide (RG) 1.183, and Total Effective Dose Equivalent (TEDE) dose criteria.

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

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

The analysis in the following sections of this calculation uses the Framatome ATRIUM 10XM fuel core inventory. The analysis in Appendix A of this calculation uses the Westinghouse SVEA-96 Optima 2 fuel core inventory which currently is located in the core but new fuel of this type will no longer be used in future reloads.

## 2.0 METHODOLOGY

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

### 2.1 Post-LOCA Containment Leakage

#### 2.1.1 Source Term

The post-LOCA containment leakage model is shown in Figure 1. The BWR core inventory fractions listed in Regulatory Guide 1.183 Table 1 are released into the containment at the release timing shown in RG 1.183 Table 4 (Ref. 9.1, Sections 3.2 & 3.3). Since the post-LOCA minimum suppression chamber water pH is greater than 7.0 (Ref. 9.18), the chemical form of radioiodine released into the containment is assumed to be 95% cesium iodide (CsI), 4.85 percent elemental iodine, and 0.15 percent organic iodide (Ref. 9.1, Section A.2). With the exception of elemental and organic iodine and noble gases, the remaining fission products are assumed to be in particulate form (Ref. 9.1, Section 3.5). The isotopic core inventory (Ci) for the Framatome fuel design is obtained from Reference 9.6 for the average core exposure of 39 GWD/MTU and listed in Table 1 and Design Input (DI) 5.3.1.3. The RADTRAD Nuclide Inventory File (NIF) is developed in Table 1A using the core isotopic activities from Table 1 and core thermal

power level of 3,016.14 MWt (= 102% of 2,957 MWt Rated Thermal Power [RTP]). The NIF is used as a source term input for the RADTRAD3.03 computer code (Ref. 9.2). The end-of-cycle (EOC) core inventory provided in Reference 9.6 is used in this analysis because the resulting doses for the EOC core inventory are bounding for other shorter fuel cycles. The RADTRAD3.03 computer code (Ref. 9.2) is used to develop the post-LOCA radioactive release models. The validation & verification (V&V) of the RADTRAD3.03 code is documented in References 9.27 and 9.29. The RADTRAD Nuclide Inventory File (NIF) DQLOCA\_ATRIUM\_DEF.nif (Attachment 13.6) is developed based on the plant-specific core inventory and used for the containment, ESF, and MSIV leakage paths. The source term design inputs are shown in Sections 5.3.1.1 through 5.3.1.7. The Release Fraction and Timing (RFT) File "bwr\_dba.rft" (Attachment 13.7) is used in the analysis.

### 2.1.2 Transport In Primary Containment

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

For calculating the MSIV leakage flow rates between the drywell and the environment, the flow rate analysis is based on the total drywell volume during the first 2 hours of the LOCA, and then the combined drywell plus suppression chamber air volume after 2 hours, at which time the containment volume is expected to become well mixed following the restoration of core cooling. The thermal-hydraulic conditions in the primary containment are expected to be quite active due to a high flow established between drywell and wetwell as a result of steaming and condensing phenomenon (Ref. 9.17, Table 2). However, the containment and drywell are separated into a sprayed and unsprayed region and a minimal flow rate of two air changes per hour is modeled between these two regions in accordance with Reference 9.1.

### 2.1.3 Reduction In Airborne Activity Inside Containment

Iodine removal by suppression pool scrubbing is not credited because the bulk core activity is released to containment well after the initial mass and energy release (Ref. 9.1, Assumption 3.5). Containment sprays are credited and the removal of the elemental iodine by natural or gravitational deposition on wetted surface areas inside containment due to the iodine adsorption is not credited. The benefit to removing elemental iodine via natural deposition would be minimal because the sprays are activated at 10 minutes after the accident. The Decontamination Factor (DF) of elemental iodine is based on the

Standard Review Plan (SRP) 6.5.2 guidance and is limited to a DF of 200 (Ref. 9.38, page 6.5.2-14).

RG 1.183, Appendix A, Section 3.3, allows the licensees to take a reduction in airborne radioactivity in the containment by containment spray systems that have been designed and are maintained in accordance with Chapter 6.5.2 of the SRP (Ref. 9.38). The QDC licensing basis prior to revision 3 did not credit drywell spray for mitigation of any Chapter 6 or 15 accident analysis. As a result, the functional requirements and testing for the drywell spray system were relocated to the Technical Requirements Manual (TRM). The spray headers and nozzles are air tested in the drywell once every 10 years. This test verifies that a flow path exists through the spray header and nozzles and thereby verifies its operational status. QDC TRM, 3.6.a requires (Ref. 9.39), "Two RHR drywell spray subsystems shall be operable." Operability of the drywell spray subsystem of the low pressure coolant injection/containment cooling system is required to condense steam in the containment atmosphere. The Technical Support Guidelines (Ref. 9.37) indicate that drywell spray is initiated following an accident to control temperature, pressure, and radiation in instances where core damage has occurred. Starting at revision 3 of this calculation, drywell sprays are credited for the reduction of airborne radioactivity in the drywell in order to mitigate the consequences of the postulated LOCA event. Because the drywell spray function now meets the requirements of 10 CFR 50.36(c)(2)(ii) Criterion 3 for a system that actuates to mitigate the consequences of a design basis accident (DBA), the surveillance requirements were moved from the TRM back to the Technical Specifications (TS).

Per QDC UFSAR Section 6.2.2.2, the containment cooling mode of RHR is a safety function and consists of two cooling functions, containment spray which consists of drywell spray and suppression chamber spray along with suppression pool cooling. All containment cooling functions are manually initiated. Drawing M-39 (Ref. 9.31) indicates all equipment and piping in the RHR system that feeds the containment spray nozzles are safety related. Based on the above discussion, even though using the drywell spray system for scrubbing radionuclides from the drywell air space was not considered a safety related function as part of the original design basis, the system can be used following an accident to lower drywell temperature and pressures (Ref. 9.32).

Per DBD-QC-008 Section 3.2.3.1 (Ref. 9.33), the suppression pool cooling mode or containment spray mode must be initiated at 10 minutes following a LOCA to assure that the peak long-term suppression pool temperature does not exceed acceptable limits. Although not credited in the thermal hydraulic accident analysis (Ref. 9.13), using drywell sprays is consistent with DG00-000923 (Ref. 9.32) and is a time critical operator action (TCA9 of Ref. 9.43). Section 4.6.7 contains more discussion on drywell spray timing. Per the system design bases in Section 4.0 of DBD-QC-008, the fog spray nozzles have minimal direct impingement on components and containment walls and are evenly spaced around the drywell to ensure symmetric coverage.

The first order removal coefficient for drywell spray for particulate aerosols can be determined by the following equation from Standard Review Plan 6.5.2 (Ref. 9.38, Section III.4.C.iv, page 6.5.2-13):

$\lambda_{s,Partic}$  = particulate aerosol removal coefficient by spray wash-out

$$\lambda_{s,Partic} = (3 \times h \times F \times E) / (2 \times V \times D)$$

$$\lambda_{s,Partic} = (3 \times h \times F) \times (E/D) / (2 \times V) \text{ where,}$$

h = spray drop fall height

F = spray flow

E/D = ratio of a dimensionless collection efficiency (E) to the average spray drop diameter (D)

V = containment building net free volume

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

The iodine decontamination factor, DF, is defined as the maximum iodine concentration in the containment atmosphere divided by the concentration of iodine in the containment atmosphere at some time after decontamination (Ref. 9.38, Section III.4.D). The effectiveness of the spray in removing elemental iodine is presumed to end when the maximum elemental iodine DF is reached. This value cannot exceed 200. Because the removal mechanisms for organic iodides and particulate iodines are significantly different from and slower than the mechanisms for elemental iodine, there is no need to limit the DF for organic iodides and particulate iodines (Ref. 9.38, Section III.4.D).

The MSIV leakage release model in RADTRAD run QDC39MS03.psf is modified simply by adding only drywell spray elemental and particulate removal coefficients for the accident duration of 720 hrs in RADTRAD Run QDC39MS03\_spray.psf to determine the time-dependent reduction in the drywell airborne elemental iodine atoms and particulate mass, which are listed in Table 18. The model is changed to minimize the flow rate between the sprayed and unsprayed region in the drywell so that activity is not necessarily held up in the unsprayed volume.

The DW spray is assumed to start 10 minutes after onset of a LOCA (Ref. 9.32). In accordance with Regulatory Guide 1.183 Appendix A Section 3.3, the maximum decontamination factor for elemental iodine is based on the maximum iodine activity in the primary containment atmosphere when the sprays actuate divided by the activity of iodine remaining at some time after decontamination. Also, the particulate iodine removal rate should be reduced by a factor of 10 when a DF of 50 is reached. The review of Table 18 indicates the elemental iodine reaches a DF of 200 at 2.3 hrs and aerosol iodine mass reaches a DF of 50 at 2.2 hrs. After 2.3 hours the elemental iodine removal via spray is terminated and after 2.2 hours the aerosol removal coefficient is reduced to



1.5 hr<sup>-1</sup> until 4 hours post-accident when the DW spray is assumed to be terminated per Assumption 4.6.7.

The containment leakage of 0.03 volume fractions per day (i.e., 3 vol%/day) is assumed. Reduction in the containment leakage after 24 hours to 50% of the maximum leakage is credited in the analysis based on a review of Table 3-6 of Reference 9.13. Table 3-6 corresponds to the case where drywell sprays are used to reduce drywell pressure. Drywell pressure is 21.8 psia (7.1 psig) at 40,000 seconds (~11 hours) following a LOCA which is well below the maximum drywell driving pressure of 43.9 psig. In accordance with a modified Darcy's equation for flow through orifices (Equation 2-24 of Ref. 9.41), the volumetric flow rate is proportional to the square root of the driving pressure, so a pressure reduction of 75% leads to a flow rate reduction of 50%. Because the flow rates are based on a maximum drywell pressure of 43.9 psig, pressures less than approximately 11 psig will result in a reduction in flow of at least 50%.

Per Equation 2-24 of Ref. 9.41, the flow rate is inversely proportional to the square root of the density. The maximum drywell temperature occurs later on in the event per Figure 3-5 of Reference 9.13 but the calculated flow rates are already based on the highest temperature (lowest density) so no credit is taken for the effect of reduced volumetric flow due to increased density. Therefore, a leak rate reduction of 50% of the maximum at 24 hours following the event is justified.

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

NUREG-0800 Review Procedure Item	Discussion
<p>1. Design Requirements for Fission Product Removal. The containment spray system should be designed in accordance with the requirements of ANSI/ANS 56.5, except that the requirements for any spray additive or other pH control system in this reference need not be followed.</p>	<p>The containment spray system meets the requirements of ANS/ANSI 56.5 as it relates to the calculation of fission product removal following a LOCA. This includes geometry, physical features, flow characteristics, and containment mixing (Ref. 9.33).</p> <p>The relevant requirements taken from Section 6.3, 6.3.1 and 6.3.2 of ANSI/ANSI 56.5 and an explanation on how these requirements are met are as follows:</p> <p>“The performance requirements for the fission product removal function of the containment spray system usually coincide with the requirements for the pressure suppression and heat removal functions. However, because of the greater sensitivity of the fission product removal function to such system parameters</p>



NUREG-0800 Review Procedure Item	Discussion
	<p>as drop size, solution chemistry, and the containment volume covered by the spray, the fission product removal function places additional restraints on the design.”</p> <p>The containment spray system can be used for pressure suppression and heat removal (Ref. 9.13). The following specific requirements related to the fission product removal function are also met.</p> <p>“Drop Size. Since the drop size spectrum emitted by the spray nozzles is a key parameter in determining the fission product removal effectiveness, detailed drop size information shall be obtained for the nozzles selected for this function. This information, based upon tests, shall include:</p> <ol style="list-style-type: none"> <li>(1) A histogram or tabulated data of the spatial drop diameter spectrum obtained from a representative section of the spray cone produced by the nozzle. Each drop diameter increment shall contain a statistically meaningful number of observations. Drop diameter increments shall be 100 microns or less.</li> <li>(2) Information concerning the source of the data and their expected accuracy and repeatability.”</li> </ol> <p>Drop size information is contained in Reference 9.59. This drawing shows the drop size for Sprayco 7G-25 nozzles varies between approximately 1500 and 3700 microns. The aerosol removal efficiency is calculated using the conservative method in NUREG-0800 as discussed in Section 7.11.</p> <p>“(1) The spray nozzles shall be located as high in the containment as practicable, to maximize the spray drop fall distance.”</p> <p>The two levels of spray nozzles are located as high in the containment building as practical</p>

NUREG-0800 Review Procedure Item	Discussion
	<p>and are both located above the piping that could be the source of the LOCA (Ref. 9.42). The lower spray nozzle header is conservatively used to calculate fall height.</p> <p>“(2) The spray nozzles and distribution headers shall be arranged such that the volume of the containment covered by the spray is maximized. If containment structures (e.g., a concrete operating floor) obstruct containment coverage by the spray headers in the containment dome, an evaluation shall be made to determine the need for additional spray headers to reach the regions below these obstructions.”</p> <p>There is no concrete operating floor between the spray headers and the drywell floor. The containment structure allows the spray to reach the drywell floor (Ref. 9.34). Other obstructions such as floor grating are addressed in Section 7.11.</p> <p>“(3) Nozzle and header arrangement shall maximize the uniformity of the spray solution mass flux in the sprayed region. In the region above the operating deck, an unsprayed annulus adjacent to the containment wall shall be avoided.”</p> <p>Each spray nozzle is equally spaced around the radius of the drywell such that the spray uniformity is maximized and an unsprayed annulus adjacent to the containment wall is avoided (Ref. 9.46).</p> <p>“(4) Coverage analysis shall include the effect of the post-accident atmosphere on the spray drop trajectories, including the postaccident containment conditions resulting in the highest calculated atmospheric density.”</p> <p>The spray nozzles are designed to function in the post-accident containment atmosphere (Ref. 9.33). A reduction in the overall sprayed</p>

NUREG-0800 Review Procedure Item	Discussion
	<p>volume is used (9.50E+04 ft<sup>3</sup> rather than the calculated value of 9.99E+04 ft<sup>3</sup>) as a conservatism and the removal efficiencies taken from NUREG-0800 Section 6.5.2 are used which are conservative to use in the post accident environment per Assumption 4.6.9.</p> <p>“(5) Overlapping nozzle patterns are usually necessary to distribute the required spray flow rate; however, overlapping patterns for different types of nozzles producing widely different drop sizes shall be minimized. This is due to the fact that sprays with widely different drop sizes tend to coalesce and this is not desirable.”</p> <p>The same nozzles are used throughout the drywell such that coalescence is minimized (Ref. 9.46).</p> <p>“(6) Complete spray coverage of a region shall be assumed if 90 percent of the volume or 90 percent of the cross-sectional area with the fully developed spray pattern is directly sprayed. Spray coverage data shall be corrected for postaccident conditions to account for the reduced spray coverage in higher density atmospheres. These criteria shall apply when full credit for fission product removal is desired without additional analysis.”</p> <p>Due to the uniformity of the spray nozzles (Ref. 9.46), it is expected that at least 90% of the cross sectional area of the drywell air space is sprayed. However, only approximately 60% of the drywell volume is assumed to be sprayed because the lower spray nozzle elevation is credited. The spray nozzles are designed to function in the post-accident containment atmosphere such that reduced spray coverage due to a higher density environment is minimized (Ref. 9.33).</p> <p>“(7) Spray nozzles shall be arranged and</p>

NUREG-0800 Review Procedure Item	Discussion
	<p>mounted on the piping so as to minimize the potential for nozzle blockage.”</p> <p>The spray nozzles are mounted on the piping so as to minimize the potential for nozzle blockage (Ref. 9.46). Nozzle blockage is also managed by flow testing through the nozzles with air every 10 years (Ref. 9.47).</p>
<p>A. System Operation. The containment spray system should be designed to be initiated automatically by an appropriate accident signal and transferred automatically from the injection mode to the recirculation mode to ensure continuous operation until the design objectives of the system have been achieved. In all cases, the operating period should not be less than 2 hours. Additives to the spray solution may be initiated manually or automatically or stored in the containment sump to be dissolved during the spray injection period.</p>	<p>The containment spray system is not operated automatically to prevent flow diversion from the residual heat removal system in low pressure coolant injection mode. At 10 minutes after the LOCA (Ref. 9.13), flow is diverted to containment sprays to reduce containment pressure and scrub airborne activity. The manual actions required to initiate sprays at 10 minutes following a LOCA meet the requirements of Information Notice 97-78.</p>
<p>B. Coverage of Containment Building Volume. To ensure full spray coverage of the containment building volume, the following should be observed:</p> <p>i. The spray nozzles should be located as high in the containment building as practicable to maximize the spray drop fall distance.</p>	<p>The two levels of spray nozzles are located as high in the containment building as practical and are both located above the piping that could be the source of the LOCA (Ref. 9.42). The lower spray nozzle header is used to calculate fall height.</p>
<p>ii. The layout of the spray nozzles and distribution headers should be such that the cross-sectional area of the containment building covered by the spray is as large as practicable and the spray produced is a nearly homogeneous distribution in the containment building space. Unsprayed regions in the upper containment building and, in particular, an unsprayed annulus adjacent to the containment building liner should be avoided wherever possible.</p>	<p>The nozzles produce a spray that is nearly homogeneously distributed in the containment building space and an unsprayed annulus adjacent to the containment wall is not produced (Ref. 9.33 and 9.42).</p>
<p>iii. In designing the layout of the spray nozzle positions and orientations, the effects of the postaccident atmosphere should be considered, including the effects of</p>	<p>The spray nozzles are designed to function in the post-accident containment atmosphere (Ref. 9.33).</p>

NUREG-0800 Review Procedure Item	Discussion
postaccident conditions that result in the maximum possible density of the containment atmosphere.	
C. Promotion of Containment Building Atmosphere Mixing. Because the effectiveness of the containment spray system depends on a well-mixed containment atmosphere, consideration should be given to all design features enhancing postaccident mixing.	The containment is well mixed following the LOCA per Section 2.3.
D. Spray Nozzles. The nozzles used in the containment spray system should be designed to minimize the possibility of clogging while producing drop sizes effective for iodine absorption. The nozzles should not have internal moving parts such as swirl vanes and turbulence promoters. They should not have orifices or internal restrictions which narrow the flow passage to less than 0.64 cm (0.25 inch) in diameter.	The nozzles used are designed to minimize the possibility of clogging, are air tested every 10 years to ensure they are not clogged, and are 1.5 inch fog nozzles that do not have orifices or internal restrictions which narrow the flow passage to less than 0.25 inches in diameter (Ref. 9.42).
E. Spray Solution. The partition of iodine between liquid and gas phases and retention of iodine in the liquid is enhanced by the alkalinity of the solution. The spray system should be designed so that the spray solution is within material compatibility constraints. Iodine-scrubbing credit is given for spray solutions whose chemistry, including any additives, has been demonstrated to be effective for iodine absorption and retention under postaccident conditions.	The spray solution remains above a pH of 7 throughout the entire accident duration (Ref. 9.18). Maintaining a pH above 7 has been demonstrated to be effective for iodine absorption and retention (Ref. 9.18).
F. Containment Sump Solution Mixing. The containment sump should be designed to permit mixing of emergency core cooling system (ECCS) and spray solutions. Drains to the engineered safety features sump should be provided for all regions of the containment which would collect a significant quantity of the spray solution. Alternatively, allowance should be made for "dead" volumes in the determination of the pH of the sump solution and the quantities of additives injected.	The suppression pool is sufficiently mixed and has been demonstrated to be maintained above a pH of 7 throughout the accident (Ref. 9.18).
G. Containment Sump and Recirculation Spray Solutions. The pH of the aqueous solution collected in the containment sump	The spray solution remains above a pH of 7 throughout the entire accident duration and is

NUREG-0800 Review Procedure Item	Discussion
<p>after completion of injection of containment spray and ECCS water and all additives for reactivity control, fission product removal, or other purposes should be maintained at a level sufficiently high to provide assurance that significant long-term iodine reevolution does not occur. The expected long-term partition coefficient is used to calculate the long-term iodine retention. Long-term iodine retention may be assumed only when the equilibrium sump solution pH, after mixing and dilution with the primary coolant and ECCS injection, is above 7. This pH value should be achieved by the onset of the spray recirculation mode.</p>	<p>achieved by the onset of the spray recirculation mode. (Ref. 9.18).</p>
<p>H. Storage of Additives. The design should provide facilities for the long-term storage of any spray additives. These facilities should be designed so that the additives required to achieve the design objectives of the system are stored in a state of continuous readiness whenever the reactor is critical for the design life of the plant. The storage facilities should be designed to prevent freezing, precipitation, chemical reaction, and decomposition of the additives. For sodium hydroxide storage tanks, heat tracing of tanks and piping is required whenever exposure to temperatures below 4.5 °C (40 °F) is predicted. An inert cover gas should be provided for solutions that may deteriorate when exposed to air.</p>	<p>The standby liquid control system stores the buffering solution in a continuous state of readiness (Ref. 9.18).</p>
<p>I. Single Failure. The system should be able to function effectively and meet all the criteria in Subsection II with a single failure of an active component in the spray system, in any of its subsystems, or in any of its support systems.</p>	<p>The containment spray system is able to function effectively and meet all of the criteria in Subsection II with a single failure of an active component in the spray system, in any of its subsystems, or in any of its support systems (Ref. 9.33).</p>

#### 2.1.4 Dual Containment

Leakage from the primary containment is assumed to mix in 50% of the reactor building (RB) free air volume (Assumption 4.6.8). The 50% mixing effectively reduces the RB net free volume by 50% when modeled for the containment & ESF leakage releases. The reduction in containment leakage activity by dilution in the RB and removal by the Standby Gas Treatment System (SBGTS) filtration are credited. The SBGTS ESF grade charcoal and HEPA filters are tested per QCNPS TS 5.5.7 (Ref. 9.19.a) to maintain the

desired performance during the emergency conditions. Generic Letter (GL) 99-02 (Ref. 9.20) requires use of a safety factor of 2 to calculate the filtration efficiency to be credited in the design basis analysis. The SBGTS charcoal and HEPA filtration efficiencies are calculated in Section 7.9. The calculated SBGTS HEPA and charcoal filter efficiencies of 98% and 90%, respectively, are used in this analysis to be consistent with the QCNPS TS 5.5.7 and GL 99-02.

#### 2.1.5 Containment Purging

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

### 2.2 Post-LOCA ESF Leakage

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

#### 2.2.1 Source Term

With the exception of noble gases, all fission products released from the fuel to the containment (as defined in Sections 5.3.1.3 & 5.3.1.5) are assumed to instantaneously and homogeneously mix in the suppression pool water at the time of release from the core. The total ESF leakage from all components in the ESF systems is assumed to be 1 gpm. This ESF leakage is doubled (Ref 9.1, Section A.5.2) and assumed to start at time  $t = 0.0$  minute after the onset of a LOCA. With the exception of iodine, all remaining fission products in the recirculating liquid are assumed to be retained in the liquid phase. Since the temperature of the recirculating liquid is less than 212°F (Ref. 9.13 Table 3-4), 10% iodine activity in the ESF is assumed to become airborne (Ref. 9.1, Appendix A, Assumption 5.5). The design inputs for the ESF leakage are shown in Section 5.4. The reduction in ESF leakage activity by dilution in 50% of the RB volume and removal by the SBGTS filtration are credited.

#### 2.2.2 Chemical Form

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

### 2.3 Post-LOCA MSIV Leakage



The post-LOCA MSIV leakage model is shown in Figure 2. The four main steam lines, which penetrate the primary containment, are automatically isolated by the MSIVs in the event of a LOCA (Ref. 9.13). There are two MSIVs on each steam line, one inside containment and one outside containment. The MSIVs are functionally part of the primary containment boundary and design leakage through these valves provides a leakage path for fission products to bypass the secondary containment and enter the environment as a ground-level release. Following the initial blowdown of the reactor pressure vessel (RPV), the steaming in the RPV carries fission products to the containment. When core cooling is restored, the steam and the ESF flow carry fission products from the core to the primary containment via the severed recirculation line, resulting in well-mixed RPV dome and containment fission product concentrations. The MSIVs are postulated to leak at a total design leak rate of 250 scfh. Appendix B evaluates a leak rate of 350 scfh for unit 2. The radiological consequences from postulated MSIV leakage are analyzed and combined with the radiological consequences postulated for other fission product release paths to determine the total calculated radiological consequences from the LOCA (see Section 8.1 of this calc). The following assumptions are acceptable for evaluating the consequences of MSIV leakage.

### 2.3.1 Source Term

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

All four (4) MSL piping sections between the RPV nozzle and outboard MSIVs used in the MSIV leakage release paths remain intact and are capable of performing their safety function during and following a safe shutdown earthquake (SSE) (Ref. 9.15 and 9.16). Based on the structural integrity and functional performance of the MSL piping up to the outboard MSIV to withstand the SSE, the horizontal pipe surface area and volume is credited in the aerosol removal calculation. A total of 250 scfh MSIV leakage is assumed to occur as follows (see Section 7.3 for additional information regarding steam line selection):

- (1) 100 scfh through the steam line with the “failed” MSIV. The failure is assumed to cause a single main steam line to have a disproportionately high flow to artificially increase the total allowed MSIV leakage. The steam line with the failure is the shortest of the four steam lines so increasing the flow rate in this steam line reduces the overall credited aerosol and elemental iodine removal. The deposition removal of aerosol in the horizontal pipe, and the deposition removal of elemental iodine in both the horizontal and vertical pipes, are credited in the steam line between the RPV nozzle and outboard MSIV.
- (2) 100 scfh through first intact steam line. The deposition removal of aerosol in the horizontal pipe, and the deposition removal of elemental iodine in both the horizontal and vertical pipes, are credited in the steam line between the RPV nozzle and outboard MSIV.

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

(4) 0 scfh through the fourth steam line.

See Section 4.6.6 for additional discussion regarding MSIV leakage.

The aerosol deposition removal efficiencies for the main steam lines are determined based on the time-dependent methodology in Appendix A of AEB-98-03 (Ref. 9.17) using only the horizontal pipe projected area (Diameter x Length) as shown in Table 1B.

Gaseous iodine tends to deposit on the piping surface by chemical adsorption. Elemental iodine, being the most reactive, has the highest deposition rate. The iodine deposited on the surface undergoes both physical and chemical changes and can be re-emitted as an airborne gas (re-suspension) or permanently fixed to the surface (fixation). RG-1.183, Appendix A, Section 6.5 (Ref. 9.1), indicates that the methodology given in Reference 9.40 provides acceptable models for deposition of iodine on the pipe surface. This methodology is used to determine the deposition and resuspension rates of elemental iodine as follows:

$$d_i = \text{elemental iodine vapor deposition velocity (cm/s)} \\ = e^{(2809/T - 12.80 (\pm 0.33))} = e^{(2809/T - 12.5)} \quad (\text{Ref. 9.40, pages 4 and 12})$$

Where T = gas temperature (°K), which is obtained from Table 19.

The elemental iodine deposition rate  $\lambda_{ed}$  ( $\text{hr}^{-1}$ ) =  $d_i * S * 3600 \div V$  (Ref. 9.40, page 4)

Where  $d_i$  = deposition velocity (m/sec)

S = surface area of deposition ( $\text{m}^2$ )

V = volume ( $\text{m}^3$ )

The steam line temperature as a function of the time is given in Reference 9.40, Figure 7, which is reproduced in this section. The equation that closely curve fits Figure 7 is shown below:

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

where

t time, sec.

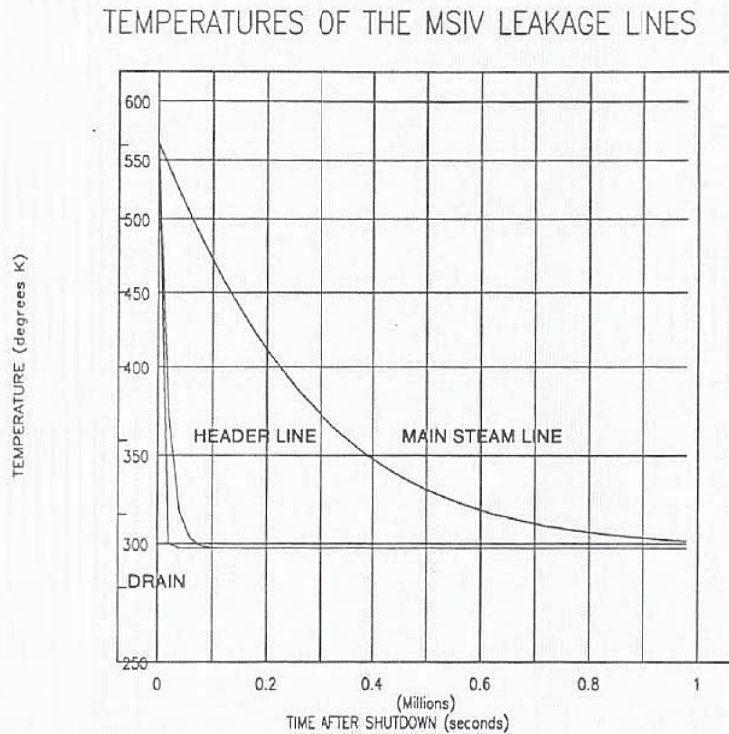


FIGURE 7. Temperature of the MSIV Leakage Pathway Piping as a Function of Time after Shutdown. The Rate of Cooling is Nearly Independent of the Flow Rate at the Low Rates Considered in the Present Analysis.

Using the above curve fit equation, the steam line temperatures at the different time intervals are calculated in Table 19 and used to calculate the elemental iodine deposition velocity ( $d_i$ ) in Table 22. The deposition velocity in cm/sec is converted into m/sec and elemental iodine deposition rates at various steam line temperatures are calculated in Tables 23 through 26 for various well-mixed volumes V1 through V5.

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

Resuspension rate of elemental iodine ( $\text{sec}^{-1}$ ) (Ref. 9.40, page 12)

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

Resuspension rate of elemental iodine  $\lambda_{er}$  ( $\text{hr}^{-1}$ )

$$= 4.32 \times 3600 \times 10^{-5} e^{-600/T}$$

The resuspension rates of elemental iodine at various steam line temperatures are calculated in Table 27.

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

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

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

Where DF = decontamination factor

$\eta$  = filter efficiency for elemental iodine

$\lambda_e$  = elemental iodine removal rate ( $\text{hr}^{-1}$ )  $t$  = time (hr)

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

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

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

The amount of elemental iodine deposited on the pipe surface (prior to resuspension) is the deposition efficiency as calculated using the previously described equation and the elemental iodine removal rates calculated in Table 23 through 26 for well-mixed volumes V1 through V5:

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

The resuspension efficiency is calculated using the previously described equation and the elemental iodine resuspension removal rates calculated in Table 27:

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

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

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

The corresponding filter efficiencies for various steam line temperatures are calculated in Table 28 through 31 for well-mixed volumes V1 through V5. The conservative values (at the beginning of each time interval) are used for each time step in RADTRAD model rather than using time interval average values for each time step. For conservatism, the elemental iodine filter efficiency is minimized by modeling a duration of 1 hour (i.e.,  $t = 1$  hour) for each post-LOCA time interval (e.g., 0 to 8 hours, 8 to 24 hours, etc.).

### 2.3.2 Determination of MSIV Leak Rates In Various Steam Line Volumes

The total MSIV leakage from all main steam lines is 250 scfh measured at 43.9 psig, allowing a maximum of 100 scfh from the “failed” steam line, 100 scfh through a second steam line and 50 scfh from a third steam line. The total MSIV leakage of 250 scfh is converted using the Ideal Gas Law to determine the actual leakage (cfh) using the post-LOCA peak temperature and pressure in Section 7.2. Since the actual MSIV leak rate is reduced at the accident condition due to the combined effects of compression (due to the high pressure) and expansion (due to the high temperature), the increase in the MSIV leak rates to the environment from the outboard MSIVs are conservatively calculated in Section 7.2 using the Ideal Gas Law and drywell post-LOCA peak pressure and temperature and are listed in Table 2. The MSIV leak rates in Table 2 are used in the analysis with aerosol removal coefficients calculated in Table 3 based on the horizontal pipe surface areas calculated in Section 7.3. To account for the assumed mixing between the wetwell and drywell at 2 hours and the resulting activity dilution, the flow rate through the MSIVs is reduced by the ratio of the drywell volume to the total volume at two hours.

### 2.3.3 Recirculation Line Rupture vs. Main Steam Line Rupture

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

Per UFSAR Section 6.2.1.3.4.6, the DBA for the Mark I containment design is the instantaneous guillotine rupture of the largest pipe in the primary system (the recirculation suction line). This LOCA leads to a specific combination of dynamic, quasi-static, and static loads in time. The thermal transient due to other postulated events including the steam line break inside the drywell does not impose maximum challenge to drywell pressure boundary and fuel integrity. The LOCA results in the maximum core damage and fission product release as shown in the RG 1.183 (Ref. 9.1, Table 1). Therefore, a recirculation line rupture is considered to be the limiting event with respect to radiological consequences.

RG 1.183 (Ref. 9.1, Appendix A, Section 6.5) allows reduction in MSIV releases that is due to holdup and deposition in main steam piping downstream of the MSIVs and in the main condenser, including the treatment of air ejector effluent by offgas systems, if the components and piping systems used in the release path are capable of performing their safety function during and following a safe shutdown earthquake (SSE). Although postulating a main steam line break in one steam line inside the drywell would maximize

the dose contribution from the MSIV leakage, the steam line break is not a credible event concurrent with break of a recirculation suction line, since the ASME Category 1 main steam piping is designed to withstand the SSE (Ref. 9.15).

## 2.4 Control Room Model

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

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

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

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

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

### 2.4.1 Post-LOCA Airborne Activity Inside CR

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

### 2.4.2 Post-LOCA Airborne Cloud External to CR

The post-LOCA radioactive plume contains the radioactive sources from the containment, ESF, and MSIV leakages. The gamma radiation external radioactive plume shine to the CR personnel is attenuated by the 1'-6" minimum concrete wall shielding



(Ref. 9.22.a, Section A-A). The RADTRAD3.03 code calculates the whole body gamma dose based on the semi-infinite cloud immersion at site boundary location (Ref. 9.2, Section 2.3.1 and Ref. 9.1, Section 4.1.4). Therefore, the  $\chi/Q_s$  for the LPZ receptor modeled in RADTRAD file QDC39MS03.psf are modified by replacing them with the  $\chi/Q_s$  for the CR air intake location. Since the containment and ESF leakage contributes insignificant CR dose (Section 8.1), they would be considered insignificant contributors for the external cloud dose. In addition, after 24 hours, CR occupancy factors in Section 5.6.11 are reduced, therefore CR exposure to the airborne cloud shine due to the MSIV release is reduced accordingly. To calculate the impact of CR occupancy factors, the CR  $\chi/Q$  values for the MSIV release for the 24 to 96 hour and for the 96 to 720 hour time periods in Section 5.6.10 are multiplied by the CR occupancy factors of 0.6 and 0.4 respectively as shown in Section 5.6.11. The resulting  $\chi/Q$  values are shown in Section 5.6.13. The resulting LPZ whole body dose is the semi-infinite gamma dose at the CR air intake. The total whole body gamma dose is 19.3 rem, which is obtained from RADTRAD run QDC39MS33.o0. Since this is a semi-infinite dose at the CR air intake, it is appropriate to assign this dose to the CR roof. The gamma attenuation factor is calculated to be 0.0172 for a 1 MeV gamma emission in Section 7.6. This attenuation factor includes the buildup due to multiple scattering. The resulting gamma dose from the external cloud shine would be 0.333 rem ( $19.3 \text{ rem} \times 0.0172 = 0.333 \text{ rem}$ ), which is added with the dose contribution from other post-LOCA sources in Section 8.1.

#### 2.4.3 Post-LOCA Reactor Building Shine to CR

The CR location with respect to the reactor building is shown in Reference 9.23. The post-LOCA airborne activity in the containment (drywell) is released into the reactor building (RB) via containment leakage through the penetrations and openings and gets uniformly distributed inside the RB. The airborne activity confined in the space above the operating floor of the RB (Ref. 9.23.c) contributes direct shine dose to the CR operator. The 0-24 hrs. post-LOCA RB airborne activity from the containment leakage and ESF leakage are listed in Tables 4 & 5 and combined in Table 6. The combined activity is used in the Microshield Computer Program (Ref. 9.28) with the shielding geometry as shown in Figures 4 & 5 to calculate the gamma dose rate to a CR operator 7 feet above the CR operating floor. The material specific buildup factor used by the MicroShield code accounts for the scattering. The resulting gamma dose rates for the first 24 hours in the CR is presented in Table 7 (the dose rate at 24 hours is conservatively held constant for the remaining duration of the LOCA event (i.e., until 720 hours)). The review of the CR building concrete structure drawing (Ref. 9.22) indicates the CR minimum roof/ceiling concrete shielding is 2'0" (Refs. 9.22.a & 9.22.c). The concrete wall at Column 25 facing the RB is 2'-6" thick (Ref. 9.22.d). The line of sight from the CR operator location to the RB source involves multiple shadow shields consisting of the concrete roof and walls. Therefore, the minimum concrete shielding of 2'-6" is credited in the shielding model. Actually, a large amount of concrete shielding will interact with gamma dose direct line of sight from the CR operator to the RB operating floor as shown in Figure 4 (Ref. 9.23). The CR gamma dose is calculated in Table 7 using the trapezoidal rule. The 720-hrs dose is further reduced based on the CR occupancy and RB



source geometry in Sections 7.7 & 7.8. The resulting containment shine dose is listed in Section 8.1.

#### 2.4.4 Post-LOCA CREV Filter Shine to CR

The post-LOCA CREV Filter shine dose was calculated in Revision 2 of this analysis and as described below was shown to be a negligible contributor to dose. This conclusion remains valid for Revision 3 of this calculation because even if the activity is doubled, the amount of iodine on the filters remains negligible. The discussion below and in Section 7.10 is retained as historical information.

The Quad Cities combined CR is located at the south end of the plant in the service building between Rows E & H, adjacent to Column 25 (Ref. 9.23). The CREV charcoal filter Tag number 9400-101 was obtained from the air flow diagram (Ref. 9.24.b) to locate the filter on the HVAC drawings (Ref. 9.25). The CREV charcoal filter is located in the south-west corner of the service building at EL 615'-6" (Ref. 9.23) near the intersection of Row D and Column 25. The CREV charcoal filter is located west-north-west of the CR. The dimensions of charcoal filter housing are approximately 3'-3" x 5'-3" x 16'-6" (Ref. 9.26). The post-LOCA CR doses listed in Section 8.1 indicate that the containment and ESF leakage contribute insignificant dose to the CR operator due to the large atmospheric dilution provided by their elevated releases from the SBTG station chimney. Therefore, only the MSIV leakage path is used to assess iodine and aerosol activity on the CR charcoal filter in the following section.

The RADTRAD3.03 code calculates the cumulative elemental and organic iodine atoms and the aerosol mass released to the environment from the main steam lines due to MSIV leakage at various time steps. The activity released to the environment is atmospherically dispersed to the control room HVAC intake louvers, where it is drawn into the CREV System. Section 7.10 and Tables 8 through 13 calculate the total elemental and organic iodine atoms and aerosol mass drawn into, and retained on, the CREV charcoal and HEPA filters. Section 7.10 conservatively neglects decay of the isotopes deposited on the CREV filters.

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

The iodine atom/curie relationship is established using the MSIV leakage run QDC39MS03.o0 file as shown in Table 14, which is a typical relationship for all release paths. The total number of atom accumulated on the charcoal filter is established in Section 7.10 based on the charcoal filter efficiency and CREV intake flow rate. Knowing the iodine atom/curie relationship (Table 14), and the total number of elemental and organic iodine atoms on the charcoal filter (Tables 9 and 11), the total (elemental + organic) iodine activity deposited on the CREV charcoal filter due to the MSIV leakage is calculated in Section 7.10 (Table 15). The review of Table 15 indicates the accumulation of iodine is insignificant. This is as expected, because most of the elemental iodine is removed by elemental deposition in the main steam piping before it is

released to the environment and it is further reduced by air dilution before it migrates to the CR air intake.

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

The aerosol mass/curie relationship is established using the MSIV leakage run QDC39MS03.o0 file as shown in Table 16, which is a typical relationship for all release paths. The total aerosol mass deposited on the CREV HEPA filter due to the MSIV leakage is calculated in Section 7.10 based on the HEPA filter efficiency and CREV intake flow rate. Knowing the aerosol mass/curie relationship (Table 16), and the total mass of aerosols on the HEPA filter (Table 13), the total aerosol activity deposited on the CREV charcoal filter due to the MSIV leakage is calculated in Section 7.10 (Table 17). The isotopic aerosol activity in Table 17 is insignificant. This is as expected, because most of the aerosol deposits out in the main steam piping horizontal surface before being released to the environment (see Table 3 for the aerosol removal efficiencies due to gravitational deposition).

#### 2.4.4.3 Concrete Shielding With CREV Charcoal Filter

The location of the CREV charcoal filter in the service building is such that it is located at least 28'-11" from the control room:

$$\begin{aligned} & (\text{Distance between Columns D \& E} + \text{Distance between Column E \& centerline}) - \\ & (\text{Distance between the Column D \& west edge of filter housing} + \text{length of filter housing}) \\ & = (33'-4'' + 15'-8'') (\text{Ref. 9.23.b}) - (3'-7'' (\text{Ref. 9.25.b}) + 16'-6'' (\text{Ref. 9.26})) = 28'-11'' \end{aligned}$$

The line of sight between the CR operator location and the CREV filter is intercepted by multiple layers of concrete shielding, mainly the concrete wall at Column 25, which is 1'-8" thick (Ref. 9.22.b) and the wall between Columns E & F which is 1'-6" thick (Ref. 9.23.c). In addition, shadow shielding is afforded by the concrete floor. The post-LOCA iodine and aerosol sources are small (Tables 15 & 17) as discussed in Sections 2.4.4.1 & 2.4.4.2 above, which coupled with the large amount of concrete shielding that exists between the CR operator and the CREV charcoal filter, makes the CREV charcoal filter shine dose insignificant to the CR operator.

### 3.0 ACCEPTANCE CRITERIA

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

- Regulatory Guide 1.183 (Ref. 9.1)
- 10CFR50.67 (Ref. 9.3)
- Standard Review Plan section 15.0.1 (Ref. 9.5)

Dose Acceptance Criteria are:

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

#### **4.0 REGULATORY COMPLIANCE AND ASSUMPTIONS**

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

#### **4.1 Source Term Assumptions**

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

#### **4.2 Equilibrium Core Inventory**

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

#### **4.3 Release Fractions and Timing**

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

#### **4.4 Radionuclide Composition**

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

#### **4.5 Chemical Form**

The long-term suppression pool water pH is greater than 7 during a LOCA (Ref. 9.18, Section 7.0) with credit taken for sodium pentaborate in the Standby Liquid Control System. Consequently, the chemical forms of radioiodine released to the containment can be assumed to be 95% cesium iodide (CsI), 4.85 percent elemental iodine, and 0.15 percent organic iodide (Ref. 9.1, RGPs 3.5 and A.2). These are shown in Design Input 5.3.1.7. With the exception of elemental and organic iodine and noble gases, fission products are assumed to be in particulate form (Ref. 9.1, RGPs 3.5 and A.2).

#### **4.6 Assumptions on Activity Transport in Primary Containment**

4.6.1 The radioactivity released from the fuel is assumed to mix instantaneously and homogeneously throughout the free air volume of the primary containment based on the steam lines and recirculation lines being contained below the spray headers (Ref. 9.15 and 9.34). The unsprayed volume, sprayed volume and suppression pool airspace are used to calculate the flow rates through the MSIVs. The

unsprayed volume is credited initially but the suppression pool air space is not credited until after two hours, as previously discussed in Section 2.3.2.

- 4.6.2 Reduction in airborne aerosol radioactivity in the containment by natural deposition is not credited (Ref. 9.1, RGP A.3.2; & Ref. 9.2, Section 2.2.2.1.2).
- 4.6.3 The primary containment and the MSIVs are assumed to leak at the peak pressure leak rate until 24 hours. The flow rates are reduced by half at 24 hours following the event based on discussion in Section 2.1.3. This only affects the flow rates modeled in RADTRAD. The aerosol removal efficiencies are conservatively calculated based on the non-reduced flow rates.
- 4.6.4 The Quad Cities Station does not purge containment to relieve containment pressure or to reduce containment hydrogen concentration (Ref. 9.4, Item 3). Therefore, the release from containment purging is not analyzed.
- 4.6.5 Removal of airborne elemental iodine activity by wetted surface areas inside containment due to the iodine adsorption is not credited (Section 2.1.3).
- 4.6.6 The MSIV leakage rate through each MSIV leakage path is assumed to be 100/100/50 scfh at 43.9 psig and the combined leakage rate for all leakage paths is 250 scfh at 43.9 psig. This assumption is conservatively converted to flow rates at actual conditions using the Ideal Gas Law, assuming the allowable Technical Specification peak pressure of 43.9 psig (Ref. 9.19.b) and a maximum temperature of 291°F (Ref. 9.13).
- 4.6.7 Drywell sprays are assumed to start 10 minutes following the event and continue until 4 hours following the event. These are conservative values to use because sprays are directed to start as early as 10 minutes after the event per Reference 9.13. Operators are directed to start drywell sprays when torus pressure is above 5 psig per Reference 9.49 which happens rapidly following a LOCA per Figure 3-1 of Reference 9.13. The wetwell pressure stays above 5 psig throughout the event per Figure 3.12 of Reference 9.13. The sprays can continue as long as drywell pressure remains above 0 psig per Section 3.10 of the TSG manual (Ref. 9.37) and the emergency operating procedures (Ref. 9.49). Figure 3-7 of the TSG manual contains the drywell spray initiation limit curve which provides the lower pressure and temperature bounds for initiation of drywell sprays. Per Figure 3-2 and Table 3-2 of Reference 9.13, the containment temperature remains below 291°F throughout the event for the case that maximizes drywell temperature. Similarly, the drywell pressures provided in Figure 3-1 and Table 3-2 of Reference 9.13 show the drywell pressure remains above the drywell spray initiation limit for this same design basis case.

Even though the spray can continue as long as containment pressure is above 0 psig per Reference 9.37, the spray is assumed to terminate at 4 hours post accident with respect to aerosol removal. The operators use the drywell low pressure / containment spray inhibited signal from instruments PS 1(2)-1001-83A/B which alarm at 1 psig (Ref. 9.48). For the containment analysis case that minimizes containment pressure, Table 3-6 and Figure 3-12 of Reference 13 show that the pressure remains above approximately 7 psig until at least 40,000 seconds (11

hours) following the event, so 4 hours conservatively bounds the anticipated operator action to continue sprays until containment pressure reaches atmospheric conditions.

- 4.6.8 Per Section 2.1.4, the containment leakage is assumed to mix with 50% of the reactor building volume. The reactor building volume used in the analysis is 2,350,000 ft<sup>3</sup> as compared to the containment leak rate of approximately 3 cfm. The containment leakage, if any, would most likely be associated with piping penetrations, which are located in the lower part of the containment. The small amount of containment leakage would have to diffuse through the secondary containment prior to being exhausted by the Standby Gas Treatment System (SBGTS) to the environment. Significant mixing would occur as the leakage travels through the secondary containment prior to entering the SBGTS.

The SBGTS is a safety-related HVAC system. Although the SBGTS is not a mixing system per se, the system does take suction directly or indirectly from every portion of the reactor building, which provides mixing. Although no specific transport analysis was performed due to the unknown location of the potential leakage, it is reasonable to assume that the containment leakage would adequately mix in at least 50% of the reactor building volume due to the relatively small percentage of containment leakage (~ 3 cfm) as compared to the nominal capability of the standby gas system (~4000 cfm per Ref. 9.36). 4400 cfm is modeled in RADTRAD to account for uncertainty and maximize dose.

- 4.6.9 Because Revision 3 of this calculation utilizes containment sprays in addition to natural deposition in the main steam lines, it is important to determine the impact of crediting these removal methods concurrently. NUREG-CR-0009 is a compilation of experimental and theoretical information used by the NRC to develop the spray removal methodology in accident analyses. This report primarily is based on the containment systems experimental data described in report BNWL-1457. Per NUREG-CR-0009, aerosol removal by containment sprays is primarily due to the following mechanisms

- Brownian diffusion
- Diffusiophoresis
- Interception
- Inertial impaction

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

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

The spray removal coefficients used in this calculation are based on the conservative values in Section 6.5.2 of NUREG-0800. The values assume that the ratio of a dimensionless collection efficiency to the average spray drop diameter should be 10 per meter initially (i.e., 1% efficiency for spray drops of 1 millimeter in diameter) and change abruptly to 1 spray drop per meter after the aerosol mass has been depleted by a factor of 50 (i.e., 98% of the suspended mass is 10 times more readily removed than the remaining 2%). Section J3.2.2 of NUREG-75/014 provides the technical basis for the formula used Section 6.5.2 of NUREG-0800 and in this calculation. NUREG-75/014 Section J3.2.2 also provides the correlation to determine spray lambdas. The spray lambda calculation assumes that diffusiophoresis is not a mechanism for spray removal. This is confirmed by Figure VII J-4 of NUREG-75/014.

The main steam line aerosol removal model is based on AEB 98-03. This document states that additional conservatisms include deposition by thermophoresis, diffusiophoresis, and flow irregularities.

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

Additionally, due to a NRC request for additional information related to the particle size assumed based on the AEB 98-03 40% settling velocity, calculation QDC-0000-N-2373 (Ref. 9.60) was prepared to ensure this calculation (QDC-0000-N-1481) is conservative. QDC-0000-N-2373 considered the effect of changes in particle size distribution due to drywell sprays, the effect of the including of aerosol impaction on the closed MSIV, reduced control room breathing rates, and credit for the condenser. Based on the results of the QDC-0000-N-2373, it was concluded that the existing AEB-98-03 model in QDC-0000-N-1481 is adequately conservative. For additional information on the models, data, and results refer to QDC-0000-N-2373.

- 4.6.10 For the containment leakage and MSIV leakage RADTRAD models, “dummy” pathways are not modeled to represent the leakage that would exist and reduce activity available for release through the other pathways. This conservatively maximizes dose.

#### **4.7 Offsite Dose Consequences**

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

- 4.7.1 The offsite dose is determined as a TEDE, which is the sum of the committed effective dose equivalent (CEDE) from inhalation and the deep dose equivalent (DDE) from external exposure from all radionuclides that are significant with regard to dose consequences and the released radioactivity (Ref. 9.1, RGP 4.1.1;



and Refs. 9.7 & 9.8). The RADTRAD3.03 computer code (Ref. 9.2) performs this summation to calculate the TEDE.

- 4.7.2 The offsite dose analysis uses the Committed Effective Dose Equivalent (CEDE) Dose Conversion Factors (DCFs) for inhalation exposure. (Ref. 9.1, RGP 4.1.2; and Refs. 9.7 & 9.8).
- 4.7.3 Since RADTRAD3.03 calculates Deep Dose Equivalent (DDE) using whole body submergence in semi-infinite cloud with appropriate credit for attenuation by body tissue, the DDE can be assumed nominally equivalent to the Effective Dose Equivalent (EDE) from external exposure. Therefore, the offsite dose analysis uses EDE in lieu of DDE Dose Conversion Factors in determining external exposure (Ref. 9.1, RGP 4.1.4; and Ref. 9.8).
- 4.7.4 The maximum EAB TEDE for any two-hour period following the start of the radioactivity release is determined and used in determining compliance with the dose acceptance criteria in 10 CFR 50.67 (Ref. 9.1, RGP 4.1.5 & RGP 4.4; and Ref. 9.3).
- EAB Dose Acceptance Criteria: 25 Rem TEDE (50.67(b)(2)(i))
- 4.7.5 TEDE is determined for the most limiting receptor at the outer boundary of the low population zone (LPZ) and is used in determining compliance with the dose criteria in 10 CFR 50.67 (Ref. 9.1, RGPs 4.1.6 and 4.4; and Ref. 9.3).
- LPZ Dose Acceptance Criteria: 25 Rem TEDE (50.67(b)(2)(ii))
- 4.7.6 No correction is made for depletion of the effluent plume by deposition on the ground (Ref. 9.1, RGP 4.1.7).
- 4.7.7 The breathing rates used for persons at offsite locations is given in Reference 9.1, RGP 4.1.3. These rates are incorporated in Design Inputs 5.7.3 & 5.7.6.

#### **4.8 Control Room Dose Consequences**

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

- 4.8.1 The CR TEDE analysis considers the following sources of radiation that will cause exposure to control room personnel (Ref. 9.1, RGP 4.2.1). See applicable Design Inputs 5.6.1 through 5.6.12.
- Contamination of the control room atmosphere by the intake or infiltration of the radioactive material contained in the post-accident radioactive plume released from the facility (via CR air intake),
  - Contamination of the control room atmosphere by the intake or infiltration of airborne radioactive material from areas and structures adjacent to the control room envelope (via CR unfiltered inleakage),
  - Radiation shine from the external radioactive plume released from the facility (external airborne cloud),
  - Radiation containment shine from radioactive material in the reactor containment, and

- Radiation shine from radioactive material in systems and components inside or external to the control room envelope, e.g., radioactive material buildup in recirculation filters (CR filter shine dose).
- 4.8.2 The radioactivity releases and radiation levels used for the control room dose are determined using the same source term, transport, and release assumptions used for determining the exclusion area boundary (EAB) and the low population zone (LPZ) TEDE values (Ref. 9.1, RGP 4.2.2).
- 4.8.3 The occupancy and breathing rate of the maximum exposed individual present in the control room are incorporated in Design Inputs 5.6.11 & 5.6.12 (Ref. 9.1, RGP 4.2.6).
- 4.8.4 10 CFR 50.67 (Ref. 9.3) establishes the following radiological criterion for the control room. This criterion is stated for evaluating reactor accidents of exceedingly low probability of occurrence and low risk of public exposure to radiation, e.g., a large-break LOCA (Ref. 9.1, RGP 4.4).
- CR Dose Acceptance Criteria:            5 Rem TEDE (50.67(b)(2)(iii))
- 4.8.5 Credit for engineered safety features that mitigate airborne activity within the control room is taken for control room isolation/pressurization and intake filtration (Ref. 9.1, RGP 4.2.4). The control room design is often optimized for the DBA LOCA and the protection afforded for other accident sequences may not be as advantageous. In most designs, control room isolation is actuated by engineered safety feature (ESF) signals or radiation monitors (RMs). In some cases, the ESF signal is effective only for selected accidents, placing reliance on the RMs. Several aspects of RMs can delay the isolation, including the delay for activity to build up to concentrations equivalent to the alarm setpoint and the effects of different radionuclide accident isotopic mixes on monitor response. The CR emergency filtration system is conservatively assumed to be initiated at 40 minutes (Design Input 5.6.2) after a LOCA (refer to Figure 3).
- 4.8.6 The CR unfiltered inleakage rate is conservatively assumed to be 4,000 cfm during normal mode of CR HVAC operation (Design Input 5.6.6). The normal intake flow rate is 2,000 cfm  $\pm$  10% so assuming the inleakage is double the nominal intake is conservative for this analysis. This inleakage rate bounds the latest tracer gas test inleakage of 824 cfm (778  $\pm$  46 cfm) during isolation – recirculation mode (Ref. 9.35). This tracer gas test corresponding to isolation/recirculation mode is for a toxic gas scenario where recirculation in the control room is being provided by CREVS train B. This scenario does not exactly correspond to normal operation of the CR HVAC with 2000 cfm of intake, but it does show that even with a negative pressure in the CR with no makeup, an inleakage value of 824 cfm is bounded by the modeled 4,000 cfm leading to an overall inleakage/intake rate of 6,200 cfm.

Previous revisions of this calculation assumed 60,000 cfm as an unfiltered inleakage rate based on a sensitivity performed to show which flow rate would lead to an approximately equilibrium activity between the environment and the control room (Ref. 9.45 Attachment 11). However, this assumption is overly

conservative because such large flow rates would overly pressurize the control room.

- 4.8.7 The unfiltered inleakage rate is assumed to be 400 cfm during emergency mode of CR HVAC operation (Design Input 5.6.7). The emergency unfiltered inleakage of 400 cfm represents a bounding number as compared to the maximum measured unfiltered inleakage of 209 cfm ( $167 \pm 42$  cfm) by Tracer Gas Testing during emergency mode (Ref. 9.35). The atmospheric dispersion factors generated for the CR intake are representative for control room inleakage.
- 4.8.8 No credits for KI pills or respirators are taken (Ref. 9.1, RGP 4.2.5).

## 5.0 DESIGN INPUTS

### 5.1 General Considerations

#### 5.1.1 Applicability of Prior Licensing Basis

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

#### 5.1.2 Credit for Engineered Safety Features

Credit is taken only for those accident mitigation features that are classified as safety-related, are required to be operable by technical specifications, are powered by emergency power sources, and are either automatically actuated or, in limited cases, have actuation requirements explicitly addressed in emergency operating procedures. The single active component failure modeled in this calculation is the inboard MSIV in one main steam line failing to close.

#### 5.1.3 Assignment of Numeric Input Values

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

#### 5.1.4 Meteorology Considerations

Atmospheric dispersion factors ( $\chi/Qs$ ) for the onsite release points such as the Standby Gas Treatment System (SBGTS) stack for containment and ESF leakage release path and the edge of the MSIV room for the MSIV leakage release path are developed (Ref. 9.14) using the NRC sponsored computer code ARCON96. The EAB and LPZ  $\chi/Qs$  are developed using the Quad Cities Station plant specific meteorology, appropriate regulatory guidance, and the PAVAN computer code (Ref. 9.14).

### 5.2 Accident-Specific Design Inputs/Assumptions

The design inputs/assumptions utilized in the EAB, LPZ, and CR habitability analyses are listed in the following sections. The design inputs are compatible with the

requirements of the AST and TEDE dose criteria and the assumptions are consistent with those identified in Regulatory Position 3 and Appendix A of RG 1.183 (Ref. 9.1). The design inputs and assumptions in the following sections represent the as-built design of the plant.

Design Input Parameter		Value Assigned		Reference	
<b>5.3 Containment Leakage Model Parameters</b>					
<b>5.3.1 Source Term</b>					
5.3.1.1 Thermal Power Level		3,016.14 MWt (includes 2% margin)		9.4, Item 1	
5.3.1.2 Peak Fuel Burnup		62,000 MWD/MTU		9.4, Items 5 and 6 9.1, RGP 3.2, note 10	
5.3.1.3 Framatome ATRIUM 10XM fuel Isotopic Core Inventory (Ci/MWt) (Table 1A)					
Isotope	Ci/MW <sub>t</sub>	Isotope	Ci/MW <sub>t</sub>	Isotope	Ci/MW <sub>t</sub>
CO-58*	1.5290E+02	RU-103	4.3101E+04	CS-136	1.8368E+03
CO-60*	1.8300E+02	RU-105	3.0237E+04	CS-137	5.3379E+03
KR-85	4.5422E+02	RU-106	1.8799E+04	BA-139	4.8406E+04
KR-85M	6.7636E+03	RH-105	2.8314E+04	BA-140	4.8738E+04
KR-87	1.3560E+04	SB-127	2.3772E+03	LA-140	5.2053E+04
KR-88	1.8832E+04	SB-129	8.6534E+03	LA-141	4.4428E+04
RB-86	5.1059E+01	TE-127	2.3606E+03	LA-142	4.3433E+04
SR-89	2.5927E+04	TE-127M	4.0449E+02	CE-141	4.4759E+04
SR-90	4.0781E+03	TE-129	8.2224E+03	CE-143	4.1775E+04
SR-91	3.2890E+04	TE-129M	1.6644E+03	CE-144	3.8460E+04
SR-92	3.4813E+04	TE-131M	5.4043E+03	PR-143	4.0449E+04
Y-90	4.2107E+03	TE-132	3.8128E+04	ND-147	1.8003E+04
Y-91	3.3487E+04	I-131	2.6657E+04	NP-239	5.2716E+05
Y-92	3.5144E+04	I-132	3.8791E+04	PU-238	1.3792E+02
Y-93	2.6657E+04	I-133	5.5037E+04	PU-239	1.3030E+01
ZR-95	4.7743E+04	I-134	6.1005E+04	PU-240	2.3872E+01
ZR-97	4.6417E+04	I-135	5.2385E+04	PU-241	5.2716E+03
NB-95	4.7743E+04	XE-133	5.2716E+04	AM-241	8.6534E+00
MO-99	5.0064E+04	XE-135	1.7871E+04	CM-242	2.2015E+03
TC-99M	4.4428E+04	CS-134	6.7305E+03	CM-244	1.2798E+02
* CO-58 & CO-60 activities are obtained from RADTRAD User's Manual, Table 1.4.3.2-3 (Ref. 9.2)					
<b>5.3.1.4 Radionuclide Composition</b>					
Group		Elements		9.1, RGP 3.4, Table 5	
Noble Gases		Xe, Kr			
Halogens		I, Br			
Alkali Metals		Cs, Rb			
Tellurium Group		Te, Sb, Se			
Barium, Strontium		Ba, Sr			
Noble Metals		Ru, Rh, Pd, Mo, Tc, Co			
Lanthanides		La, Zr, Nd, Eu, Nb, Pm, Pr, Sm, Y, Cm, Am			
Cerium		Ce, Pu, Np			

Design Input Parameter	Value Assigned	Reference
5.3.1.5 Release Fraction (Ref 9.1, Table 1)		
<b>BWR Core Inventory Fraction Released Into Containment</b>		
Group	Gap Release Phase	Early In-Vessel Release Phase
Noble Gases	0.05	0.95
Halogens	0.05	0.25
Alkali Metals	0.05	0.20
Tellurium Metals	0.00	0.05
Ba, Sr	0.00	0.02
Noble Metals	0.00	0.0025
Cerium Group	0.00	0.0005
Lanthanides	0.00	0.0002
5.3.1.6 Timing of Release Phase (Ref. 9.1, Table 4)		
Phase	Onset	Duration
Gap Release	2 min (the RADTRAD model assumes the gap release starts at time 0 but the pathways do not start until 2 minutes following the LOCA)	0.5 hr
Early In-Vessel Release	0.5 hr	1.5 hr
5.3.1.7 Iodine Chemical Form		
Aerosol (CsI)	95%	9.1, RGP 3.5
Elemental	4.85%	
Organic	0.15%	
<b>5.3.2 Activity Transport in Primary Containment</b>		
5.3.2.1 Drywell Air Volume	158,000 ft <sup>3</sup>	9.4, Items 13 and 19
5.3.2.2 Drywell plus Suppression Chamber Free Air Volume	269,000 ft <sup>3</sup>	9.4, Item 19
5.3.2.3 Containment Elemental Iodine Removal Model	Standard Review Plan 6.5.2	9.4, Item 13
5.3.2.4 Drywell Surface Area for Deposition/Plateout Model	32,430 ft <sup>2</sup> (but not credited)	9.30
5.3.2.5 Particulate (Aerosol) Deposition/Plateout Model	Not credited	9.4, Item 14
5.3.2.6 Reactor Building (Secondary Containment) Free Volume	4,716,129 ft <sup>3</sup> Conservative value of 4,700,000 ft <sup>3</sup> is used in the analysis	9.30
5.3.2.7 Containment Leak Rate into Reactor Building	3.0 v%/day (0 to 24 hours). 1.5 v%/day (1 day to 30 days)	9.1 9.19

Design Input Parameter	Value Assigned	Reference
5.3.2.8 Fraction of Containment Leakage that Bypasses the Standby Gas Treatment System (SBGTS) due to High Winds	100% (during 25 minute drawdown period) 0% (following 25 minute drawdown period)	9.4, Item 24 9.36
5.3.2.9 Fraction of Reactor Building Available for Mixing	0.5	9.1, RGP A.4.4 9.4, Item 23
5.3.2.10 SBGTS Exhaust Rate	4,000 cfm $\pm$ 10%	9.30
5.3.2.11 SBGTS Exhaust Charcoal and HEPA Filter Efficiencies		
Elemental Iodine	90%	Section 7.9
Organic Iodide	90%	
Particulate Aerosols	98%	
5.3.2.12 Drywell Spray Parameters		
Volumetric flow rate of the spray pump	4,750 gpm (design) 2,352 gpm (modeled which corresponds to 160 nozzles * 14.7 gpm per nozzle)	9.32 9.51 (this is a Dresden document but the conservative modeling is applicable to Quad Cities because the design flow rates are the same per DG00-000923 (Ref. 9.32) and nozzle designs are the same per calculation DRE05-0048 (Ref. 9.63))
Elevation of Upper Drywell Spray Header	628' – 8"	9.34 9.61
Elevation of Lower Drywell Spray Header	607' – 3"	
Elevation of Drywell Floor	579' – 10"	
Upper Grating Elevation	614' – 7.25"	9.52, 9.54, and 9.62
Lower Grating Elevation	592' – 11.75"	9.53, 9.55, and 9.62
<b>5.4 ESF Leakage Model Parameters</b>		
5.4.1 Suppression Pool Water Volume	116,151 ft <sup>3</sup> Conservative value of 110,000 ft <sup>3</sup> is used in the analysis	9.30
5.4.2 Sump Water Activity (Ref. 9.1, RGP A.5.1, A.5.3 & Tables 1 & 4)		



Design Input Parameter	Value Assigned	Reference
Group	Gap Release Phase	Early In-Vessel Release Phase
Timing Duration (Hrs)	2 min – 0.50 Hr (the RADTRAD model assumes the gap release starts at time 0 but the pathways do not start until 2 minutes following the LOCA)	0.50 – 2.0 Hr
Halogen	0.05	0.25
5.4.3 ESF Leakage Rate	2 gal/min (= 2 × 1 gal/min allowable leakage rate)	Assumed; 9.1, RGP A5.2
5.4.4 ESF Leakage Initiation Time and Duration	0 to 30 days	9.4, Item 31
5.4.5 Suppression Pool Scrubbing	not credited	9.1, RGP A.3.5
5.4.6 Long-Term Suppression Pool Water pH	>7.0	9.18, Section 7.0; 9.1, RGP A.2
5.4.7 Fraction of Iodine in ESF Leakage that becomes Airborne	0.10	9.4, Item 29; 9.1, RGP A.5.5
5.4.8 Chemical Form of Iodine in ESF Leakage		
Elemental	97%	9.1, RGP A.5.6
Organic	3%	
5.4.9 Fraction of Reactor Building Available for ESF Leakage Mixing	0.5	9.4, Item 32
5.4.10 Percentage of ESF Leakage that is filtered by the SBGTS	0% (during 25 minute drawdown period) 100% (following 25 minute drawdown period)	9.4, Item 33 9.36
<b>5.5 MSIV Leakage Model Parameters</b>		
5.5.1 Total MSIV Leak Rate Through All Four Lines	250 scfh @ 43.9 psig for 0 to 24 hours and 125 scfh for 1 day to 30 days	Assumed, Section 4.6.6
5.5.2 MSIV Leak Rate Through One Line With MSIV Failed	100 scfh @ 43.9 psig for 0 to 24 hours and 50 scfh for 1 day to 30 days	Assumed, Section 4.6.6
5.5.3 MSIV Leak Rate Through Three Intact Lines		
First Intact Line	100 scfh @ 43.9 psig for 0 to 24 hours and 50 scfh for 1 day to 30 days	Assumed
Second Intact Line	50 scfh @ 43.9 psig for 0 to 24 hours and 25 scfh for 1 day to 30 days	Assumed

Design Input Parameter	Value Assigned	Reference
Third Intact Line	0 scfh	Assumed
5.5.4 Piping Parameter Outside Diameter Wall Thickness	20" 1.031"	9.16
5.5.5 Corrosion Allowance For Steam	0.12"	Assumed
5.5.6 Natural Removal Efficiency For Elemental Iodine In Each Steam Line Volume	Time-dependent Cline Methodology	9.17, Appendix B, page B-3
<b>5.6 Control Room Model Parameters</b>		
5.6.1 CR Pressure Boundary Envelope Free Volume	184,000 ft <sup>3</sup>	9.4, Item 34
5.6.2 CREV Filtration System Actuation Time Following a LOCA	40 minutes	9.30
5.6.3 CR Normal Operation Unfiltered Ventilation Air Intake	2,000 cfm ± 10% (2,200 cfm for < 0.667 hr)	9.30
5.6.4 CR Emergency Ventilation Mode Air Intake Rate	2,000 cfm ± 10% (1,800 cfm for > 0.667 hr)	9.30
5.6.5 CR Emergency Ventilation Mode Air Recirculation Rate through Filters	0 cfm	9.4, Item 45
5.6.6 CR Unfiltered Inleakage during Normal Operation	4,000 cfm (includes ingress/egress inleakage of 10 cfm)	Assumed (Ref. 9.44, Section 4.1.1.1)
5.6.7 CR Unfiltered Inleakage during Emergency Ventilation Mode	400 cfm (includes ingress/egress inleakage of 10 cfm)	Assumed based on bounding latest tracer gas test results (Ref. 9.35)
5.6.8 CR Emergency Ventilation Mode Intake Charcoal and HEPA Filter Efficiencies		
Elemental Iodine	99%	Section 7.9
Organic Iodide	99%	
Particulate Aerosols	99%	
5.6.9 CR $\chi/Q_s$ For Containment & ESF Leakage Release Via SBGTS Stack (Station Chimney) Release		
<b>Time</b>	<b>X/Q (sec/m<sup>3</sup>)</b>	
0-2	5.84E-06	9.14, Table 3-6
2-8	2.68E-06	
8-24	1.81E-06	
24-96	7.77E-07	
96-720	2.30E-07	

Design Input Parameter	Value Assigned	Reference
<b>5.6.10 CR X/Qs For MSIV Leakage Release Via Unit 1 MSIV</b>		
<b>Time</b>	<b>X/Q (sec/m<sup>3</sup>)</b>	
0-2	1.02E-03	9.14, Table 4-1
2-8	8.23E-04	
8-24	3.55E-04	
24-96	2.32E-04	
96-720	1.38E-04	
<b>5.6.11 CR Occupancy Factors</b>		
<b>Time (Hr)</b>	<b>%</b>	
0-24	100	9.1, RGP 4.2.6
24-96	60	
96-720	40	
5.6.12 CR Breathing Rate	3.5E-04 m <sup>3</sup> /sec	9.1, RGP 4.2.6
<b>5.6.13 CR X/Qs For MSIV Leakage Release Via Units 1 and 2 MSIV for External Cloud Dose</b>		
<b>Time (hour)</b>	<b>X/Q (sec/m<sup>3</sup>)</b>	Changes to Design Input 5.6.10: 24-96 hr value revised using CR occupancy factor of 0.6  96-720 hr value revised using CR occupancy factor of 0.4
0-2	1.02E-03	
2-8	8.23E-04	
8-24	3.55E-04	
24-96	1.392E-04	
96-720	5.52E-05	
<b>5.6.13 CR X/Qs For Containment &amp; ESF Leakage Release Via Reactor Building Vent Ground Release</b>		
<b>Time (hrs)</b>	<b>X/Q (sec/m<sup>3</sup>)</b>	9.14, Table 4-1 (used during drawdown period)
0-2	5.82E-04	
<b>5.7 Offsite Dose Receptor Release Model Parameters</b>		
<b>5.7.1 EAB X/Qs For Containment &amp; ESF Leakage Release Via SBGTS Stack (Station Chimney) Release</b>		
<b>Time (hrs)</b>	<b>X/Q (sec/m<sup>3</sup>)</b>	
0-0.5	1.57E-04	9.14, Table 4-1
0.5-720	6.38E-06	
<b>5.7.2 EAB X/Q For MSIV Leakage Release</b>		
<b>Time (hrs)</b>	<b>X/Q (sec/m<sup>3</sup>)</b>	
0-720	1.36E-03	9.14, Table 4-1
5.7.3 EAB Breathing Rate	3.5E-04 m <sup>3</sup> /sec	9.1, RGP 4.1.3

Design Input Parameter	Value Assigned	Reference
5.7.4 LPZ X/Qs For Containment & ESF Leakage Release Via SBGTS Stack (Station Chimney) Release		
<b>Time (hrs)</b>	<b>X/Q (sec/m<sup>3</sup>)</b>	
0-0.5	3.01E-05	9.14, Table 4-1
0.5-2	2.05E-05	
2-8	8.76E-06	
8-24	5.73E-06	
24-96	2.28E-06	
96-720	6.07E-07	
5.7.5 LPZ X/Qs For MSIV Leakage Release		
<b>Time (hrs)</b>	<b>X/Q (sec/m<sup>3</sup>)</b>	
0-2	1.04E-04	9.14, Table 4-1
2-8	4.14E-05	
8-24	2.62E-05	
24-96	9.96E-06	
96-720	2.52E-06	
5.7.6 LPZ Breathing Rates		
<b>Time (hrs)</b>	<b>BR (m<sup>3</sup>/sec)</b>	
0-8	3.5E-04	9.1, RGPs 4.1.3 & 4.4
8-24	1.8E-04	
24-720	2.3E-04	

## 5.8 CHANGES BETWEEN REVISION 2 AND REVISION 3

Revision 3 of this calculation makes several changes to the methodology and inputs in the calculation that will need to be described in a license amendment request to the NRC.

These changes are described in the table below.

Parameter	Comments
Increased combined MSIV leakage from 150 scfh to 250 scfh for Unit 1 and 350 scfh for Unit 2.	This is an assumed input to the calculation.
Credited drywell spray	Drywell spray meets the requirements in NUREG-0800 Section 6.5.2 as demonstrated in Section 2.1.3 and has been previously accepted for Nine Mile Point Units 1 and 2, Oyster Creek, and Hatch

Parameter	Comments
Credited aerosol deposition in horizontal main steam upstream of the inboard MSIV in the "failed" MSL	These lines are seismically designed so will be available for deposition following a LOCA. The assumed failure is not a steam line break so the entire volume of piping upstream of the inboard MSIV is available for aerosol deposition.
SBGT System Exhaust Charcoal Filter Efficiencies changed from 80% to 90%	Seciton 7.9 calculates a filter efficiency of 95% using the appropriate safety factors. 90% is conservatively chosen.
Added time dependent elemental iodine removal coefficients in the steam lines	It is correct to use time dependent values despite the NRC recommendation to use 50% removal efficiency in AEB 98-03. This is allowed by RG 1.183 and is a conservative change.
Reduced MSIV and containment leakage by 50% at 24 hours after a LOCA	This is allowed by RG 1.183 and is supported by the reduced containment pressure at 24 hours after a LOCA. This only affects the flow rates modeled in RADTRAD. The aerosol removal efficiencies are conservatively calculated based on the non-reduced flow rates.
Reduced control room unfiltered inleakage during normal operation from 60,000 cfm to 4,000 cfm	This conservative flow rate is more than double the nominal normal intake flow rate and bounds a tracer gas test inleakage of 824 cfm ( $778 \pm 46$ cfm) during isolation – recirculation mode. See Assumption 4.8.6.
Removed credit taken for natural deposition (plateout) of elemental iodine on the containment walls	Since drywell sprays are credited at 10 minutes and a maximum DF of 200 is allowed by RG 1.183, it is not necessary to consider natural deposition as a removal mechanism.
Added a secondary containment drawdown time of 25 minutes.	The secondary containment may not be maintained at a negative pressure following a LOCA so this drawdown time period is established based on the drawdown calculation (Ref. 9.36).

Parameter	Comments
Removed credit for Powers' deposition model.	Further investigation with RADTRAD error notice 17 leads to the conclusion that the error may be underestimating doses for BWRs. Therefore, this credit is removed.
Separated MSIV leakage from total containment leakage	Previously, MSIV leakage was subtracted from total containment leakage. Now, the containment is assumed to leak at the full 3% vol/day leakage allowable.

## 6.0 COMPUTER CODES & COMPLIANCE WITH REGULATORY REQUIREMENTS

### 6.1 Computer Codes

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

- RADTRAD** (Refs. 9.2, 9.27 & 9.29): This is an NRC-sponsored code approved for use in determining control room and offsite doses from releases due to reactor accidents. EXELON performed in-house V & V of RADTRAD 3.03 code (Ref. 9.29). RADTRAD also has been approved for use in this calculation as documented by Enercon Services, Inc., RADTRAD Computer Software Acceptance (Ref. 9.27). For this calculation, all 18 error notices posted to the RADTRAD Industry Users Group's website (radtrad.com) were reviewed as documented in the table below. Input files for RADTRAD, Version 3.03 were run on machines LAP7-533-JH and DU7A6 located in the ENERCON office in Kennesaw, Georgia.

RADTRAD Error Notice Number	Error Description	Discussion
1	When a user runs requests that a control room be added to the dose model the GUI will generate a default breathing rate. If the user has previously specified a delay time, then the default time versus breathing rate table has incorrect time values (they are not updated). The end result is that RADTRAD will not execute (the code crashes).	The control room model has the correct breathing rate and the code executes as intended.

<b>RADTRAD Error Notice Number</b>	<b>Error Description</b>	<b>Discussion</b>
2	Calculation to determine the Worst 2 hour EAB dose can exceed array length in at least one case. The resulting overwrite causes an incorrect value of the time to be reported by the code. This does not result in erroneous dose values.	The dose values reports are not impacted.
3	When a user runs the GUI version through the acceptance test case sequence, some results are different from those calculated by the batch version. For example test case 14 after test case 13 will have additional time periods edited, dose results are not affected.	This error does not impact code results.
4	When a user runs the GUI version through the acceptance test case sequence, some results are different from those calculated by the batch version. For example test case 1a after test case 19 will have an incorrect value for the worst 2 hour EAB dose. The edited value at 2 hours is correct.	This error does not impact code results.
5	When a user chooses the Powers deposition models (either sprays or natural decontamination) they go to the Aerosol Model Screen. The GUI indicates that the percentile option has been initialized, but is not and results in a termination when the calculate button is initiated.	This error does not impact code results.
7	The addition of offsite dose calculations to the control room dose calculation reduced the control room dose by a factor of 2.	The control room $\gamma/Q$ time steps align with the other dose locations. No impact on results.



<b>RADTRAD Error Notice Number</b>	<b>Error Description</b>	<b>Discussion</b>
8	Unknown to the user, the RADTRAD 3.03 GUI automatically modifies any compartment, using Powers' Natural Deposition, to the "PWR Design Basis" containment model, whenever the panel for that given compartment is opened. Therefore, the compartment panel cannot be viewed without one having to return the selection to whatever containment model that the user desired. (Mscisz) The program has a case set-up screen for options where the user selects the reactor type to determine fission product species for the event and a separate selection of the Powers aerosol decontamination factor. Normally if a case is created, saved, and then executed the selected options are used. If a case is re-opened, to check or correct the data inputs for example, the program automatically resets the options to PWR - DBA and 10th percentile Powers aerosol decontamination factor. If the case is then run without checking these options then the case is executed with the defaults.(Re)	The Powers' natural deposition model is not used.
9	Do you know of any previously reported error in RADTRAD associated with the use of all 10 Volumes? Two of us have separately run into problems when specifying a 10th volume in two separate models. It seems that when the 10th volume is specified, it somehow alters the source term associated with Volume #1.	Only 9 compartments are used in the RADTRAD model so this error is not applicable.
10	When running RADTRAD with reduced time steps the code generates different inventories for some nuclides	The code is run with the acceptable time step of 0.1 hour in the first time period as discussed in the error notice.
11	When running RADTRAD with only Tellurium nuclides why is the concentration of iodine daughters so low?	RADTRAD runs with only Tellurium nuclides are not made.
12	When running RADTRAD with Powers' Natural Deposition model, the code generates inventories at 24 hours that may vary by as much as 2% when I add time intervals.	The Powers' natural deposition model is not used.

<b>RADTRAD Error Notice Number</b>	<b>Error Description</b>	<b>Discussion</b>
13	When running RADTRAD with abrupt flow changes the user can affect dose results by changing the time steps. For example, flow out a PORV is stopped after a few minutes and then that flow is re-directed to a secondary containment. If the time steps are uncontrolled, excessive release from the secondary can occur. This significantly affects the results from TID source terms.	The RADTRAD model includes flow changes but time steps are adequate to minimize the effects on the results. Any effects of this error are in the conservative direction, so no negative impact on results.
14	When using the Powers' spray model the use of an alpha =1 (total compartment is sprayed) is inconsistent with the Powers' model as developed in NUREG/CR-5966 and as implemented in RADTRAD.	The Powers' spray model is not used.
15	When using the natural deposition User input option, if the User does not specify a set of aerosol deposition values the code fails.	Natural deposition is not used.

RADTRAD Error Notice Number	Error Description	Discussion
16	<p>RADTRAD has the capability to analyze the decay of radionuclides from the time of shutdown. The ability was first implemented in version 2.02 with full implementation in version 3.02 and additional modification to allow multiple source term compartments was implemented in version 3.03. All options were separate effects tested in version 3.03.</p> <p>This program error was found to only occur if the user selects: (1) a timed release, i.e. TIO and puff releases (as in a fuel handling or main steam line break scenario) are not affected, (2) more than one compartment receives a part of the released radionuclides (common in sprayed containments), and (3) radionuclide decay. The combination of timed release, decay, and multiple compartments was not correctly implemented; instead the initial fuel inventory is decayed each time a source compartment is entered.</p> <p>This error means that the nuclides available for release will be reduced. If the user has two source term compartments the radionuclides available for release at 1 hour is reduced to 58% of what is correct and when there are 3 source term compartments to approximately 34% - this is non-conservative.</p>	More than one compartment does not receive the release.
17	<p>RADTRAD has the capability for removing aerosols due to natural deposition. In the implementation of the Powers model the code assigned a removal coefficient of 0.01 to be used beyond the end of the approximately one day correlation, it should have been 0.0. This allows more particulate to be deposited within the compartment, thus less is available for release to the environment.</p>	The Powers' natural deposition model is not used.
18	<p>1. If the user selects the <i>user-defined coefficients Natural Deposition Aerosol Model</i>, no values of deposition lambda or decontamination factor are included in the output file even if the <i>show results control option to include runtime model information</i> is enabled. Furthermore, in RADTRAD 3.10 only, if the user selects the</p>	Natural deposition coefficients are not used in the model. Therefore no impact on results.

RADTRAD Error Notice Number	Error Description	Discussion
	<p><i>Henry natural deposition model with runtime model information</i> requested, the output is mislabeled as “user removal coefficients” instead of “Henry’s correlation.”</p> <p>2. According to Section 2.3.2 of the Alion-RADTRAD 3.10 User’s Manual (ALION-UGMRADTRAD- 2408-02), “It is not consistent to select both Sprays and Natural Deposition to be active at the same time in the same compartment.” However, the RADTRAD software allows users to model both <i>Sprays</i> and <i>Natural Deposition</i> in the same <i>compartment</i> without a warning or error statement. Furthermore, when the user selects both <i>Sprays</i> and <i>Natural Deposition</i> for a single <i>compartment</i> with the <i>control option to show results – include runtime model information</i> enabled, the values of <i>deposition lambda</i> for the <i>Sprays</i> model may be erroneously reported as the <i>deposition lambda</i> values for <i>Natural Deposition</i> in addition to <i>Sprays</i>. Also note that the reported <i>decontamination factors</i> are for each individual model and may be difficult to interpret. The <i>decontamination factor</i> for <i>Sprays</i> is the amount of a transport group’s radionuclides in the sump pool and containment atmosphere divided by just what is in the containment atmosphere. Similarly, the <i>decontamination factor</i> for <i>Natural Deposition</i> is the amount of a transport group’s radionuclides deposited on surfaces and in the containment atmosphere divided by what is in the containment atmosphere. Since both removal models deplete the containment atmosphere source term, the <i>decontamination factors</i> reported will be greater than if only a single model was used. In order to calculate a combined <i>decontamination factor</i>, the values for <i>Sprays</i> and <i>Natural Deposition</i> should be added together and then a value of 1.0 should be subtracted. The user must ensure that undue credit for radionuclide</p>	

<b>RADTRAD Error Notice Number</b>	<b>Error Description</b>	<b>Discussion</b>
	removal is not taken by implementing both <i>Sprays</i> and <i>Natural Deposition</i> .	

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

## 7.0 CALCULATIONS

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

The RADTRAD nuclide inventory file Bwr\_def.NIF establishes the power dependent radionuclide activity in Ci/MW<sub>t</sub> for the reactor core source term. Since these core radionuclide activities are dependent on the core thermal power level, reload design, and burnup, QCNPS nuclide inventory file DQLOCA\_ATRIUM\_DEF.nif is compiled based on the fission products in the reactor core obtained from Reference 9.6.

### 7.2 Determination of MSIV Leak Rates

#### 7.2.1 Design Basis Case

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

#### 7.2.2 MSIV Leakage During 0-2 hrs

Drywell volume = 1.58E+05 ft<sup>3</sup> (Ref. 9.4, Item 19)

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

Per the ideal gas law, PV = nRT or PV/T = nR. Given that nR is a constant for the air leakage, PV/T at post-LOCA conditions is equal to PV/T at STP conditions.

P @LOCA = Drywell peak pressure = 43.9 psig (Ref. 9.13, Table 3-2)

T @LOCA = Drywell peak temperature = 291° F (Ref. 9.13, Table 3-2) = 291° F + 460 = 751° R

P @STP = Standard pressure = 14.7 psia

T @STP = Standard temperature = 68° F = 68° F + 460 = 528° R

V @STP = MSIV leakage based @ 43.9 psig = 250 scfh

V @LOCA = (PV/T @STP) x (T/P @LOCA)

0-2 hrs MSIV leakage @ drywell peak pressure of 43.9 and temperature of 291° F

= 250 scfh x [14.7 psia / (43.9 psig + 14.7 psia)] x [751° R / 528° R]

= 250 scfh x 0.2509 x 1.422 = 89.2 cfh

= (89.2 ft<sup>3</sup>/hr) / (60 min/hr) = 1.487 cfm

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

0-2 hrs allowable leakage from MS Line 1 with failed MSIV and MS Line 2 (at maximum 100 scfh leak rate)

$$= (100 \text{ scfh} / 250 \text{ scfh total}) \times 89.2 \text{ cfh} = 35.68 \text{ cfh} = 0.595 \text{ cfm}$$

0-2 hrs allowable leakage from MS Line 3 (at maximum 50 scfh leak rate)

$$= (50 \text{ scfh} / 250 \text{ scfh total}) \times 89.2 \text{ cfh} = 17.84 \text{ cfh} = 0.297 \text{ cfm}$$

### 7.2.3 MSIV Leakage During 2-24 hrs

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

Drywell + Suppression Chamber free air volume =  $2.69\text{E}+05 \text{ ft}^3$  (Ref. 9.4, Item 19)

0-2 hrs MSIV leakage @ drywell peak pressure of 43.9 psig = 89.2 cfh (per above)

Corresponding MSIV leak rate =  $89.2 \text{ cfh} \times (1.58\text{E}+05 \text{ ft}^3 / 2.69\text{E}+05 \text{ ft}^3) = 52.4 \text{ cfh}$

2-24 hrs allowable leakage from MS Line 1 with failed MSIV and MS Line 2

$$= (100 \text{ scfh} / 250 \text{ scfh total}) \times 52.4 \text{ cfh} = 20.96 \text{ cfh} = 0.349 \text{ cfm}$$

2-24 hrs allowable leakage from MS Line 3

$$= (50 \text{ scfh} / 250 \text{ scfh total}) \times 52.4 \text{ cfh} = 10.48 \text{ cfh} = 0.175 \text{ cfm}$$

### 7.2.4 MSIV Leakage During 1-30 days

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

1-30 days allowable leakage from MS Line 1 with failed MSIV and MS Line 2

$$= 0.349 \text{ cfm} / 2 = 0.175 \text{ cfm}$$

1-30 days allowable leakage from MS Line 3

$$= 0.175 \text{ cfm} / 2 = 0.087 \text{ cfm}$$

### 7.2.5 MSIV Leakage To Environment

It is assumed that the post-LOCA activity released in the Steam Line (SL) with the failed inboard MSIV is instantaneously and homogeneously distributed in the single volume of SL between the RPV nozzle and outboard MSIV (well mixed volume). The MSIV leakage from the outboard MSIV expands to the atmospheric condition as follows:



Upstream of outboard MSIV (Section 7.2.2):

$$V1 = 35.68 \text{ cfh} \quad P1 = 43.9 \text{ psig} + 14.7 = 58.6 \text{ psia} \quad T1 = (291^\circ\text{F} + 460) = 751^\circ\text{R}$$

Downstream of outboard MSIV (Atmospheric Condition):

$$V2 = \text{TBD} \quad P2 = 14.7 \text{ psia} \quad T2 = (68^\circ\text{F} + 460) = 528^\circ\text{R}$$

MSIV Leakage to Environment From MSIV Failed Line (MS Line 1):

$$\begin{aligned} V2 &= (PV/T @1) \times (T/P @2) \\ &= (58.6 \text{ psia} \times 35.68 \text{ cfh} / 751^\circ\text{R}) \times (528^\circ\text{R} / 14.7 \text{ psia}) \\ &= 100 \text{ cfh} = 1.667 \text{ cfm} \end{aligned}$$

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

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

Upstream of inboard MSIV in intact MS Line 2 (Section 7.2.2):

$$V1 = 35.68 \text{ cfh} \quad P1 = 43.9 \text{ psig} + 14.7 = 58.6 \text{ psia} \quad T1 = (291^\circ\text{F} + 460) = 751^\circ\text{R}$$

Downstream of inboard MSIV (assumed Atmospheric Condition):

$$V2 = \text{TBD} \quad P2 = 14.7 \text{ psia} \quad T2 = (68^\circ\text{F} + 460) = 528^\circ\text{R}$$

MSIV Leakage to Pipe Spool Between intact MS Line 2 MSIVs:

$$\begin{aligned} V2 &= (PV/T @1) \times (T/P @2) \\ &= (58.6 \text{ psia} \times 35.68 \text{ cfh} / 751^\circ\text{R}) \times (528^\circ\text{R} / 14.7 \text{ psia}) \\ &= 100 \text{ cfh} = 1.667 \text{ cfm} \end{aligned}$$

Upstream of outboard MSIV (i.e., downstream of inboard MSIV) in intact MS Line 2:

$$V2 = 100 \text{ cfh} \quad P1 = 14.7 \text{ psia} \quad T2 = (68^\circ\text{F} + 460) = 528^\circ\text{R}$$

Downstream of outboard MSIV in intact MS Line 2 (assumed Atmospheric Condition):  
 $V3 = \text{TBD}$        $P2 = 14.7 \text{ psia}$        $T2 = (68^\circ\text{F} + 460) = 528^\circ\text{R}$

MSIV Leakage to Environment From MS Line 2:

$$\begin{aligned} V3 &= (PV/T @2) \times (T/P @3) \\ &= (14.7 \text{ psia} \times 50 \text{ cfh} / 528^\circ\text{R}) \times (528^\circ\text{R} / 14.7 \text{ psia}) \\ &= 100 \text{ cfh} = 1.667 \text{ cfm} \end{aligned}$$

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

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

#### The 2-24 hr MSIV leakages to Environment

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

$$\begin{aligned} \text{2-24 hrs MSIV leakage release to environment from MS Line 1 with failed MSIV} \\ &= 100 \text{ cfh} \times (1.58\text{E}+05 \text{ ft}^3 / 2.69\text{E}+05 \text{ ft}^3) = 58.74 \text{ cfh} = 0.979 \text{ cfm} \\ \text{2-24 hrs MSIV leakage release to environment from MS Line 2} \\ &= 100 \text{ cfh} \times (1.58\text{E}+05 \text{ ft}^3 / 2.69\text{E}+05 \text{ ft}^3) = 58.74 \text{ cfh} = 0.979 \text{ cfm} \\ \text{2-24 hrs MSIV leakage release to environment from MS Line 3} \\ &= 50 \text{ cfh} \times (1.58\text{E}+05 \text{ ft}^3 / 2.69\text{E}+05 \text{ ft}^3) = 29.37 \text{ cfh} = 0.489 \text{ cfm} \end{aligned}$$

#### The 1 to 30 day MSIV leakages to Environment

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

$$\begin{aligned} \text{2-24 hrs MSIV leakage release to environment from MS Line 1 with failed MSIV} \\ &= 0.979 \text{ cfm} / 2 = 29.37 \text{ cfh} = 0.489 \text{ cfm} \\ \text{2-24 hrs MSIV leakage release to environment from MS Line 2} \\ &= 0.979 \text{ cfm} / 2 = 29.37 \text{ cfh} = 0.489 \text{ cfm} \\ \text{2-24 hrs MSIV leakage release to environment from MS Line 3} \\ &= 0.489 \text{ cfm} / 2 = 14.68 \text{ cfh} = 0.245 \text{ cfm} \end{aligned}$$

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

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

Pipe diameter = 20" (Ref. 9.16)

Minimum wall thickness = 1.031" (Ref. 9.16)

Corrosion allowance for steam = 0.12" (assumed)

Total Minimum Thickness = 1.031" + 0.12" = 1.151"

20" Pipe ID = OD – (2 x min wall thickness) = 20" – 2 x 1.151" = 17.698" = 1.475'

Pipe cross sectional area =  $\pi r^2 = \pi (1.475' / 2)^2 = 1.708 \text{ ft}^2$

The comparisons between main steam isometric drawings in References 9.15 & 9.16 indicate that the main steam piping layouts are comparable for the two inner steam distribution headers. The QCNPS Unit 2 design has a shorter outer third steam distribution header. Therefore, the MSIV leakage analysis is performed based on the QCNPS Unit 2 main steam piping for the release path, and the following sections calculate the aerosol deposition parameters.

Nozzle elevation (Center Line) = 659'-10"

Straight pipe = 3'-2-1/2" = 3.21'

Volume V = 1.708 ft<sup>2</sup> x 3.21 ft = 5.48 ft<sup>3</sup>

Vertical pipe, Height H = 33'-10" = 33.83'

V = 1.708 ft<sup>2</sup> x 33.83 ft = 57.78 ft<sup>3</sup>

45° Bend Pipe L = 3.17' / Cos 45° = 4.48 ft.

Volume = 1.708 ft<sup>2</sup> x 4.48 ft = 7.65 ft<sup>3</sup>

Vertical pipe, Height = 6.5'

Volume = 1.708 ft<sup>2</sup> x 6.5 ft = 11.10 ft<sup>3</sup>

Horizontal pipe, L = 15.88'

V = 1.708 ft<sup>2</sup> x 15.88 ft = 27.12 ft<sup>3</sup>

Elevation of horizontal pipe segment = 659'-10" – (33'-10" + 3'-2" + 6'-6")

= 659'-10" – 43'-6" = 616'-4"

Height of vertical pipe = 616'-4" - 595'-0" = 21.33'

V = 1.708 ft<sup>2</sup> x 21.33 ft = 36.43 ft<sup>3</sup>

Horizontal pipe before inboard MSIV = 4.33'

V = 1.708 ft<sup>2</sup> x 4.33 ft = 7.40 ft<sup>3</sup>

Length pipe between Inboard & Outboard MSIVs

= (4-8" + 12'-3-1/8" + 10'9") = 27.68 ft

V = 1.708 ft<sup>2</sup> x 27.68 ft = 47.28 ft<sup>3</sup>

Control Volume V<sub>11</sub> for MSIV Failed SL Between RPV Nozzle & inboard MSIV (100 scfh)

Total Volume

V<sub>11</sub> = 5.48 ft<sup>3</sup> + 57.78 ft<sup>3</sup> + 7.65 ft<sup>3</sup> + 11.10 ft<sup>3</sup> + 27.12 ft<sup>3</sup> + 36.43 ft<sup>3</sup> + 7.40 ft<sup>3</sup> = 152.96 ft<sup>3</sup>

Horizontal pipe volume

$$V_{H11} = 5.48 \text{ ft}^3 + 27.12 \text{ ft}^3 + 7.40 \text{ ft}^3 = 40.00 \text{ ft}^3$$

Horizontal pipe projected surface area for gravitational aerosol deposition

$$A_{H11} = D \times L \text{ (Horizontal Length)}$$

$$= 1.475' \times (3.21' + 15.88' + 4.33') = 1.475' \times 23.42' = 34.54 \text{ ft}^2$$

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

Total volume

$$V_{12} = 47.28 \text{ ft}^3$$

Horizontal pipe volume  $V_{H12}$  = Same as total volume = 47.28 ft<sup>3</sup>

Horizontal pipe projected surface area for gravitational aerosol deposition

$$A_{H12} = D \times L \text{ (Horizontal Length)} = 1.475' \times 27.68' = 40.83 \text{ ft}^2$$

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

Total Volume

$$V_1 = V_{11} + V_{12} = 152.96 \text{ ft}^3 + 47.28 \text{ ft}^3 = 200.24 \text{ ft}^3$$

(Used in RADTRAD Runs QDC39MS03.psf and QDC39MS33.psf)

Total Horizontal pipe volume

$$V_{H1} = V_{H11} + V_{H12} = 40.00 \text{ ft}^3 + 47.28 \text{ ft}^3 = 87.28 \text{ ft}^3 \text{ (Used in Table 1B)}$$

Total Horizontal Surface Area

$$A_{H1} = A_{H11} + A_{H12} = 34.54 \text{ ft}^2 + 40.83 \text{ ft}^2 = 75.37 \text{ ft}^2 \text{ (Used in Table 1B)}$$

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

The nozzle elevation (659'-10") and horizontal pipe segment elevation (616'-4") are the same as those for main steam line 2-3001A-20" (Section 7.3.1). Therefore, the missing dimensions are obtained from Reference 9.15.d in the following sections:

Nozzle elevation (Center Line) = 659'-10"

Straight pipe = 3'-2-1/2" = 3.21'

$$\text{Volume } V = 1.708 \text{ ft}^2 \times 3.21 \text{ ft} \times = 5.48 \text{ ft}^3$$

Vertical pipe, Height H = 33'-10" = 33.83'

$$V = 1.708 \text{ ft}^2 \times 33.83 \text{ ft} = 57.78 \text{ ft}^3$$

45° Bend Pipe with length  $L = 3.17' / \cos 45^\circ = 4.48 \text{ ft}$ .

$$\text{Volume} = 1.708 \text{ ft}^2 \times 4.48 \text{ ft} = 7.65 \text{ ft}^3$$

Vertical pipe, Height = 6.5'

$$\text{Volume} = 1.708 \text{ ft}^2 \times 6.5 \text{ ft} = 11.10 \text{ ft}^3$$

$$\text{Horizontal pipe, } L = 15.86'$$

$$V = 1.708 \text{ ft}^2 \times 15.86 \text{ ft} = 27.09 \text{ ft}^3$$

$$\text{Horizontal pipe segment elevation} = 616'-4'' \text{ (Ref. 9.15.d)}$$

$$\text{Height of vertical pipe} = 616'-4'' - 595'-0'' = 21.33'$$

$$V = 1.708 \text{ ft}^2 \times 21.33 \text{ ft} = 36.43 \text{ ft}^3$$

$$\text{Horizontal pipe before inboard MSIV} = 1'-9-1/2'' + 2'-6-1/2'' = 4.33'$$

$$V = 1.708 \text{ ft}^2 \times 4.33 \text{ ft} = 7.40 \text{ ft}^3$$

$$\text{Length pipe between Inboard \& Outboard MSIVs}$$

$$= (4'-8'' + 13'-4'' + 10'-9'') = 28.75 \text{ ft}$$

$$V = 1.708 \text{ ft}^2 \times 28.75 \text{ ft} = 49.11 \text{ ft}^3$$

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

Total volume

$$V_2 = 5.48 \text{ ft}^3 + 57.78 \text{ ft}^3 + 7.65 \text{ ft}^3 + 11.10 \text{ ft}^3 + 27.09 \text{ ft}^3 + 36.43 \text{ ft}^3 + 7.40 \text{ ft}^3 = 152.93 \text{ ft}^3$$

Horizontal pipe volume

$$V_{H2} = 5.48 \text{ ft}^3 + 27.09 \text{ ft}^3 + 7.40 \text{ ft}^3 = 39.97 \text{ ft}^3$$

Horizontal pipe projected surface area for gravitational aerosol deposition

$$A_{H2} = D \times L \text{ (Horizontal Length)}$$

$$= 1.475' \times (3.21' + 15.86' + 4.33') = 1.475' \times 23.40' = 34.52 \text{ ft}^2$$

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

Total volume for first intact pipe between Inboard \& Outboard MSIVs

$$V_3 = 49.11 \text{ ft}^3$$

$$\text{Horizontal pipe volume } V_{H3} = \text{Same as total volume} = 49.11 \text{ ft}^3$$

Horizontal pipe projected surface area for gravitational aerosol deposition

$$A_{H3} = D \times L \text{ (Horizontal Length)} = 1.475' \times 28.75' = 42.41 \text{ ft}^2$$

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

The nozzle elevation (659'-10'') and horizontal pipe segment elevation (616'-4'') are the same as those for main steam line 2-3001A-20'' (Section 7.3). Therefore, the missing dimensions are obtained from Reference 9.15.c in the following sections:

$$\text{Nozzle elevation (Center Line)} = 659'-10''$$

$$\text{Straight pipe} = 3'-2-1/2'' = 3.21'$$

$$\text{Volume } V = 1.708 \text{ ft}^2 \times 3.21 \text{ ft} \times = 5.48 \text{ ft}^3$$

$$\text{Vertical pipe, Height } H = 31'-4'' = 31.33'$$

$$V = 1.708 \text{ ft}^2 \times 31.33 \text{ ft} = 53.51 \text{ ft}^3$$

$$45^\circ \text{ Bend Pipe with length } L = 5.67' / \text{Cos } 45^\circ = 8.02 \text{ ft.}$$

$$\text{Volume} = 1.708 \text{ ft}^2 \times 8.02 \text{ ft} = 13.70 \text{ ft}^3$$

$$\text{Vertical pipe, Height} = 6.5'$$

$$\text{Volume} = 1.708 \text{ ft}^2 \times 6.5 \text{ ft} = 11.10 \text{ ft}^3$$

$$\text{Horizontal pipe, } L = 22.76'$$

$$V = 1.708 \text{ ft}^2 \times 22.76 \text{ ft} = 38.87 \text{ ft}^3$$

$$\text{Horizontal pipe segment elevation} = 616'-4'' \text{ (Ref. 9.15.d)}$$

$$\text{Height of vertical pipe} = 616'-4'' - 595'-0'' = 21.33'$$

$$V = 1.708 \text{ ft}^2 \times 21.33 \text{ ft} = 36.43 \text{ ft}^3$$

$$\text{Horizontal pipe before inboard MSIV} = 1'-3-1/4'' + 1'-5-1/2'' = 2.73'$$

$$V = 1.708 \text{ ft}^2 \times 2.73 \text{ ft} = 4.66 \text{ ft}^3$$

$$\text{Length pipe between Inboard \& Outboard MSIVs}$$

$$= (4-8'' + 13'-4'' + 1'-3'' + 9-6'') = 28.75 \text{ ft}$$

$$V = 1.708 \text{ ft}^2 \times 28.75 \text{ ft} = 49.11 \text{ ft}^3$$

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

Total volume

$$V_4 = 5.48 \text{ ft}^3 + 53.51 \text{ ft}^3 + 13.70 \text{ ft}^3 + 11.10 \text{ ft}^3 + 38.87 \text{ ft}^3 + 36.43 \text{ ft}^3 + 4.66 \text{ ft}^3 = 163.75 \text{ ft}^3$$

Horizontal pipe volume

$$V_{H4} = 5.48 \text{ ft}^3 + 38.87 \text{ ft}^3 + 4.66 \text{ ft}^3 = 49.01 \text{ ft}^3$$

Horizontal pipe projected surface area for gravitational aerosol deposition

$$A_{H4} = D \times L \text{ (Horizontal Length)}$$

$$= 1.475' \times (3.21' + 22.76' + 2.73') = 1.475' \times 28.70' = 42.33 \text{ ft}^2$$

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

Total volume for first intact pipe between Inboard & Outboard MSIVs

$$V_5 = 49.11 \text{ ft}^3$$

$$\text{Horizontal pipe volume } V_{H5} = \text{Same as total volume} = 49.11 \text{ ft}^3$$

Horizontal pipe projected surface area for gravitational aerosol deposition

$$A_{H5} = D \times L \text{ (Horizontal Length)} = 1.475' \times 28.75' = 42.41 \text{ ft}^2$$

## 7.4 Aerosol Deposition On Horizontal Pipe Surface

Reference 9.15 indicates that the QCNPS main steam piping from the reactor pressure vessel (RPV) nozzle to the outboard MSIV is ASME Class 1 seismically analyzed to assure the piping wall integrity during and after a seismic (safe shutdown earthquake [SSE]) event. RG 1.183, Appendix A, Section 6.5 requires that the components and piping systems used in the release path are capable of performing their safety function during and following a SSE. The main steam lines credited in the MSIV leakage path are

qualified to withstand the SSE, therefore, these lines are credited for the aerosol deposition in the following section:

The Brockmann model for aerosol deposition (Ref. 9.2, Section 2.2.6.1) is based on the plug flow model. The staff concluded that the plug flow model for aerosol deposition in the main steam piping under-predicts the dose (Ref 9.17, Appendix A). The aerosol settling velocity in the well-mixed flow model depends on the variables having a large range of uncertainty (see Equation 5 of Appendix A of Ref. 9.17). Therefore, the following aerosol deposition model is used, which is accepted by the Staff in Reference 9.17, Appendix A). Therefore, the Staff performed a Monte Carlo analysis to determine the distribution of aerosol settling velocities for the main steam line during the in-vessel release phase. The accepted 40<sup>th</sup> percentile settling velocity is reasonably conservative for aerosol deposition in the MSIV leakage. The results of the Monte Carlo analysis for settling velocity in the main steam line are given in the following Table:

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

#### 7.4.1 MSIV Failed Line

The derivation of staff's well-mixed model begins with a mass balance as follows (Ref. 9.17, Page A-2):

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

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

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

Where  $u_s$  = settling velocity  
 A = settling area

The aerosol settling velocities in the different control volumes are calculated in Table 1B using the above equation based on the horizontal pipe projected areas and well mixed horizontal volumes obtained from Section 7.3.



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

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

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

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

Equation (2) is used to calculate the aerosol removal efficiencies in Table 3. Note that the volumetric flow rate used to determine the removal efficiency is the full flow rate through the line (100 or 50 scfh) and is not reduced at 24 hours.

## 7.5 ESF Leak Rates

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

$$1 \text{ gallon/min} \times 2 \times 1/7.4805 \text{ ft}^3/\text{gallon} = 0.2674 \text{ cfm}$$

$$10\% \text{ of ESF leakage becomes airborne} = 0.10 \times 0.2674 = 0.02674 \text{ cfm}$$

## 7.6 External Cloud Gamma Dose Attenuation Factor

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

Minimum concrete shielding = 1'-6" (Ref. 9.22.a, Section A-A)

Gamma dose attenuation for 1'-6" concrete shielding is calculated as follows:

Mass attenuation coefficient for concrete at 1 MeV  $\mu/\rho = 0.0635 \text{ cm}^2/\text{g}$  (Ref. 9.21, Table 3.7)

Density of concrete  $\rho = 2.3 \text{ g/cm}^3$  (Ref. 9.21, Table II.3)

Linear attenuation coefficient  $\mu$  in concrete =  $\mu/\rho \times \rho = 0.0635 \text{ cm}^2/\text{g} \times 2.3 \text{ g/cm}^3 = 0.146 \text{ cm}^{-1}$

Shielding thickness  $r = 18 \text{ inch} \times 2.54 \text{ cm/inch} = 45.72 \text{ cm}$

$\mu r$  in concrete shielding =  $0.146 \text{ cm}^{-1} \times 45.72 \text{ cm} = 6.675 \text{ mean free paths}$

Exposure buildup factor for isotropic point source at disintegration energy of 1 MeV and 6.675 mean free paths of the 1 MeV gammas

$$B_p(\mu r) = A_1 e^{-\alpha_1 \mu r} + A_2 e^{-\alpha_2 \mu r} \quad (\text{Ref. 9.21, page 428})$$

Where  $A_1$ ,  $A_2$ ,  $\alpha_1$ , and  $\alpha_2$  are functions of energy, and

$$A_1 + A_2 = 1$$

Values of these parameters are obtained from Table 10.3 of Reference 9.21 for 1 MeV gamma in concrete shielding as follows:

$$A_1 = 25.507 \quad -\alpha_1 = 0.07230 \quad \alpha_2 = -0.01843 \quad A_2 = 1 - A_1 = 1 - 25.507 = -24.507$$

$$\mu_r = 6.675$$

Substituting these values in the above equation yields:

$$B_p(\mu_r) = 41.32 - 27.71 = 13.61$$

$$\text{Direct Shield Attenuation } I/I_0 = B_p(\mu_r) e^{-\mu_r x}$$

Where

I = shielded gamma dose rate

I<sub>0</sub> = unshielded gamma dose rate

B<sub>p</sub>(μ<sub>r</sub>) = Exposure buildup factor

Substituting the values of parameters into the above attenuation Equation (1) yields a direct shield attenuation factor of

$$I/I_0 = B_p(\mu_r) e^{-\mu_r x} = 13.61 e^{-(6.675)} = 13.61 \times 1.2621E-03 = 0.0172$$

## 7.7 Reactor Building Shine Shielding Geometry

Reactor Building Shielding Parameters: (Ref. 9.23)

$$\text{Length} = 147'-0'' \quad \text{Width} = 117'-6''$$

Height = 736-9'' – 690'-6'' = 46'-3'' ≈ 44'-0'' used in the analysis to adjust the roof thickness dimension

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

Distance between south-west corner of RB and north wall of CR = Distance between Columns 19 & 25

$$= 20'-7'' + 20'-7'' + 20'-7'' + 25'-0'' + 22'-9'' + 32'-0'' = 141'-6'' \text{ (Ref. 9.23.a)}$$

Elevation difference between CR operator and RB operating floor

$$= 690.5' \text{ RB operating floor elevation} - [(623'-0'') \text{ CR floor elevation} + 7'-0'' \text{ height of operator (assumed)}]$$

$$= 690.5' - 630' = 60.5'$$

Line of sight distance between CR operator location and centerline of RB source

$$= [(60.5')^2 + (141.5')^2]^{1/2} = 153.89' \approx 152' \text{ used in the analysis (see Figures 4 \& 5).}$$

$$\text{Gamma dose rate reduction factor based on RB volume} = 759,990 \text{ ft}^3 / 2.35\text{E}+06 \text{ ft}^3 = 0.3234$$

### 7.8 CR Reactor Building Shine Dose

720-hr CR Gamma Dose From RB Shine, with consideration of control room occupancy factors

$$= 416 \text{ mrem} = 0.416 \text{ rem (Table 7)}$$

Total CR Dose From RB Shine

$$= 0.416 \text{ rem} \times 0.3234 = 0.135 \text{ rem, which is added to other post-LOCA dose contributions in Section 8.1}$$

### 7.9 SBGTS Vent and CR Charcoal & HEPA Filters Efficiencies

#### HEPA Filter:

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

SBGTS Vent HEPA Filter – in-place testing penetration < 1.0% (Ref. 9.19.a, Section 5.5.7.a)

CREV Intake HEPA Filter – in-place testing penetration < 0.05% (Ref. 9.19.a, Section 5.5.7.a)

GL 99-02 (Ref. 9.20) requires a safety factor of at least 2 should be used to determine the filter efficiencies to be credited in the design basis accident.

$$\text{Testing penetration (\%)} = (100\% - \eta) / \text{safety factor} = (100\% - \eta) / 2$$

Where  $\eta$  = SBGTS Vent HEPA filter efficiency to be credited in the analysis

$$1.0\% = (100\% - \eta) / 2$$

$$2.0\% = (100\% - \eta)$$

$$\eta = 100\% - 2.0\% = 98\%$$

$$\text{Testing penetration (\%)} = (100\% - \eta) / \text{safety factor} = (100\% - \eta) / 2$$

Where  $\eta$  = CREV HEPA filter efficiency to be credited in the analysis

$$0.05\% = (100\% - \eta) / 2$$

$$0.1\% = (100\% - \eta)$$

$$\eta = 100\% - 0.1\% = 99.9\%$$

Conservatively, the CREV HEPA filter efficiency of 99% is credited in the analysis

**Charcoal Filter:**

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

SBGTS Vent Charcoal Filter – in- laboratory testing methyl iodide penetration < 2.5%  
(Ref. 9.19.a, Section 5.5.7.c)

CREV Charcoal Filter – in- laboratory testing methyl iodide penetration < 0.5%  
(Ref. 9.19.a, Section 5.5.7.c)

GL 99-02 (Ref. 9.20) requires a safety factor of at least 2 should be used to determine the filter efficiencies to be credited in the design basis accident.

Testing methyl iodide penetration (%) =  $(100\% - \eta)/\text{safety factor} = (100\% - \eta)/2$

Where  $\eta$  = SBGTS Vent charcoal filter efficiency to be credited in the analysis

SBGTS Vent Charcoal Filter

$$2.5\% = (100\% - \eta)/2$$

$$5\% = (100\% - \eta)$$

$$\eta = 100\% - 5\% = 95\%$$

Conservatively, the SBGTS Vent charcoal filter efficiency of 90% is credited in the analysis.

Testing methyl iodide penetration (%) =  $(100\% - \eta)/\text{safety factor} = (100\% - \eta)/2$

Where  $\eta$  = CREV charcoal filter efficiency to be credited in the analysis

CREV Charcoal Filter

$$0.5\% = (100\% - \eta)/2$$

$$1\% = (100\% - \eta)$$

$$\eta = 100\% - 1\% = 99\%$$

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

**7.10 Post-LOCA CREV Filter Shine Dose**

The post-LOCA CREV Filter shine dose was calculated in Revision 2 of this analysis and as described below was shown to be a negligible contributor to dose. This conclusion remains valid for Revision 3 of this calculation because even if the activity is double, the amount of iodine remains negligible. The discussion below and the associated tables are retained as historical information.

The post-LOCA CREV filter shine dose due to the MSIV leakage is calculated in the following sections. The containment and ESF leakages contribute insignificant CR dose (Section 8.1). Therefore, they are not considered in the filter shine dose analysis.

#### 7.10.1 Iodine Deposition on CREV Charcoal Filter – MSIV Leakage

Tables 8 and 10 document the elemental iodine atoms and organic iodide atoms released to the environment from the three main steam lines modeled with MSIV leakage for time intervals of 0.6667 to 2 hours, 2 to 8 hours, 8 to 24 hours, 24 to 96 hours, and 96 to 720 hours as determined in RADTRAD file QDC39MS03.o0. These time intervals coincide with the varying atmospheric dispersion factor defining MSIV leakage releases to the CREV system intake louvers. There is no filter activity loading prior to the initiation of the CREV system at 40 minutes.

For each time interval, Tables 9 and 11 multiply the iodine atoms released to the environment, with the atmospheric dispersion factor, the CREV filtered intake flow, and the charcoal filter efficiency. The result is the total number of elemental and organic iodine atoms drawn into, and retained on, the CREV charcoal filter.

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

$$\begin{aligned} &= 1.527\text{E}+15 \text{ elemental iodine atoms (Table 9) } + 8.726\text{E}+15 \text{ organic iodide atoms (Table 11)} \\ &= 1.025\text{E}+16 \text{ elemental + organic iodine atoms.} \end{aligned}$$

The iodine atom/curie relationship is established using the MSIV leakage run QDC39MS03.o0 file as shown in Table 14, which is a typical relationship for all release paths.

The total (elemental + organic) iodine activity deposited on the CREV charcoal filter due to the MSIV leakage is calculated in Table 15 using this iodine atom/curie relationship and the combined total of elemental and organic iodine atoms retained on the CREV charcoal filter. A review of Table 15 documents that the accumulation of un-decayed iodine activity on the CREV charcoal filter is 1.67 curies, which is insignificant. This is as expected, because most of the elemental iodine is removed by elemental deposition on the containment surface area and in the main steam piping before it is released to the environment and it is further reduced by air dilution before it migrates to the CR air intake. The natural radioactive process will further decay the iodine on the CREV charcoal bed.

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

Table 12 documents the aerosol mass released to the environment from the three main steam lines modeled with MSIV leakage for time intervals of 0.6667 to 2 hours, 2 to 8 hours, 8 to 24 hours, 24 to 96 hours, and 96 to 720 hours as determined in RADTRAD

file QDC39MS03.o0. These time intervals coincide with the varying atmospheric dispersion factor defining MSIV leakage releases to the CREV system intake louvers. There is no filter activity loading prior to the initiation of the CREVS at 40 minutes.

For each time interval, Table 13 multiplies the aerosol mass released to the environment, with the atmospheric dispersion factor, the CREV filtered intake flow, and the HEPA filter efficiency. The result is the total aerosol mass drawn into, and retained on, the CREV HEPA filter, which is 7.79E-07 kg (Table 13).

The aerosol mass/curie relationship is established using the MSIV leakage run QDC39MS03.o0 file as shown in Table 16, which is a typical relationship for all release paths.

The total aerosol activity deposited on the CREV HEPA filter due to the MSIV leakage is calculated in Table 17 using this aerosol mass/curie relationship and the total aerosol mass retained on the CREV charcoal filter. A review of Table 17 documents that the accumulation of aerosol activity on the CREV HEPA filter is 0.1734 curies, which is insignificant. This is as expected, because most of aerosol deposit out in the main steam piping horizontal surface before being released to the environment (see Table 3 for the aerosol removal efficiencies due to gravitational deposition).

## 7.11 Spray Calculations

The first order removal coefficient for particulate aerosols can be determined by the following equation from Standard Review Plan 6.5.2 (Ref. 9.38, Section III.4.C.iv, page 6.5.2-13):

$\lambda_{s, \text{Partic}}$  = particulate aerosol removal coefficient by spray wash-out

$$\lambda_{s, \text{Partic}} = (3 \times h \times F \times E) / (2 \times V \times D)$$

$\lambda_{s, \text{Partic}} = (3 \times h \times F) \times (E/D) / (2 \times V)$  where,

h = spray drop fall height

F = spray flow

E/D = ratio of a dimensionless collection efficiency I to the average spray drop diameter (D)

V = containment building net free volume

Per SRP 6.5.2 (Section III.4.C, page 6.5.2-13), since the removal of particulate aerosol material chiefly depends on the relative sizes of the particles and the spray drops, it is convenient to combine parameters that cannot be known. It is conservative to assume E/D to be 10 per meter initially (i.e., 1% efficiency for spray drops of 1 millimeter in diameter), changing abruptly to 1 spray drop per meter after the particulate aerosol mass has been depleted by a factor of 50 (i.e., 98% of the suspended mass is 10 times more readily removed than the remaining 2%).

Per SRP 6.5.2 (Section III.4.D, page 6.5.2-14), because the removal mechanisms for particulate iodines are significantly different from and slower than the mechanisms for elemental iodine, there is no need to limit the DF for particulate iodines. Therefore the value of  $DF > 50$  for particulate iodines is calculated in the following section for information only. The value of  $DF \leq 50$  for particulate iodines should be used for the entire duration of CS operation in the dose consequence analysis. There are two different particulate aerosol removal coefficients calculated for the different values of drywell flow rates as follows:

$F =$  volume flow rate of the spray pump = 2,352 gal/min (Ref. 9.51)

$$F = 2,352 \text{ gal/min} \times 0.13368 \text{ ft}^3/\text{gal} \times 0.028317 \text{ m}^3/\text{ft}^3 \times 60 \text{ min/hr} = 534.20 \text{ m}^3/\text{hr}$$

$V =$  Drywell net free volume =  $1.58\text{E}+05 \text{ ft}^3$  (Design Input 5.3.2.1)

$$V = 1.58\text{E}+05 \text{ ft}^3 \times 0.028317 \text{ m}^3/\text{ft}^3 = 4.474\text{E}+03 \text{ m}^3$$

Elevation of Upper DW Spray Header = 628' - 8"

Elevation of Lower DW Spray Header = 607' - 3"

Elevation of Drywell Floor = 579' - 10"

$$\text{Minimum Height of DW Spray } h = 607' - 3'' - 579' - 10'' = 27' - 5'' \times 0.3048 \text{ m/ft} = 8.36 \text{ m}$$

Solving, the particulate aerosol spray removal coefficient equation:

DW Spray Flow of 2,352 gpm

For  $DF \leq 50$ :

$$\lambda_{s, \text{ Partic}} = (3 \times 8.36 \text{ m} \times 534.20 \text{ m}^3/\text{hr}) \times (10 \text{ m}^{-1}) / (2 \times 4.474\text{E}+03 \text{ m}^3)$$

$$\lambda_{s, \text{ Partic}} = 15.0 \text{ hr}^{-1}$$

For  $DF > 50$ :

$$\lambda_{s, \text{ Partic}} = (3 \times 8.36 \text{ m} \times 534.20 \text{ m}^3/\text{hr}) \times (1 \text{ m}^{-1}) / (2 \times 4.474\text{E}+03 \text{ m}^3)$$

$$\lambda_{s, \text{ Partic}} = 1.5 \text{ hr}^{-1}$$

It should be noted that the values used in the above calculation are conservative as compared to the values and methodology used for Nine Mile Point Unit 1 and Oyster Creek, which made specific reductions in the calculation based on obstructions in the drywell or blocked nozzles that may impede flow. The spray removal coefficient analysis performed for Nine Mile Point Unit 1 (Ref. 9.56) used an average spray header elevation and the full design flow rate along with a 33.3% reduction in the fall height to account for obstructions in the drywell and a 33.3% reduction in the flow rate to account for potentially blocked nozzles. The 33.3% reduction in fall height to account for obstructions was based on 3d modeling of the drywell performed for Oyster Creek (Ref. 9.57) and the 33.3% reduction in flow rate is based on MAAP analysis performed for Oyster Creek that showed that the design flow rate was lower than the actual flow rate that would be present. Nine Mile Point Unit 1 carried over the Oyster Creek assumption because it is expected that the obstructions would be similar for BWR Mark I containments. The Oyster Creek methodology also considers obstructions due to grating located at elevations 614'-7.25" and 592'-11.75" in the Quad Cities drywells (Ref. 9.52 through 9.55 and 9.62).



Using the same methodology for Quad Cities as in Nine Mile Point Unit 1 and Oyster Creek, the spray removal coefficient is calculated as follows:

$$\text{Average Elevation DW Spray Headers} = (628' - 8'' + 607' - 3'') / 2 = 617.96'$$

$$\text{Elevation of Drywell Floor} = 579' - 10''$$

$$\text{Height of DW Spray with 1/3 reduction } h = (617.96' - 579' - 10'') \times 2/3 = 25.42 \times 0.3048 \text{ m/ft} = 7.75 \text{ m}$$

$$F = \text{volume flow rate of the spray pump} = 4,750 \text{ gal/min (Ref. 9.32)}$$

$$F = 4,750 \text{ gal/min} \times 0.13368 \text{ ft}^3/\text{gal} \times 0.028317 \text{ m}^3/\text{ft}^3 \times 60 \text{ min/hr} \times 2/3 = 719.23 \text{ m}^3/\text{hr}$$

$$\lambda_{s, \text{ Partic}} = (3 \times 7.75 \text{ m} \times 719.23 \text{ m}^3/\text{hr}) \times (10 \text{ m}^{-1}) / (2 \times 4.474\text{E}+03 \text{ m}^3) = 18.7 \text{ which is greater than 15 which is used in the RADTRAD models.}$$

Nine Mile Point Unit 2 used a separate methodology to determine the flow rate reduction due to potential nozzle blockage. This analysis is shown in Attachment 13.1 of Reference 9.58 and assumes that certain percentages of nozzles contain certain percentages of nozzle blockages based on survey data. Nine Mile Point Unit 2 also took a fall height reduction of 50 percent for a BWR Mark II containment rather than 33.3%. Based on the Nine Mile Point Unit 2 methodology, this would lead to an overall reduction of 43% ( $0.85 \times 0.50$ ) rather than 45% ( $0.67 * 0.67$ ). This difference is negligible with respect to the overall conservatism in the calculation and using this methodology still leads to a spray removal coefficient greater than 15.0.

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

Therefore, a sprayed and unsprayed volume of the containment needs to be calculated along with a flow rate between the two volumes. Using parameters from Reference 9.34, the sprayed volume under the lower spray headers is calculated to be  $9.99\text{E}+04 \text{ ft}^3$ . The value used in the RADTRAD models is conservatively taken to be  $9.50\text{E}+04 \text{ ft}^3$  because a smaller sprayed volume concentrates the activity in the drywell. The flow rate is calculated using the following formula:

$$2 \text{ Air Changes per hour} * (1.58\text{E}+05 \text{ ft}^3 - 9.50\text{E}+04 \text{ ft}^3) \div 60 \text{ min/hr} = 2.10\text{E}+03 \text{ cfm.}$$

It should be noted that at 2 hours after the event, it is expected that the drywell and wetwell would be well mixed per discussion in Section 2.1.2. The wetwell is not modeled, but is used to reduce the MSIV leakage rate as discussed in Section 7.2.3. It is expected that the drywell would be well mixed following the LOCA regardless of whether or not sprays are operating consistent with Revision 2 of this calculation. Because the RADTRAD modeling is intended to be biased towards maximizing the control room and offsite doses, the flow rate between the unsprayed and sprayed regions of the drywell is not changed at 2 hours following the LOCA. Increasing the flow rate would dilute the activity in the sprayed region such that doses would decrease. This is shown in Attachment 13.9.

## 8.0 RESULTS SUMMARY & CONCLUSIONS

### 8.1 Results Summary

The results of LOCA analysis using Framatome ATRIUM 10XM fuel type are summarized in Table 8-1. Appendix A evaluates doses using the Westinghouse SVEA-96 Optima 2 fuel type and these results are presented in Table 8-2. Appendix B evaluates doses from Unit 2 utilizing a MSIV leakage rate of 350 scfh and both fuel types. The Unit 2 doses are summarized in Tables 8-3 and 8-4 while the bounding doses for each unit are provided in Table 8-5.

**Table 8-1 Unit 1 LOCA doses using Framatome ATRIUM 10XM fuel**

Post-LOCA Activity Release Path	Post-LOCA TEDE Dose (Rem) Receptor Location		
	Control Room	EAB	LPZ
Containment Leakage	2.27E-01	3.20E-01	6.40E-01
ESF Leakage	8.84E-03	5.31E-03	9.78E-02
MSIV Leakage	2.78E+00	8.58E+00	1.69E+00
Reactor Building Shine	1.35E-01	0.00E+00	0.00E+00
External Cloud Shine	3.33E-01	0.00E+00	0.00E+00
CR Filter Shine	negligible	0.00E+00	0.00E+00
<b>Total</b>	<b>3.49E+00</b>	<b>8.90E+00</b>	<b>2.43E+00</b>
<b>Allowable TEDE Limit</b>	<b>5.00E+00</b>	<b>2.50E+01</b>	<b>2.50E+01</b>
	<b>RADTRAD Computer Run No.</b>		
Containment Leakage	QDC39CL02		
ESF Leakage	QDC39ESF02		
MSIV Leakage	QDC39MS03 and QDC39MS33		

**Table 8-2 Unit 1 LOCA doses using Westinghouse SVEA-96 Optima 2 fuel**

Post-LOCA Activity Release Path	Post-LOCA TEDE Dose (Rem) Receptor Location		
	Control Room	EAB	LPZ
Containment Leakage	2.36E-01	3.31E-01	6.86E-01
ESF Leakage	8.95E-03	5.37E-03	9.90E-02
MSIV Leakage	2.92E+00	9.18E+00	1.80E+00
Reactor Building Shine	1.43E-01	0.00E+00	0.00E+00
External Cloud Shine	3.59E-01	0.00E+00	0.00E+00
CR Filter Shine	negligible	0.00E+00	0.00E+00
<b>Total</b>	<b>3.66E+00</b>	<b>9.51E+00</b>	<b>2.59E+00</b>
<b>Allowable TEDE Limit</b>	<b>5.00E+00</b>	<b>2.50E+01</b>	<b>2.50E+01</b>
	<b>RADTRAD Computer Run No.</b>		
Containment Leakage	QDC39CL01		
ESF Leakage	QDC39ESF01		
MSIV Leakage	QDC39MS00 and QDC39MS02		

**Table 8-3 Unit 2 LOCA doses using Framatome ATRIUM 10XM fuel**

Post-LOCA Activity Release Path	Post-LOCA TEDE Dose (Rem) Receptor Location		
	Control Room	EAB	LPZ
Containment Leakage	2.27E-01	3.20E-01	6.40E-01
ESF Leakage	8.84E-03	5.31E-03	9.78E-02
MSIV Leakage	1.67E+00	1.55E+01	2.75E+00
Reactor Building Shine	1.35E-01	0.00E+00	0.00E+00
External Cloud Shine	2.10E-01	0.00E+00	0.00E+00
CR Filter Shine	negligible	0.00E+00	0.00E+00
<b>Total</b>	<b>2.25E+00</b>	<b>1.58E+01</b>	<b>3.49E+00</b>
<b>Allowable TEDE Limit</b>	<b>5.00E+00</b>	<b>2.50E+01</b>	<b>2.50E+01</b>
<b>RADTRAD Computer Run No.</b>			
Containment Leakage	QDC39CL02		
ESF Leakage	QDC39ESF02		
MSIV Leakage	QDC39MS03_350 and QDC39MS33_350		

**Table 8-4 Unit 2 LOCA doses using Westinghouse SVEA-96 Optima 2 fuel**

Post-LOCA Activity Release Path	Post-LOCA TEDE Dose (Rem) Receptor Location		
	Control Room	EAB	LPZ
Containment Leakage	2.36E-01	3.31E-01	6.86E-01
ESF Leakage	8.95E-03	5.37E-03	9.90E-02
MSIV Leakage	1.75E+00	1.66E+01	2.94E+00
Reactor Building Shine	1.43E-01	0.00E+00	0.00E+00
External Cloud Shine	2.26E-01	0.00E+00	0.00E+00
CR Filter Shine	negligible	0.00E+00	0.00E+00
<b>Total</b>	<b>2.36E+00</b>	<b>1.69E+01</b>	<b>3.72E+00</b>
<b>Allowable TEDE Limit</b>	<b>5.00E+00</b>	<b>2.50E+01</b>	<b>2.50E+01</b>
<b>RADTRAD Computer Run No.</b>			
Containment Leakage	QDC39CL01		
ESF Leakage	QDC39ESF01		
MSIV Leakage	QDC39MS00_350 and QDC39MS02_350		

**Table 8-5 Bounding LOCA doses (Westinghouse SVEA-96 Optima 2 fuel)**

Post-LOCA Activity Release Path	Post-LOCA TEDE Dose (Rem)		
	Receptor Location		
	Control Room	EAB	LPZ
Containment Leakage	2.36E-01	3.31E-01	6.86E-01
ESF Leakage	8.95E-03	5.37E-03	9.90E-02
MSIV Leakage	2.92E+00	1.66E+01	2.94E+00
Reactor Building Shine	1.43E-01	0.00E+00	0.00E+00
External Cloud Shine	3.59E-01	0.00E+00	0.00E+00
CR Filter Shine	negligible	0.00E+00	0.00E+00
<b>Total</b>	<b>3.66E+00</b>	<b>1.69E+01</b>	<b>3.72E+00</b>
<b>Allowable TEDE Limit</b>	<b>5.00E+00</b>	<b>2.50E+01</b>	<b>2.50E+01</b>

## 8.2 Conclusions

The Section 8.1 results of this analysis indicate that the total post-LOCA EAB, LPZ, and CR doses are within their allowable TEDE limits. Although the Westinghouse SVEA-96 Optima 2 fuel type is being phased out, it is the most limiting fuel type with respect to dose consequences. Therefore, the design basis doses will continue to be based on the Westinghouse SVEA-96 Optima 2 fuel type until both Unit 1 and Unit 2 no longer contain this fuel type.

## 9.0 REFERENCES

- 9.1 U.S. NRC Regulatory Guide 1.183, Alternative Radiological Source Terms for Evaluating Design Basis Accidents at Nuclear Power Reactors, July 2000.
- 9.2 S.L. Humphreys, et al., NUREG/CR-6604 (including Supplements 1 and 2), "RADTRAD: A Simplified Model for Radionuclide Transport and Removal and Dose Estimation," (originally published December 1997; Supplement 1 dated June 8, 1999, and Supplement 2 dated October 2002).
- 9.3.1 10CFR50.67, "Accident Source Term."
- 9.4 Exelon Transmittal of Design Information No. QDC-02-019, "Quad Cities Station Concurrence with the Design Inputs as established for Alternate Source Term (AST) LOCA Analysis," Revision 1, August 1, 2002.
- 9.5 Standard Review Plan Section 15.0.1, Rev. 0, July 2000, "Radiological Consequence Analyses Using Alternative Source Terms."
- 9.6 Engineering Safety Analysis Transmittal of Design Information (TODI) No. ES1700002, Revision 0, "AREVA ATRIUM-10XM Fuel Source Term"
- 9.7 EPA-520/1-88-020, Federal Guidance Report 11, Limiting Values of Radionuclide Intake and Air Concentration and Dose Conversion Factors for Inhalation, Submersion and Ingestion."
- 9.8 EPA-402-R-93-081, Federal Guidance Report 12, "External Exposure to Radionuclides in Air, Water and Soil."
- 9.9 Not used
- 9.10 Not used
- 9.11 NUREG-0800, Standard Review Plan, "Control Room Habitability System," SRP 6.4, Revision 2.
- 9.12 NUREG/CR-6189, "A Simplified Model of Aerosol Removal by Natural Processes in Reactor Containments," July 1996.
- 9.13 GE-NE-A22-00103-08-01, Revision 1, Class 3, December 2000, Project Task Report T0400, Containment System Response
- 9.14 Exelon Calculation No. QDC-0000-M-1408, Rev 2, Atmospheric Dispersion Factors ( $\chi/Q_s$ ) for Accident Release.
- 9.15 QCNPS Drawings:
  - a. M-3101, SHT 1, Revision N, Inservice Inspection Isometric Main Steam System, Quad Cities Station Unit: 1
  - b. M-3101, SHT 2, Revision L, Inservice Inspection Isometric Main Steam System, Quad Cities Station Unit: 1
  - c. M-3111, SHT 1, Revision L, Inservice Inspection Isometric Main Steam System, Quad Cities Station Unit: 2
  - d. M-3111, SHT 2, Revision L, Inservice Inspection Isometric Main Steam System, Quad Cities Station Unit: 2



- e. M-3111, SHT 4, Revision H, Inservice Inspection Isometric Main Steam System, Quad Cities Station Unit: 2
- 9.16 QCNPS Drawings:
- a. M-464, Revision D, Weight, Thermal & Dynamic Isometric Main Steam (Inside Drywell), Quad Cities Station Unit: 1
  - b. M-507, Revision D, Weight, Thermal & Dynamic Isometric Main Steam (Inside Drywell), Quad Cities Station Unit: 2
- 9.17 AEB 98-03, Assessment of Radiological Consequences for the Perry Pilot Plant Application Using The Revised (NUREG-1465) Source Term.
- 9.18 Exelon Calculation No. QDC-1100-N-1259, Rev 0, Ultimate Suppression Pool pH Following a Loss of Coolant Accident.
- 9.19 Quad Cities Technical Specification Nos,
- a. Specification No. 5.5.7, Amendment Nos. 199/195, "Ventilation Filter Testing Program"
  - b. Specification 5.5.12, Amendment No. 220/214, "Primary Containment Leakage Rate Testing Program"
- 9.20 USNRC, "Laboratory Testing of Nuclear-Grade Activated Charcoal," NRC Generic Letter 99-02, June 3, 1999
- 9.21 Introduction To Nuclear Engineering By John Lamarsh, Third Printing, December 1977, Addison-Wesley Publishing Company, ISBN 0-201-04160-X
- 9.22 QCNPS Control Room Structure Drawings:
- a. B-348, Revision O, Service Building Elevation of Control Room South Wall, Quad Cities Station Unit: 1
  - b. B-349, Revision D, Service Building Elevation of Control Room East Wall, Quad Cities Station Unit: 1
  - c. B-350, Revision Y, Service Building Elevation of Control Room North Wall 25 Line, Quad Cities Station Unit: 1
  - d. B-351, Revision H, Service Building Elevation of Control Room West Wall, Quad Cities Station Unit: 1
  - e. B-679, Revision 0, Service Building Control Room Roof Plan, Quad Cities Station Unit: 1
- 9.23 QCNPS General Arrangement Drawings:
- a. M-3, Revision O, General Arrangement Main Floor Plan, Quad Cities Station Units: 1&2
  - b. M-4, Revision K, General Arrangement Mezzanine Floor Plan, Quad Cities Station Units: 1&2
  - c. M-8, Revision C, General Arrangement Sections A-A & B-B, Quad Cities Station Units: 1&2
  - d. M-9, Revision D, General Arrangement Sections C-C & D-D, Quad Cities Station Units: 1&2
  - e. M-10, Revision P, General Arrangement Sections E-E & F-F, Quad Cities Station Units: 1&2

- 9.24 QCNPS Air Flow Diagrams:
- a. M-725, SHT 1, Revision Q, Diagram of Control Room HVAC System, Quad Cities Station Units: 1&2
  - b. M-725, SHT 2, Revision Y, Diagram of Control Room HVAC System, Quad Cities Station Units: 1&2
- 9.25 QCNPS HVAC Drawings:
- a. M-1553, Revision 3, General Arrangement Plan At EL 615'-6" , Quad Cities Station Units: 1&2
  - b. M-1555, Revision I, Control Room HVAC Equipment Room Turbine Building Plan EL 615'-6" & Service Building EL 609'-0" & 623'-0", Quad Cities Station Units: 1&2
  - c. M-1566, Revision 8, Control Room HVAC Turbine BLDG & Service BLDG Sections & Details, Quad Cities Station Units: 1&2
  - d. M-1567, Revision 6, Piping Arrangement Control Room HVAC Equipment Area ELEV 615'-6", Quad Cities Station Units: 1&2
- 9.26 American Air Filter Drawing No. R107D-1327238-B, Housing Assembly Control Room Filter (Quad Cities Generating Station).
- 9.27 ENERCON RADTRAD, Version 3.03, Computer Software Acceptance Package for Project EXL-009, Revision 0.
- 9.28 ENERCON MicroShield, Version 10.04, Computer Software Acceptance Package for Project EXL-009, Revision 0.
- 9.29 Exelon DTSQA Number EX0009077, RADTRAD V3.03
- 9.30 Exelon Transmittal of Design Information No. QDC-17-010, Rev 00, "Design Input Parameters for QDC-0000-N-1481, Rev 2."
- 9.31 M-39, Revision BT, Sheet 1, Diagram of Residual Heat Removal RHR Piping
- 9.32 DG00-000923, Containment Analysis Input Parameters (Form OPL-4A for PDLB in Support of Dresden and Quad Cities EPU/MELLLA Project
- 9.33 DBD-QC-008, Revision 0, Design Basis Document Quad Cities Units 1 & 2 Residual Heat Removal System
- 9.34 B-19, Revision E, Containment Vessel Plans and Sections
- 9.35 Work Order 04705634, Periodic Tracer Gas Test of CR Envelope
- 9.36 QDC-7500-M-2341, Revision 0, Secondary Containment Drawdown Analysis
- 9.37 Quad Cities Nuclear Power Station Technical Support Guidelines Reference Manual, Revision 6
- 9.38 NUREG-0800, Standard Review Plan Section 6.5.2, March 2007
- 9.39 Technical Requirements Manual 3.6.a, Residual Heat Removal (RHR) Drywell Spray, Revision 0
- 9.40 J.E. Cline, MSIV Leakage Iodine Transport Analysis, Letter Report dated March 26, 1991. (ADAMS Accession Number ML003683718).

- 9.41 Crane Technical Paper Number 410, Flow of Fluids Through Valves, Fittings, and Pipe, 2001
- 9.42 29, Rev. 001, Lower Drywell Spray Header
- 9.43 OP-QC-102-106, Rev. 7, Operator Response Time Program at Quad Cities
- 9.44 DBD-QC-071, Rev. B, Quad Cities Station Units 1 & 2 Control Room HVAC System
- 9.45 Exelon Letter RS-05-114, Additional Information Supporting the Request for License Amendment Related to Application of Alternative Source Term, August 22, 2005
- 9.46 B-24, Rev. P, Containment Vessels Penetration Details
- 9.47 QCTS 0320-02, Revision 10, Drywell Spray Header and Air Nozzle Test
- 9.48 QCAN 901(2)-3 A-13, Revision 7, Drywell Low Pressure / Containment Spray Inhibited
- 9.49 QGA200, Revision 12, Primary Containment Control
- 9.50 NF-BEX-13-65, Revision 0, Core Inventory Results for Quad Cities 1 & 2 and Dresden 2 & 3
- 9.51 S040\_DH-0636, Revision 1, EOP Calculation Input Data
- 9.52 B-282, Rev. S, Reactor Drywell Floor Framing Plan EL 614 FT – 7.25 IN
- 9.53 B-283, Rev. S, Reactor Drywell Floor Framing Plan EL 593 FT 0 IN
- 9.54 B-1960, Rev. A, Drywell Grating Layout EL 614 FT – 7.25 IN
- 9.55 B-1961, Rev. B, Drywell Grating Layout EL 592 FT – 11.75 IN
- 9.56 H21C092, Rev. 1, Unit 1 LOCA with LOOP, AST Methodology
- 9.57 2130-05-20040, Oyster Creek Generating Station, License Amendment Request No. 315 – Application of Alternative Source Term (ML050940234)
- 9.58 H21C-106, Rev. 3, Unit 2 LOCA w/LOOP, AST Methodology
- 9.59 Spraying Systems Company, Data Sheet Number 11825-8, Spray Particle Size vs. Pressure Fulljet Nozzles
- 9.60 QDC-0000-N-2373, Rev. 0, AST LOCA Aerosol Removal Factors and Margin Assessment
- 9.61 B-20, Rev. E, Containment Vessel Loading Plans and Sections
- 9.62 M-8, Rev. C, General Arrangement Sections A-A and B-B
- 9.63 DRE05-0048, Rev. 5, Dresden Units 2 & 3 Post-LOCA EAB, LPZ, and CR Dose - AST

## 10.0 TABLES

**Table 1**  
**Framatome Core Inventory**

<b>Isotope</b>	<b>Core Inventory 39 GWD/MTU (Ci) A</b>	<b>Isotope</b>	<b>Core Inventory 39 GWD/MTU (Ci) A</b>
KR-85	1.37E+06	TE-132	1.15E+08
KR-85M	2.04E+07	I-131	8.04E+07
KR-87	4.09E+07	I-132	1.17E+08
KR-88	5.68E+07	I-133	1.66E+08
RB-86	1.54E+05	I-134	1.84E+08
SR-89	7.82E+07	I-135	1.58E+08
SR-90	1.23E+07	XE-133	1.59E+08
SR-91	9.92E+07	XE-135	5.39E+07
SR-92	1.05E+08	CS-134	2.03E+07
Y-90	1.27E+07	CS-136	5.54E+06
Y-91	1.01E+08	CS-137	1.61E+07
Y-92	1.06E+08	BA-139	1.46E+08
Y-93	8.04E+07	BA-140	1.47E+08
ZR-95	1.44E+08	LA-140	1.57E+08
ZR-97	1.40E+08	LA-141	1.34E+08
NB-95	1.44E+08	LA-142	1.31E+08
MO-99	1.51E+08	CE-141	1.35E+08
TC-99M	1.34E+08	CE-143	1.26E+08
RU-103	1.30E+08	CE-144	1.16E+08
RU-105	9.12E+07	PR-143	1.22E+08
RU-106	5.67E+07	ND-147	5.43E+07
RH-105	8.54E+07	NP-239	1.59E+09
SB-127	7.17E+06	PU-238	4.16E+05
SB-129	2.61E+07	PU-239	3.93E+04
TE-127	7.12E+06	PU-240	7.20E+04
TE-127M	1.22E+06	PU-241	1.59E+07
TE-129	2.48E+07	AM-241	2.61E+04
TE-129M	5.02E+06	CM-242	6.64E+06
TE-131M	1.63E+07	CM-244	3.86E+05

A From Reference 9.6

**Table 1A**  
**QDC Framatome Core Inventory @ 39 GWD/MTU Burnup – RADTRAD Nuclide Inventory File**

Isotope	Ci A	Ci/MWt B=A/3016.14	Isotope	Ci A	Ci/MWt B=A/3016.14	Isotope	Ci A	Ci/MWt B=A/3016.14
CO-58*		1.5290E+02	RU-103	1.30E+08	4.3101E+04	CS-136	5.54E+06	1.8368E+03
CO-60*		1.8300E+02	RU-105	9.12E+07	3.0237E+04	CS-137	1.61E+07	5.3379E+03
KR-85	1.37E+06	4.5422E+02	RU-106	5.67E+07	1.8799E+04	BA-139	1.46E+08	4.8406E+04
KR-85M	2.04E+07	6.7636E+03	RH-105	8.54E+07	2.8314E+04	BA-140	1.47E+08	4.8738E+04
KR-87	4.09E+07	1.3560E+04	SB-127	7.17E+06	2.3772E+03	LA-140	1.57E+08	5.2053E+04
KR-88	5.68E+07	1.8832E+04	SB-129	2.61E+07	8.6534E+03	LA-141	1.34E+08	4.4428E+04
RB-86	1.54E+05	5.1059E+01	TE-127	7.12E+06	2.3606E+03	LA-142	1.31E+08	4.3433E+04
SR-89	7.82E+07	2.5927E+04	TE-127M	1.22E+06	4.0449E+02	CE-141	1.35E+08	4.4759E+04
SR-90	1.23E+07	4.0781E+03	TE-129	2.48E+07	8.2224E+03	CE-143	1.26E+08	4.1775E+04
SR-91	9.92E+07	3.2890E+04	TE-129M	5.02E+06	1.6644E+03	CE-144	1.16E+08	3.8460E+04
SR-92	1.05E+08	3.4813E+04	TE-131M	1.63E+07	5.4043E+03	PR-143	1.22E+08	4.0449E+04
Y-90	1.27E+07	4.2107E+03	TE-132	1.15E+08	3.8128E+04	ND-147	5.43E+07	1.8003E+04
Y-91	1.01E+08	3.3487E+04	I-131	8.04E+07	2.6657E+04	NP-239	1.59E+09	5.2716E+05
Y-92	1.06E+08	3.5144E+04	I-132	1.17E+08	3.8791E+04	PU-238	4.16E+05	1.3792E+02
Y-93	8.04E+07	2.6657E+04	I-133	1.66E+08	5.5037E+04	PU-239	3.93E+04	1.3030E+01
ZR-95	1.44E+08	4.7743E+04	I-134	1.84E+08	6.1005E+04	PU-240	7.20E+04	2.3872E+01
ZR-97	1.40E+08	4.6417E+04	I-135	1.58E+08	5.2385E+04	PU-241	1.59E+07	5.2716E+03
NB-95	1.44E+08	4.7743E+04	XE-133	1.59E+08	5.2716E+04	AM-241	2.61E+04	8.6534E+00
MO-99	1.51E+08	5.0064E+04	XE-135	5.39E+07	1.7871E+04	CM-242	6.64E+06	2.2015E+03
TC-99M	1.34E+08	4.4428E+04	CS-134	2.03E+07	6.7305E+03	CM-244	3.86E+05	1.2798E+02

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

A From Table 1

**Table 1B**  
**Rate Constant ( $\lambda_s$ ) for Aerosol Settling In Main Steam Piping**

Parameter	With MSIV Failure	Intact Steam Line Without MSIV Failure			
	RPV Nozzle A To Outboard MSIV1 Control Volume $V_1$	RPV Nozzle D To Inboard MSIV2 Control Volume $V_2$	Inboard MSIV2 To Outboard MSIV2 Control Volume $V_3$	RPV Nozzle C To Inboard MSIV3 Control Volume $V_4$	Inboard MSIV3 To Outboard MSIV3 Control Volume $V_5$
Settling Velocity* (ft/hr)	9.56	9.56	9.56	9.56	9.56
Horizontal Settling Area $AH_i$ (ft <sup>2</sup> )	75.37	34.52	42.41	42.33	42.41
Horizontal Pipe Volume $V_{HI}$ (ft <sup>3</sup> )	87.28	39.97	49.11	49.01	49.11
Rate Constant for Settling $\lambda_s$ (hr <sup>-1</sup> )	8.259	8.260	8.260	8.261	8.260

\* 40 Percentile Settling Velocity = 0.00081 m/sec (Ref. 9.17, Appendix A, Table A-1) x 3.28 ft/m x 3600 sec/hr = 9.56 ft/hr

Main Steam Piping Parameters From Section 7.3

**Table 2**  
**MSIV Leak Rate In Different Control Volume (250 scfh)**

Post-LOCA Time Interval (hr)	MSIV Leak Rate From Drywell To Main Steam Various Control Volumes (cfh)/(cfm)							
	Drywell To MSIV Failed Volume V <sub>1</sub>	Volume V <sub>1</sub> To Atmosphere	Drywell To Intact Line 1 Volume V <sub>2</sub>	Intact Line 1 Volume V <sub>2</sub> To Volume V <sub>3</sub>	Volume V <sub>3</sub> To Atmosphere	Drywell To Intact Line 2 Volume V <sub>4</sub>	Intact Line 2 Volume V <sub>4</sub> To Volume V <sub>5</sub>	Volume V <sub>5</sub> To Atmosphere
0-2	35.68	100	35.68	100	100	17.84	50	50
	0.595	1.667	0.595	1.667	1.667	0.297	0.833	0.833
2-24	20.96	58.74	20.96	58.74	58.74	10.48	29.37	29.37
	0.349	0.979	0.349	0.979	0.979	0.175	0.489	0.489
24-720	10.48	29.37	10.48	29.37	29.37	5.24	14.68	14.68
	0.175	0.489	0.175	0.489	0.489	0.087	0.245	0.245

MSIV Leak Rate Information From Section 7.2



**Table 3**  
**Aerosol Removal Efficiency Due To Gravitational Deposition On Horizontal Pipe Surface**

Post-LOCA Time Interval (hr)	Volume V <sub>1</sub> = 200.24 ft <sup>3</sup>			Aerosol Removal Efficiency (%)	Post-LOCA Time Interval (hr)	Volume V <sub>4</sub> = 163.75 ft <sup>3</sup>			Aerosol Removal Efficiency (%)
	Settling Rate Constant $\lambda_s$ (hr <sup>-1</sup> )	Horizontal Pipe Volume (ft <sup>3</sup> )	Volumetric Flow Rate (ft <sup>3</sup> /hr)			Settling Rate Constant $\lambda_s$ (hr <sup>-1</sup> )	Horizontal Pipe Volume (ft <sup>3</sup> )	Volumetric Flow Rate (ft <sup>3</sup> /hr)	
0-720	8.259	87.28	100.00	87.82	0-720	8.261	49.01	50	89.01
Post-LOCA Time Interval (hr)	Volume V <sub>2</sub> = 152.93 ft <sup>3</sup>			Aerosol Removal Efficiency (%)	Post-LOCA Time Interval (hr)	Volume V <sub>5</sub> = 49.11 ft <sup>3</sup>			Aerosol Removal Efficiency (%)
	Settling Rate Constant $\lambda_s$ (hr <sup>-1</sup> )	Horizontal Pipe Volume (ft <sup>3</sup> )	Volumetric Flow Rate (ft <sup>3</sup> /hr)			Settling Rate Constant $\lambda_s$ (hr <sup>-1</sup> )	Horizontal Pipe Volume (ft <sup>3</sup> )	Volumetric Flow Rate (ft <sup>3</sup> /hr)	
0-720	8.260	39.97	100.00	76.75	0-720	8.260	49.11	50	89.03
Post-LOCA Time Interval (hr)	Volume V <sub>3</sub> = 49.11 ft <sup>3</sup>			Aerosol Removal Efficiency (%)					
	Settling Rate Constant $\lambda_s$ (hr <sup>-1</sup> )	Horizontal Pipe Volume (ft <sup>3</sup> )	Volumetric Flow Rate (ft <sup>3</sup> /hr)						
0-720	8.260	49.11	100.00	80.22					

MSIV Failed Line Well Mixed Volume V<sub>1</sub> = V<sub>11</sub> + V<sub>12</sub> = 152.96 ft<sup>3</sup> + 47.28 ft<sup>3</sup> = 200.24 ft<sup>3</sup> Used In RADTRAD Model (Section 7.3.1)

MSIV Failed Line Horizontal Pipe Volume V<sub>H1</sub> = V<sub>H11</sub> + V<sub>H12</sub> = 40.00 ft<sup>3</sup> + 47.28 ft<sup>3</sup> = 87.28 ft<sup>3</sup>

**Table 4**  
**Post-LOCA Reactor Building Isotopic Inventory - Containment Leakage**

Isotope	Post-LOCA Reactor Building Isotopic Inventory (Ci)					
	Containment Leakage					
	0.667 hr	2.0 hr	4.0 hrs	8.0 hrs	16 hrs	24 hrs
Co-58	6.93E-03	1.19E-01	1.36E-01	1.18E-01	9.94E-02	9.10E-02
Co-60	8.30E-03	1.43E-01	1.63E-01	1.42E-01	1.20E-01	1.10E-01
Kr-85	4.96E+01	1.29E+03	4.09E+03	8.09E+03	1.22E+04	1.38E+04
Kr-85m	6.67E+02	1.41E+04	3.28E+04	3.50E+04	1.53E+04	5.01E+03
Kr-87	1.03E+03	1.29E+04	1.38E+04	3.09E+03	5.94E+01	8.58E-01
Kr-88	1.75E+03	3.28E+04	6.39E+04	4.76E+04	1.02E+04	1.63E+03
Rb-86	1.27E+00	4.40E+00	4.63E+00	3.81E+00	2.93E+00	2.55E+00
Sr-89	9.41E+00	1.62E+02	1.85E+02	1.60E+02	1.34E+02	1.23E+02
Sr-90	1.48E+00	2.55E+01	2.91E+01	2.54E+01	2.13E+01	1.96E+01
Sr-91	1.14E+01	1.78E+02	1.75E+02	1.14E+02	5.36E+01	2.74E+01
Sr-92	1.07E+01	1.31E+02	8.93E+01	2.80E+01	3.04E+00	3.61E-01
Y-90	1.70E-02	4.87E-01	1.13E+00	2.00E+00	3.30E+00	4.41E+00
Y-91	1.22E-01	2.12E+00	2.49E+00	2.28E+00	2.03E+00	1.91E+00
Y-92	3.49E-01	2.35E+01	5.32E+01	4.56E+01	1.43E+01	3.52E+00
Y-93	9.24E-02	1.45E+00	1.45E+00	9.57E-01	4.65E-01	2.47E-01
Zr-95	1.73E-01	2.98E+00	3.40E+00	2.96E+00	2.48E+00	2.27E+00
Zr-97	1.64E-01	2.67E+00	2.81E+00	2.08E+00	1.26E+00	8.34E-01
Nb-95	1.73E-01	2.99E+00	3.41E+00	2.97E+00	2.50E+00	2.29E+00
Mo-99	2.26E+00	3.83E+01	4.28E+01	3.58E+01	2.77E+01	2.34E+01
Tc-99m	2.01E+00	3.46E+01	3.92E+01	3.35E+01	2.69E+01	2.34E+01
Ru-103	1.95E+00	3.36E+01	3.83E+01	3.33E+01	2.79E+01	2.54E+01
Ru-105	1.24E+00	1.73E+01	1.44E+01	6.74E+00	1.63E+00	4.29E-01
Ru-106	8.53E-01	1.47E+01	1.68E+01	1.46E+01	1.23E+01	1.13E+01
Rh-105	1.28E+00	2.21E+01	2.49E+01	2.07E+01	1.54E+01	1.22E+01
Sb-127	2.15E+00	3.66E+01	4.12E+01	3.48E+01	2.76E+01	2.39E+01
Sb-129	7.05E+00	9.81E+01	8.13E+01	3.73E+01	8.69E+00	2.21E+00
Te-127	2.14E+00	3.68E+01	4.19E+01	3.62E+01	2.98E+01	2.67E+01
Te-127m	3.67E-01	6.32E+00	7.22E+00	6.29E+00	5.29E+00	4.86E+00
Te-129	7.21E+00	1.11E+02	1.04E+02	5.74E+01	2.95E+01	2.02E+01
Te-129m	1.51E+00	2.60E+01	2.97E+01	2.58E+01	2.16E+01	1.97E+01

**Table 4 (Cont'd)**  
**Post-LOCA Reactor Building Isotopic Inventory - Containment Leakage**

Isotope	Post-LOCA Reactor Building Isotopic Inventory (Ci)					
	Containment Leakage					
	0.667 hr	2.0 hr	4.0 hrs	8.0 hrs	16 hrs	24 hrs
Te-131m	4.83E+00	8.07E+01	8.79E+01	6.98E+01	4.89E+01	3.73E+01
Te-132	3.44E+01	5.86E+02	6.57E+02	5.52E+02	4.33E+02	3.70E+02
I-131	6.87E+02	2.74E+03	2.99E+03	2.63E+03	2.23E+03	2.02E+03
I-132	8.85E+02	3.07E+03	2.24E+03	1.01E+03	5.27E+02	4.43E+02
I-133	1.39E+03	5.32E+03	5.47E+03	4.28E+03	2.85E+03	2.04E+03
I-134	9.31E+02	1.30E+03	2.93E+02	1.11E+01	1.73E-02	2.89E-05
I-135	1.26E+03	4.39E+03	3.91E+03	2.30E+03	8.64E+02	3.49E+02
Xe-133	5.75E+03	1.49E+05	4.67E+05	9.05E+05	1.31E+06	1.41E+06
Xe-135	2.01E+03	5.16E+04	1.45E+05	2.13E+05	1.75E+05	1.08E+05
Cs-134	1.67E+02	5.81E+02	6.14E+02	5.08E+02	3.96E+02	3.48E+02
Cs-136	4.56E+01	1.58E+02	1.66E+02	1.36E+02	1.04E+02	9.02E+01
Cs-137	1.33E+02	4.61E+02	4.87E+02	4.03E+02	3.14E+02	2.76E+02
Ba-139	1.26E+01	1.11E+02	4.62E+01	5.39E+00	8.12E-02	1.33E-03
Ba-140	1.77E+01	3.03E+02	3.45E+02	2.98E+02	2.46E+02	2.22E+02
La-140	2.21E-01	7.47E+00	1.93E+01	3.53E+01	5.76E+01	7.50E+01
La-141	1.43E-01	1.95E+00	1.57E+00	6.74E-01	1.38E-01	3.10E-02
La-142	1.17E-01	1.11E+00	5.13E-01	7.40E-02	1.71E-03	4.30E-05
Ce-141	4.06E-01	6.99E+00	7.97E+00	6.92E+00	5.79E+00	5.28E+00
Ce-143	3.74E-01	6.26E+00	6.85E+00	5.49E+00	3.91E+00	3.03E+00
Ce-144	3.49E-01	6.01E+00	6.86E+00	5.97E+00	5.02E+00	4.61E+00
Pr-143	1.47E-01	2.54E+00	2.91E+00	2.56E+00	2.19E+00	2.03E+00
Nd-147	6.52E-02	1.12E+00	1.27E+00	1.10E+00	9.04E-01	8.13E-01
Np-239	4.74E+00	8.04E+01	8.96E+01	7.43E+01	5.67E+01	4.72E+01
Pu-238	1.25E-03	2.16E-02	2.46E-02	2.14E-02	1.81E-02	1.66E-02
Pu-239	1.18E-04	2.04E-03	2.33E-03	2.03E-03	1.71E-03	1.57E-03
Pu-240	2.17E-04	3.73E-03	4.26E-03	3.71E-03	3.12E-03	2.87E-03
Pu-241	4.78E-02	8.24E-01	9.41E-01	8.19E-01	6.90E-01	6.33E-01
Am-241	3.14E-05	5.41E-04	6.18E-04	5.39E-04	4.55E-04	4.19E-04
Cm-242	7.99E-03	1.38E-01	1.57E-01	1.37E-01	1.15E-01	1.05E-01
Cm-244	4.64E-04	8.00E-03	9.13E-03	7.96E-03	6.70E-03	6.15E-03

Post-LOCA Reactor Building Isotopic Inventory From RADTRAD Run QDC39CL02.o0

**Table 5**  
**Post-LOCA Reactor Building Isotopic Inventory - ESF Leakage**

Isotope	Post-LOCA Reactor Building Isotopic Inventory (Ci)					
	ESF Leakage					
	0.667 hr	2.0 hr	4.0 hrs	8.0 hrs	16 hrs	24 hrs
I-131	2.64E+01	2.99E+02	8.59E+02	1.64E+03	2.40E+03	2.65E+03
I-132	3.38E+01	3.04E+02	5.16E+02	3.05E+02	4.15E+01	4.23E+00
I-133	5.34E+01	5.82E+02	1.57E+03	2.67E+03	3.08E+03	2.68E+03
I-134	3.57E+01	1.42E+02	8.43E+01	6.92E+00	1.87E-02	3.80E-05
I-135	4.85E+01	4.80E+02	1.12E+03	1.43E+03	9.34E+02	4.59E+02
Xe-133	1.25E-01	3.91E+00	2.64E+01	1.09E+02	3.05E+02	4.60E+02
Xe-135	1.37E+00	3.92E+01	2.30E+02	7.18E+02	1.14E+03	9.81E+02

Post-LOCA Reactor Building Isotopic Inventory From RADTRAD Run QDC39ESF02.o0

**Table 6**  
**Post-LOCA Reactor Building Isotopic Inventory - Containment + ESF Leakages**

Isotope	Post-LOCA Reactor Building Isotopic Inventory (Ci) Containment + ESF Leakage						Total Activity (Ci)
	0.667 hr	2.0 hr	4.0 hrs	8.0 hrs	16 hrs	24 hrs	
Co-58	6.93E-03	1.19E-01	1.36E-01	1.18E-01	9.94E-02	9.10E-02	5.71E-01
Co-60	8.30E-03	1.43E-01	1.63E-01	1.42E-01	1.20E-01	1.10E-01	6.86E-01
Kr-85	4.96E+01	1.29E+03	4.09E+03	8.09E+03	1.22E+04	1.38E+04	3.95E+04
Kr-85m	6.67E+02	1.41E+04	3.28E+04	3.50E+04	1.53E+04	5.01E+03	1.03E+05
Kr-87	1.03E+03	1.29E+04	1.38E+04	3.09E+03	5.94E+01	8.58E-01	3.09E+04
Kr-88	1.75E+03	3.28E+04	6.39E+04	4.76E+04	1.02E+04	1.63E+03	1.58E+05
Rb-86	1.27E+00	4.40E+00	4.63E+00	3.81E+00	2.93E+00	2.55E+00	1.96E+01
Sr-89	9.41E+00	1.62E+02	1.85E+02	1.60E+02	1.34E+02	1.23E+02	7.74E+02
Sr-90	1.48E+00	2.55E+01	2.91E+01	2.54E+01	2.13E+01	1.96E+01	1.22E+02
Sr-91	1.14E+01	1.78E+02	1.75E+02	1.14E+02	5.36E+01	2.74E+01	5.60E+02
Sr-92	1.07E+01	1.31E+02	8.93E+01	2.80E+01	3.04E+00	3.61E-01	2.62E+02
Y-90	1.70E-02	4.87E-01	1.13E+00	2.00E+00	3.30E+00	4.41E+00	1.13E+01
Y-91	1.22E-01	2.12E+00	2.49E+00	2.28E+00	2.03E+00	1.91E+00	1.10E+01
Y-92	3.49E-01	2.35E+01	5.32E+01	4.56E+01	1.43E+01	3.52E+00	1.41E+02
Y-93	9.24E-02	1.45E+00	1.45E+00	9.57E-01	4.65E-01	2.47E-01	4.66E+00
Zr-95	1.73E-01	2.98E+00	3.40E+00	2.96E+00	2.48E+00	2.27E+00	1.43E+01
Zr-97	1.64E-01	2.67E+00	2.81E+00	2.08E+00	1.26E+00	8.34E-01	9.82E+00
Nb-95	1.73E-01	2.99E+00	3.41E+00	2.97E+00	2.50E+00	2.29E+00	1.43E+01
Mo-99	2.26E+00	3.83E+01	4.28E+01	3.58E+01	2.77E+01	2.34E+01	1.70E+02
Tc-99m	2.01E+00	3.46E+01	3.92E+01	3.35E+01	2.69E+01	2.34E+01	1.60E+02
Ru-103	1.95E+00	3.36E+01	3.83E+01	3.33E+01	2.79E+01	2.54E+01	1.61E+02
Ru-105	1.24E+00	1.73E+01	1.44E+01	6.74E+00	1.63E+00	4.29E-01	4.18E+01
Ru-106	8.53E-01	1.47E+01	1.68E+01	1.46E+01	1.23E+01	1.13E+01	7.05E+01
Rh-105	1.28E+00	2.21E+01	2.49E+01	2.07E+01	1.54E+01	1.22E+01	9.65E+01
Sb-127	2.15E+00	3.66E+01	4.12E+01	3.48E+01	2.76E+01	2.39E+01	1.66E+02
Sb-129	7.05E+00	9.81E+01	8.13E+01	3.73E+01	8.69E+00	2.21E+00	2.35E+02
Te-127	2.14E+00	3.68E+01	4.19E+01	3.62E+01	2.98E+01	2.67E+01	1.74E+02
Te-127m	3.67E-01	6.32E+00	7.22E+00	6.29E+00	5.29E+00	4.86E+00	3.03E+01
Te-129	7.21E+00	1.11E+02	1.04E+02	5.74E+01	2.95E+01	2.02E+01	3.29E+02
Te-129m	1.51E+00	2.60E+01	2.97E+01	2.58E+01	2.16E+01	1.97E+01	1.24E+02

**Table 6 (Cont'd)**  
**Post-LOCA Reactor Building Isotopic Inventory - Containment + ESF Leakages**

Isotope	Post-LOCA Reactor Building Isotopic Inventory (Ci) Containment + ESF Leakage						Total Activity (Ci)
	0.667 hr	2.0 hr	4.0 hrs	8.0 hrs	16 hrs	24 hrs	
Te-131m	4.83E+00	8.07E+01	8.79E+01	6.98E+01	4.89E+01	3.73E+01	3.29E+02
Te-132	3.44E+01	5.86E+02	6.57E+02	5.52E+02	4.33E+02	3.70E+02	2.63E+03
I-131	7.14E+02	3.03E+03	3.85E+03	4.27E+03	4.63E+03	4.68E+03	2.12E+04
I-132	9.19E+02	3.37E+03	2.75E+03	1.32E+03	5.69E+02	4.47E+02	9.38E+03
I-133	1.44E+03	5.90E+03	7.05E+03	6.95E+03	5.93E+03	4.72E+03	3.20E+04
I-134	9.66E+02	1.44E+03	3.78E+02	1.80E+01	3.59E-02	6.69E-05	2.80E+03
I-135	1.31E+03	4.87E+03	5.04E+03	3.73E+03	1.80E+03	8.08E+02	1.76E+04
Xe-133	5.75E+03	1.49E+05	4.67E+05	9.05E+05	1.31E+06	1.41E+06	4.25E+06
Xe-135	2.01E+03	5.16E+04	1.45E+05	2.14E+05	1.76E+05	1.09E+05	6.97E+05
Cs-134	1.67E+02	5.81E+02	6.14E+02	5.08E+02	3.96E+02	3.48E+02	2.61E+03
Cs-136	4.56E+01	1.58E+02	1.66E+02	1.36E+02	1.04E+02	9.02E+01	7.00E+02
Cs-137	1.33E+02	4.61E+02	4.87E+02	4.03E+02	3.14E+02	2.76E+02	2.07E+03
Ba-139	1.26E+01	1.11E+02	4.62E+01	5.39E+00	8.12E-02	1.33E-03	1.75E+02
Ba-140	1.77E+01	3.03E+02	3.45E+02	2.98E+02	2.46E+02	2.22E+02	1.43E+03
La-140	2.21E-01	7.47E+00	1.93E+01	3.53E+01	5.76E+01	7.50E+01	1.95E+02
La-141	1.43E-01	1.95E+00	1.57E+00	6.74E-01	1.38E-01	3.10E-02	4.50E+00
La-142	1.17E-01	1.11E+00	5.13E-01	7.40E-02	1.71E-03	4.30E-05	1.81E+00
Ce-141	4.06E-01	6.99E+00	7.97E+00	6.92E+00	5.79E+00	5.28E+00	3.34E+01
Ce-143	3.74E-01	6.26E+00	6.85E+00	5.49E+00	3.91E+00	3.03E+00	2.59E+01
Ce-144	3.49E-01	6.01E+00	6.86E+00	5.97E+00	5.02E+00	4.61E+00	2.88E+01
Pr-143	1.47E-01	2.54E+00	2.91E+00	2.56E+00	2.19E+00	2.03E+00	1.24E+01
Nd-147	6.52E-02	1.12E+00	1.27E+00	1.10E+00	9.04E-01	8.13E-01	5.27E+00
Np-239	4.74E+00	8.04E+01	8.96E+01	7.43E+01	5.67E+01	4.72E+01	3.53E+02
Pu-238	1.25E-03	2.16E-02	2.46E-02	2.14E-02	1.81E-02	1.66E-02	1.03E-01
Pu-239	1.18E-04	2.04E-03	2.33E-03	2.03E-03	1.71E-03	1.57E-03	9.79E-03
Pu-240	2.17E-04	3.73E-03	4.26E-03	3.71E-03	3.12E-03	2.87E-03	1.79E-02
Pu-241	4.78E-02	8.24E-01	9.41E-01	8.19E-01	6.90E-01	6.33E-01	3.96E+00
Am-241	3.14E-05	5.41E-04	6.18E-04	5.39E-04	4.55E-04	4.19E-04	2.60E-03
Cm-242	7.99E-03	1.38E-01	1.57E-01	1.37E-01	1.15E-01	1.05E-01	6.60E-01
Cm-244	4.64E-04	8.00E-03	9.13E-03	7.96E-03	6.70E-03	6.15E-03	3.84E-02

Containment RB Inventory From Table 4 & ESF RB Leakage Inventory From Table 5

**Table 7**  
**Post-LOCA Reactor Building Shine Integrated Gamma Dose**

<b>Post-LOCA Period t (hr)</b>	<b>Control Room Gamma Dose Rate (mrem/hr)</b>	<b>Control Room Integrated Gamma Dose (w/o CROF) (mrem)</b>	<b>Control Room Occupancy Factor (unitless)</b>	<b>Control Room Integrated Gamma Dose (with CROF) (mrem)</b>	<b>Control Room Cumulative Gamma Dose (mrem)</b>	<b>MicroShield Run No.</b>
0.667	1.09E+00	3.63E-01	1	3.63E-01	3.63E-01	QA667.MSD
2	1.41E+01	1.01E+01	1	1.01E+01	1.05E+01	QA2.MSD
4	2.36E+01	3.78E+01	1	3.78E+01	4.82E+01	QA4.MSD
8	1.57E+01	7.87E+01	1	7.87E+01	1.27E+02	QA8.MSD
16	3.41E+00	7.66E+01	1	7.66E+01	2.04E+02	QA16.MSD
24	6.71E-01	1.63E+01	1	1.63E+01	2.20E+02	QA24.MSD
96	6.71E-01	4.83E+01	0.6	2.90E+01	2.49E+02	QA24.MSD
720	6.71E-01	4.19E+02	0.4	1.68E+02	4.16E+02	QA24.MSD
<b>720-hrs Cumulative Gamma Dose</b>					<b>4.16E+02</b>	

\* Dose Rate is conservatively assumed to not decrease beyond 24 hours



**Table 8 (Historical)**  
**Post-LOCA Elemental Iodine Inventory Transported to the Environment**  
**Due to Post-LOCA MSIV Leakage**

Time (hrs)	Failed MS Line Cumulative Elem. Iodine  Transported to Environment (atoms) [A]	Intact MS Line 1 Cumulative Elem. Iodine  Transported to Environment (atoms) [B]	Intact MS Line 2 Cumulative Elem. Iodine  Transported to Environment (atoms) [C]	Total Cumulative Elem. Iodine  Transported to Environment (atoms) [A+B+C]	Time Interval  (hrs)	MSIV Elem. Iodine Transported to Environment  (atoms)
0.6667	1.1288E+16	1.3648E+15	1.7704E+14	1.2830E+16		
2	1.9479E+17	5.4320E+16	8.5067E+15	2.5762E+17	0.6667 to 2	2.4479E+17
3.05	3.3486E+17	1.1474E+17	1.9596E+16	4.6920E+17		
8	7.5547E+17	3.7336E+17	9.5605E+16	1.2244E+18	2 to 8	9.6682E+17
24	1.1464E+18	5.7477E+17	2.3804E+17	1.9592E+18	8 to 24	7.3478E+17
96	1.6961E+18	8.4598E+17	3.9397E+17	2.9361E+18	24 to 96	9.7684E+17
720	2.8652E+18	1.4306E+18	6.8860E+17	4.9844E+18	96 to 720	2.0484E+18

A, B & C From Revision 2 RADTRAD Run QDC39MS03.o0 output file

**Table 9 (Historical)**  
**Post-LOCA Total Elemental Iodine Inventory On CR Charcoal Filter @ 720 Hrs**  
**Due to Post-LOCA MSIV Leakage**

Time Interval  (hrs)	MSIV Elem. Iodine Transported to Environment (atoms) [A]	X/Q MSIV to CR  (sec/m <sup>3</sup> ) [B]	Time Conversion  (min/sec) [C]	Volume Conversion  (m <sup>3</sup> /ft <sup>3</sup> ) [D]	HVAC inflow rate  (ft <sup>3</sup> /min) [E]	Charcoal Filter Efficiency  (fraction) [F]	Filter Inventory Elem. Iodine  (atoms) [A*B*C*D*E*F]
0.6667 to 2	2.4479E+17	1.02E-03	0.01667	0.02832	1800	0.99	2.100E+14
2 to 8	9.6682E+17	8.23E-04	0.01667	0.02832	1800	0.99	6.693E+14
8 to 24	7.3478E+17	3.55E-04	0.01667	0.02832	1800	0.99	2.194E+14
24 to 96	9.7684E+17	2.32E-04	0.01667	0.02832	1800	0.99	1.906E+14
96 to 720	2.0484E+18	1.38E-04	0.01667	0.02832	1800	0.99	2.378E+14
<b>Total</b>							<b>1.527E+15</b>

A From Table 8

B From Section 5.6.10

E From Section 5.6.4

F From Section 5.6.8

**Table 10 (Historical)**  
**Post-LOCA Organic Iodide Inventory Transported to the Environment**  
**Due to Post-LOCA MSIV Leakage**

Time  (hrs)	Failed MS Line Cumulative Org. Iodide  Transported to Environment (atoms) [A]	Intact MS Line 1 Cumulative Org. Iodide  Transported to Environment (atoms) [B]	Intact MS Line 2 Cumulative Org. Iodide  Transported to Environment (atoms) [C]	Total Cumulative Org. Iodide  Transported to Environment (atoms) [A+B+C]	Time Interval  (hrs)	MSIV Org. Iodide Transported to Environment  (atoms)
0.6667	1.1187E+15	2.5138E+14	3.2418E+13	1.4025E+15		
2	3.4674E+16	1.7223E+16	2.6163E+15	5.4513E+16	0.6667 to 2	5.3111E+16
3.05	7.6627E+16	4.5376E+16	7.3918E+15	1.2939E+17		
8	4.4172E+17	3.8413E+17	8.4544E+16	9.1039E+17	2 to 8	8.5588E+17
24	2.1243E+18	2.1048E+18	7.3214E+17	4.9612E+18	8 to 24	4.0508E+18
96	8.2597E+18	8.2466E+18	3.7740E+18	2.0280E+19	24 to 96	1.5319E+19
720	2.1640E+19	2.1628E+19	1.0518E+19	5.3786E+19	96 to 720	3.3506E+19

A, B & C From Revision 2 RADTRAD Run QDC39MS03.o0 output file

**Table 11 (Historical)**  
**Post-LOCA Total Organic Iodide Inventory On CR Charcoal Filter @ 720 Hrs**  
**Due to Post-LOCA MSIV Leakage**

Time Interval  (hrs)	MSIV Organic Iodide Transported to Environment (atoms) [A]	X/Q MSIV to CR (sec/m3) [B]	Time Conversion (min/sec) [C]	Volume Conversion (m3/ft3) [D]	HVAC inflow rate (ft3/min) [E]	Charcoal Filter Efficiency (fraction) [F]	Filter Inventory Organic Iodide  (atoms) [A*B*C*D*E*F]
0.6667 to 2	5.3111E+16	1.02E-03	0.01667	0.02832	1800	0.99	4.557E+13
2 to 8	8.5588E+17	8.23E-04	0.01667	0.02832	1800	0.99	5.925E+14
8 to 24	4.0508E+18	3.55E-04	0.01667	0.02832	1800	0.99	1.210E+15
24 to 96	1.5319E+19	2.32E-04	0.01667	0.02832	1800	0.99	2.989E+15
96 to 720	3.3506E+19	1.38E-04	0.01667	0.02832	1800	0.99	3.889E+15
<b>Total</b>							<b>8.726E+15</b>

A From Table 10

B From Section 5.6.10

E From Section 5.6.4

F From Section 5.6.8

**Table 12 (Historical)**  
**Post-LOCA Aerosol Inventory Transported to the Environment**  
**Due to Post-LOCA MSIV Leakage**

Time (hrs)	Failed MS Line Cumulative Aerosols  Transported to Environment (kg) [A]	Intact MS Line 1 Cumulative Aerosols  Transported to Environment (kg) [B]	Intact MS Line 2 Cumulative Aerosols  Transported to Environment (kg) [C]	Total Cumulative Aerosols  Transported to Environment (kg) [A+B+C]	Time Interval  (hrs)	MSIV Aerosols Transported to Environment  (kg)
0.6667	4.6294E-06	1.5797E-07	4.8925E-09	4.7923E-06		
2	1.2308E-04	9.3732E-06	3.4424E-07	1.3280E-04	0.6667 to 2	1.2801E-04
3.05	2.5232E-04	2.3411E-05	9.2688E-07	2.7666E-04		
8	7.7246E-04	1.1235E-04	6.6184E-06	8.9143E-04	2 to 8	7.5863E-04
24	1.1619E-03	1.7495E-04	1.8335E-05	1.3552E-03	8 to 24	4.6376E-04
96	1.1871E-03	1.7667E-04	2.1141E-05	1.3849E-03	24 to 96	2.9726E-05
720	1.1871E-03	1.7667E-04	2.1142E-05	1.3849E-03	96 to 720	1.0000E-09

A, B & C From Revision 2 RADTRAD Run QDC39MS03.o0 output file

**Table 13 (Historical)**  
**Post-LOCA Total Aerosol Inventory On CR HEPA Filter @ 720 Hrs**  
**Due to Post-LOCA MSIV Leakage**

Time Interval  (hrs)	MSIV Aerosols Transported to Environment (kg) [A]	X/Q MSIV to CR  (sec/m3) [B]	Time Conversion  (min/sec) [C]	Volume Conversion  (m3/ft3) [D]	HVAC inflow rate  (ft3/min) [E]	HEPA Filter Efficiency  (fraction) [F]	Filter Inventory Aerosols  (kg) [A*B*C*D*E*F]
0.6667 to 2	1.2801E-04	1.02E-03	0.01667	0.02832	1800	0.99	1.098E-07
2 to 8	7.5863E-04	8.23E-04	0.01667	0.02832	1800	0.99	5.251E-07
8 to 24	4.6376E-04	3.55E-04	0.01667	0.02832	1800	0.99	1.385E-07
24 to 96	2.9726E-05	2.32E-04	0.01667	0.02832	1800	0.99	5.801E-09
96 to 720	1.0000E-09	1.38E-04	0.01667	0.02832	1800	0.99	1.161E-13
<b>Total</b>							<b>7.792E-07</b>

A From Table 12

B From Section 5.6.10

E From Section 5.6.4

F From Section 5.6.8

**Table 14 (Historical)**  
**Conversion of Iodine Activity Into Iodine Atom**

Isotope	Environ Region @ 0.5 hr		Iodine Atoms Per (Curie) $C_i = B_i / A_i$	Isotopic Iodine Fraction $D_i = B_i / \Sigma B$
	Activity (Curie) $A_i$	Atoms $B_i$		
I-131	9.077E-01	3.366E+16	3.708E+16	7.648E-01
I-132	1.200E+00	5.302E+14	4.420E+14	1.205E-02
I-133	1.851E+00	7.398E+15	3.997E+15	1.681E-01
I-134	1.498E+00	2.524E+14	1.685E+14	5.735E-03
I-135	1.710E+00	2.172E+15	1.270E+15	4.934E-02
<b>Total</b>		4.401E+16		1.000E+00

$A_i$  &  $B_i$  From Revision 2 RADTRAD Run QDC39MS03.o0 output file @ 0.5 hr From Environment Compartment Nuclide Inventory

**Table 15 (Historical)**  
**Post-LOCA MSIV Leakage Iodine Activity Deposited on CR Charcoal Filter**

Isotope	Iodine Atoms Per Curie $A_i$	Fraction Of Iodine $B_i$	Elemental & Organic Iodine Atoms On CR Charcoal 720 Hrs $C$	Iodine Atoms on CR Charcoal Filter At 720 Hrs $D_i = B_i * C$	Iodine Activity CR Charcoal Filter At 720 Hrs $E_i = D_i / A_i$
I-131	3.708E+16	7.648E-01	1.025E+16	7.839E+15	2.114E-01
I-132	4.420E+14	1.205E-02		1.235E+14	2.794E-01
I-133	3.997E+15	1.681E-01		1.723E+15	4.310E-01
I-134	1.685E+14	5.735E-03		5.878E+13	3.489E-01
I-135	1.270E+15	4.934E-02		5.058E+14	3.982E-01
<b>Total CR Charcoal Filter Iodine Atoms/Activity</b>				1.025E+16	1.669E+00

$A_i$  &  $B_i$  From Table 14

$C$  From Section 7.10.1 (Table 9 + Table 11 atom inventories)

**Table 16 (Historical)**  
**Relationship of Aerosol Mass and Activity**

Isotope	Environ Region @ 0.6667 hr		Aerosol Mass Per Ci (kg/Ci) $C_i = B_i / A_i$	Isotopic Aerosol Fraction $D_i = B_i / \Sigma B$
	Activity (Curie) A	Mass (kg) B		
Co-58	3.143E-06	9.883E-14	3.145E-08	2.070E-08
Co-60	3.762E-06	3.328E-12	8.847E-07	6.972E-07
Rb-86	3.651E-03	4.488E-11	1.229E-08	9.401E-06
Sr-89	4.263E-03	1.467E-10	3.442E-08	3.074E-05
Sr-90	6.707E-04	4.917E-09	7.331E-06	1.030E-03
Sr-91	5.158E-03	1.423E-12	2.759E-10	2.981E-07
Sr-92	4.846E-03	3.856E-13	7.956E-11	8.077E-08
Y-90	7.971E-06	1.465E-14	1.838E-09	3.069E-09
Y-91	5.522E-05	2.252E-12	4.078E-08	4.717E-07
Y-92	1.958E-04	2.035E-14	1.039E-10	4.262E-09
Y-93	4.192E-05	1.257E-14	2.997E-10	2.632E-09
Zr-95	7.850E-05	3.654E-12	4.655E-08	7.655E-07
Zr-97	7.433E-05	3.888E-14	5.231E-10	8.145E-09
Nb-95	7.852E-05	2.008E-12	2.557E-08	4.207E-07
Mo-99	1.022E-03	2.131E-12	2.085E-09	4.465E-07
Tc-99m	9.130E-04	1.736E-13	1.902E-10	3.637E-08
Ru-103	8.857E-04	2.744E-11	3.099E-08	5.749E-06
Ru-105	5.615E-04	8.353E-14	1.488E-10	1.750E-08
Ru-106	3.865E-04	1.155E-10	2.989E-07	2.420E-05
Rh-105	5.822E-04	6.898E-13	1.185E-09	1.445E-07
Sb-127	9.727E-04	3.642E-12	3.745E-09	7.630E-07
Sb-129	3.205E-03	5.699E-13	1.778E-10	1.194E-07
Te-127	9.704E-04	3.677E-13	3.789E-10	7.703E-08
Te-127m	1.663E-04	1.763E-11	1.060E-07	3.694E-06
Te-129	3.297E-03	1.574E-13	4.775E-11	3.298E-08
Te-129m	6.844E-04	2.272E-11	3.319E-08	4.759E-06

**Table 16 (Cont'd) (Historical)**  
**Relationship of Aerosol Mass and Activity**

Isotope	Environ Region @ 0.6667 hr		Aerosol Mass Per Ci (kg/Ci) $C_i = B_i / A_i$	Isotopic Aerosol Fraction $D_i = B_i / \Sigma B$
	Activity (Curie) A	Mass (kg) B		
Te-131m	2.189E-03	2.745E-12	1.254E-09	5.750E-07
Te-132	1.559E-02	5.134E-11	3.294E-09	1.076E-05
Cs-134	4.817E-01	3.723E-07	7.729E-07	7.800E-02
Cs-136	1.313E-01	1.792E-09	1.364E-08	3.753E-04
Cs-137	3.821E-01	4.392E-06	1.150E-05	9.201E-01
Ba-139	5.736E-03	3.507E-13	6.114E-11	7.346E-08
Ba-140	8.004E-03	1.093E-10	1.366E-08	2.290E-05
La-140	1.054E-04	1.897E-13	1.799E-09	3.973E-08
La-141	6.513E-05	1.152E-14	1.768E-10	2.413E-09
La-142	5.328E-05	3.722E-15	6.986E-11	7.798E-10
Ce-141	1.840E-04	6.458E-12	3.510E-08	1.353E-06
Ce-143	1.694E-04	2.551E-13	1.506E-09	5.345E-08
Ce-144	1.581E-04	4.958E-11	3.135E-07	1.039E-05
Pr-143	6.656E-05	9.885E-13	1.485E-08	2.071E-07
Nd-147	2.956E-05	3.654E-13	1.236E-08	7.654E-08
Np-239	2.150E-03	9.269E-12	4.311E-09	1.942E-06
Pu-238	5.671E-07	3.313E-11	5.841E-05	6.940E-06
Pu-239	5.358E-08	8.620E-10	1.609E-02	1.806E-04
Pu-240	9.816E-08	4.308E-10	4.389E-03	9.024E-05
Pu-241	2.168E-05	2.104E-10	9.708E-06	4.408E-05
Am-241	1.423E-08	4.147E-12	2.914E-04	8.688E-07
Cm-242	3.620E-06	1.092E-12	3.017E-07	2.288E-07
Cm-244	2.105E-07	2.602E-12	1.236E-05	5.451E-07
<b>Total</b>		4.773E-06		1.000E+00

$A_i$  &  $B_i$  From Revision 2 RADTRAD Run QDC39MS03.o0 output file @  
0.6667 hr from Reactor Building Compartment Nuclide Inventory

**Table 17 (Historical)**  
**Post-LOCA Total Aerosol Isotopic Activity On CR HEPA Filter @ 720 Hrs**  
**Post-LOCA MSIV Leakage**

Isotope	Aerosol Mass Per Ci (kg/Ci) $A_i$	Fraction of Aerosol $B_i$	Total CR Filter Aerosol Mass At 720 Hr (kg) $C$	Aerosol Isotopic	
				Aerosol Mass On CR Filter At 720 Hr (kg) $D_i = B_i * C$	Aerosol Activity On CR Filter At 720 Hr (Ci) $E_i = D_i / A_i$
Co-58	3.145E-08	2.070E-08	7.792E-07	1.613E-14	5.130E-07
Co-60	8.847E-07	6.972E-07		5.433E-13	6.141E-07
Rb-86	1.229E-08	9.401E-06		7.325E-12	5.960E-04
Sr-89	3.442E-08	3.074E-05		2.395E-11	6.958E-04
Sr-90	7.331E-06	1.030E-03		8.026E-10	1.095E-04
Sr-91	2.759E-10	2.981E-07		2.323E-13	8.420E-04
Sr-92	7.956E-11	8.077E-08		6.294E-14	7.911E-04
Y-90	1.838E-09	3.069E-09		2.392E-15	1.301E-06
Y-91	4.078E-08	4.717E-07		3.676E-13	9.014E-06
Y-92	1.039E-10	4.262E-09		3.321E-15	3.195E-05
Y-93	2.997E-10	2.632E-09		2.051E-15	6.843E-06
Zr-95	4.655E-08	7.655E-07		5.965E-13	1.281E-05
Zr-97	5.231E-10	8.145E-09		6.347E-15	1.213E-05
Nb-95	2.557E-08	4.207E-07		3.278E-13	1.282E-05
Mo-99	2.085E-09	4.465E-07		3.479E-13	1.669E-04
Tc-99m	1.902E-10	3.637E-08		2.834E-14	1.490E-04
Ru-103	3.099E-08	5.749E-06		4.480E-12	1.446E-04
Ru-105	1.488E-10	1.750E-08		1.363E-14	9.165E-05
Ru-106	2.989E-07	2.420E-05		1.886E-11	6.309E-05
Rh-105	1.185E-09	1.445E-07		1.126E-13	9.504E-05
Sb-127	3.745E-09	7.630E-07		5.945E-13	1.588E-04
Sb-129	1.778E-10	1.194E-07		9.302E-14	5.231E-04
Te-127	3.789E-10	7.703E-08		6.002E-14	1.584E-04
Te-127m	1.060E-07	3.694E-06		2.878E-12	2.715E-05
Te-129	4.775E-11	3.298E-08		2.570E-14	5.382E-04
Te-129m	3.319E-08	4.759E-06		3.708E-12	1.117E-04



**Table 17 (Cont'd) (Historical)**  
**Post-LOCA Total Aerosol Isotopic Activity On CR HEPA Filter @ 720 Hrs**  
**Post-LOCA MSIV Leakage**

Isotope	Aerosol Mass Per Ci  (kg/Ci) $A_i$	Fraction of Aerosol  $B_i$	Total CR Filter Aerosol Mass At 720 Hr (kg) $C$	Aerosol Isotopic	
				Aerosol Mass On CR Filter At 720 Hr (kg) $D_i = B_i * C$	Aerosol Activity On CR Filter At 720 Hr (Ci) $E_i = D_i / A_i$
Te-131m	1.254E-09	5.750E-07	7.792E-07	4.481E-13	3.573E-04
Te-132	3.294E-09	1.076E-05		8.381E-12	2.544E-03
Cs-134	7.729E-07	7.800E-02		6.078E-08	7.863E-02
Cs-136	1.364E-08	3.753E-04		2.925E-10	2.143E-02
Cs-137	1.150E-05	9.201E-01		7.170E-07	6.236E-02
Ba-139	6.114E-11	7.346E-08		5.724E-14	9.363E-04
Ba-140	1.366E-08	2.290E-05		1.785E-11	1.307E-03
La-140	1.799E-09	3.973E-08		3.096E-14	1.721E-05
La-141	1.768E-10	2.413E-09		1.880E-15	1.063E-05
La-142	6.986E-11	7.798E-10		6.076E-16	8.698E-06
Ce-141	3.510E-08	1.353E-06		1.054E-12	3.004E-05
Ce-143	1.506E-09	5.345E-08		4.165E-14	2.766E-05
Ce-144	3.135E-07	1.039E-05		8.093E-12	2.581E-05
Pr-143	1.485E-08	2.071E-07		1.613E-13	1.087E-05
Nd-147	1.236E-08	7.654E-08		5.964E-14	4.825E-06
Np-239	4.311E-09	1.942E-06		1.513E-12	3.510E-04
Pu-238	5.841E-05	6.940E-06		5.407E-12	9.257E-08
Pu-239	1.609E-02	1.806E-04		1.407E-10	8.746E-09
Pu-240	4.389E-03	9.024E-05		7.031E-11	1.602E-08
Pu-241	9.708E-06	4.408E-05		3.435E-11	3.538E-06
Am-241	2.914E-04	8.688E-07		6.770E-13	2.323E-09
Cm-242	3.017E-07	2.288E-07		1.783E-13	5.910E-07
Cm-244	1.236E-05	5.451E-07		4.247E-13	3.436E-08
<b>Total Aerosol Activity</b>					1.734E-01

$A_i$  &  $B_i$  From Table 16

$C$  From Section 7.10.2 (Table 13 kilogram inventory)

**Table 18**  
**DW Spray Elemental & Particulate Iodine Cutoff Time**

Post-LOCA Time (hr)	Aerosol Atom (kg) A	Elemental Iodine Atom B	Cutoff Value	
			Aerosol (kg) C	Ele. Iodine Atom D
.1667	3.36E+00	3.16E+21		
2			1.91E+00	2.05E+21
2.2			9.50E-02	1.02E+20
2.25			4.49E-02	4.80E+19
2.3				2.26E+19

**Table 19**  
**Steam Line Temperature Vs. Time**

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

Extrapolated Temperature Information From  
Reference 9.40, Figure 7

**Table 20**  
**MSIV Failed & Intact Steam Line**  
**Volumes**  
**For Elemental Iodine Removal**  
**Efficiency Calculation**

Piping Segment ID	MSIV Failed Line Volume (ft <sup>3</sup> )/(m <sup>3</sup> ) V <sub>1</sub> A	Intact Line 1		Intact Line 2	
		Volume (ft <sup>3</sup> )/(m <sup>3</sup> ) V <sub>2</sub> B	Volume (ft <sup>3</sup> )/(m <sup>3</sup> ) V <sub>3</sub> C	Volume (ft <sup>3</sup> )/(m <sup>3</sup> ) V <sub>4</sub> D	Volume (ft <sup>3</sup> )/(m <sup>3</sup> ) V <sub>5</sub> E
Steam Line Between RPV Nozzle & outboard MSIV	200.24	152.93	49.11	163.75	49.11
	5.67	4.33	1.39	4.64	1.39

A = 200.24 ft<sup>3</sup> / (3.28)<sup>3</sup> ft<sup>3</sup>/m<sup>3</sup> = 5.67 m<sup>3</sup> (Section 7.3.1)

B = 152.93 ft<sup>3</sup> / (3.28)<sup>3</sup> ft<sup>3</sup>/m<sup>3</sup> = 4.33 m<sup>3</sup> (Section 7.3.2)

C = 49.11 ft<sup>3</sup> / (3.28)<sup>3</sup> ft<sup>3</sup>/m<sup>3</sup> = 1.39 m<sup>3</sup> (Section 7.3.2)

D = 163.75 ft<sup>3</sup> / (3.28)<sup>3</sup> ft<sup>3</sup>/m<sup>3</sup> = 4.64 m<sup>3</sup> (Section 7.3.3)

E = 49.11 ft<sup>3</sup> / (3.28)<sup>3</sup> ft<sup>3</sup>/m<sup>3</sup> = 1.39 m<sup>3</sup> (Section 7.3.3)

**Table 21**  
**MSIV Failed & Intact Steam Line**  
**Surface Areas For Elemental Iodine**  
**Removal Efficiency Calculation**

Piping Segment ID	MSIV Failed Line Surface Area (ft <sup>2</sup> )/(m <sup>2</sup> ) V <sub>1</sub> A	Intact Line 1		Intact Line 2	
		Surface Area (ft <sup>2</sup> )/(m <sup>2</sup> ) V <sub>2</sub> B	Surface Area (ft <sup>2</sup> )/(m <sup>2</sup> ) V <sub>3</sub> C	Surface Area (ft <sup>2</sup> )/(m <sup>2</sup> ) V <sub>4</sub> D	Surface Area (ft <sup>2</sup> )/(m <sup>2</sup> ) V <sub>5</sub> E
Steam Line Between Nozzle & outboard MSIV	236.66	108.39	133.17	132.92	133.17
	22.00	10.07	12.38	12.35	12.38

A = π \* D \* L = 3.14 \* 75.37 ft<sup>2</sup> = 236.66 ft<sup>2</sup> / (3.28)<sup>2</sup> ft<sup>2</sup>/m<sup>2</sup> = 22.00 m<sup>2</sup> (Section 7.3.1)

B = π \* D \* L = 3.14 \* 34.52 ft<sup>2</sup> = 108.39 ft<sup>2</sup> / (3.28)<sup>2</sup> ft<sup>2</sup>/m<sup>2</sup> = 10.07 m<sup>2</sup> (Section 7.3.2)

C = π \* D \* L = 3.14 \* 42.41 ft<sup>2</sup> = 133.17 ft<sup>2</sup> / (3.28)<sup>2</sup> ft<sup>2</sup>/m<sup>2</sup> = 12.38 m<sup>2</sup> (Section 7.3.2)

D = π \* D \* L = 3.14 \* 42.33 ft<sup>2</sup> = 132.92 ft<sup>2</sup> / (3.28)<sup>2</sup> ft<sup>2</sup>/m<sup>2</sup> = 12.35 m<sup>2</sup> (Section 7.3.3)

E = π \* D \* L = 3.14 \* 42.41 ft<sup>2</sup> = 133.17 ft<sup>2</sup> / (3.28)<sup>2</sup> ft<sup>2</sup>/m<sup>2</sup> = 12.38 m<sup>2</sup> (Section 7.3.3)

**Table 22**  
**Elemental Iodine Deposition Velocity - MSIV Leakage**

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

A & B From Table 19

C From Reference 9.40, page 12

**Table 23**  
**Elemental Iodine Deposition Rate - MSIV Failed Line Volume V<sub>1</sub>**

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

A From Table 5C

B & C From Tables 20 & 21

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

**Table 24**  
**Elemental Iodine Deposition Rate - Intact Steam Line Volume V<sub>2</sub>**

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

A From Table 22

B &amp; C From Tables 20 &amp; 21

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

**Table 25**  
**Elemental Iodine Deposition Rate - Intact Steam Line Volumes V<sub>3</sub> & V<sub>5</sub>**

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

A From Table 22

B &amp; C From Tables 20 &amp; 21

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

**Table 26**  
**Elemental Iodine Deposition Rate - Intact Steam Line**  
**Volume V<sub>4</sub>**

Time Hr	Deposition Velocity m/sec A*	Main Steam Line		Elemental Iodine Removal Rate (hr <sup>-1</sup> ) D = (AxB)x3600/C	Elemental Iodine Deposition Efficiency E
		Total Surface Area (m <sup>2</sup> ) B	Total Volume (m <sup>3</sup> ) C		
0	5.362E-06	12.35	4.64	0.0514	0.0501
8	7.211E-06	12.35	4.64	0.0691	0.0668
24	1.283E-05	12.35	4.64	0.1229	0.1157
48	2.841E-05	12.35	4.64	0.2722	0.2383
72	5.602E-05	12.35	4.64	0.5368	0.4154
96	9.697E-05	12.35	4.64	0.9292	0.6051
240	3.670E-04	12.35	4.64	3.5166	0.9703
480	4.366E-04	12.35	4.64	4.1835	0.9848
720					

A From Table 22

B & C From Tables 20 & 21

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

**Table 27**  
**Elemental Iodine Resuspension Rate - MSIV Leakage**

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

$$\text{Resuspension Rate (sec)}^{-1} = 2.32 (\pm 2.00) \times 10^{-5} e^{-600/T} = 4.32 \times 10^{-5} e^{-600/T}$$

$$\text{Resuspension Rate (hr)}^{-1} = 4.32 \times 3600 \times 10^{-5} e^{-600/T}$$

$$E = 1 - \exp(-\text{resuspension rate} * 1 \text{ hour})$$

**Table 28**  
**Net Elemental Iodine Removal Efficiency - MSIV Failed Line**  
**Volume V<sub>1</sub>**

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

A From Table 23

B From Table 27

$C = [A - (A*B)] * 100\%$

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

**Table 29**  
**Net Elemental Iodine Removal Efficiency - Intact Steam Line Volume**  
**V<sub>2</sub>**

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

A From Table 24

B From Table 27

C = [A - (A\*B)] \* 100%

**Table 30**  
**Net Elemental Iodine Removal Efficiency - Intact Steam Line Volume V<sub>3</sub> & V<sub>5</sub>**

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

A From Table 25

B From Table 27

C = [A - (A\*B)] \* 100%



**Table 31**  
**Net Elemental Iodine Removal Efficiency - Intact Steam Line Volume**  
**V<sub>4</sub>**

<b>Post-LOCA Time  (hr)</b>	<b>Temp Degree  (F)</b>	<b>Elemental Iodine Deposition Efficiency  A</b>	<b>Elemental Iodine Resuspension Efficiency  B</b>	<b>Elemental Iodine Net Deposition Efficiency (%)  C</b>
0	557.9	0.0501	0.0524	4.75%
8	500.6	0.0668	0.0493	6.35%
24	405.9	0.1157	0.0437	11.06%
48	302.2	0.2383	0.0370	22.95%
72	231.5	0.4154	0.0321	40.20%
96	183.3	0.6051	0.0286	58.78%
240	90.2	0.9703	0.0216	94.93%
480	80.0	0.9848	0.0208	96.43%
720				

A From Table 26

B From Table 27

C = [A - (A\*B)] \* 100%

11.0 FIGURES

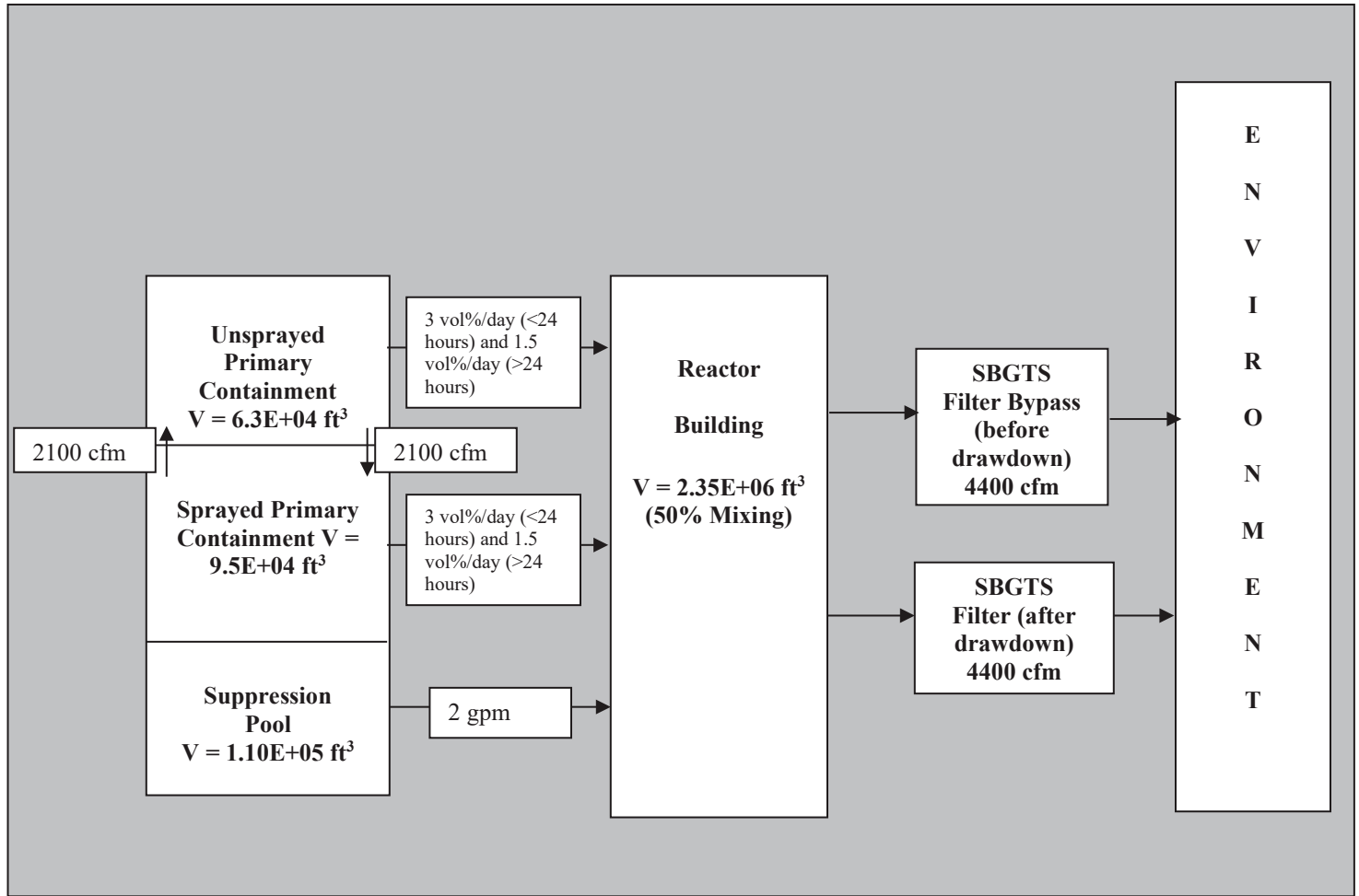


Figure 1: Containment & ESF Leakage RADTRAD Nodalization

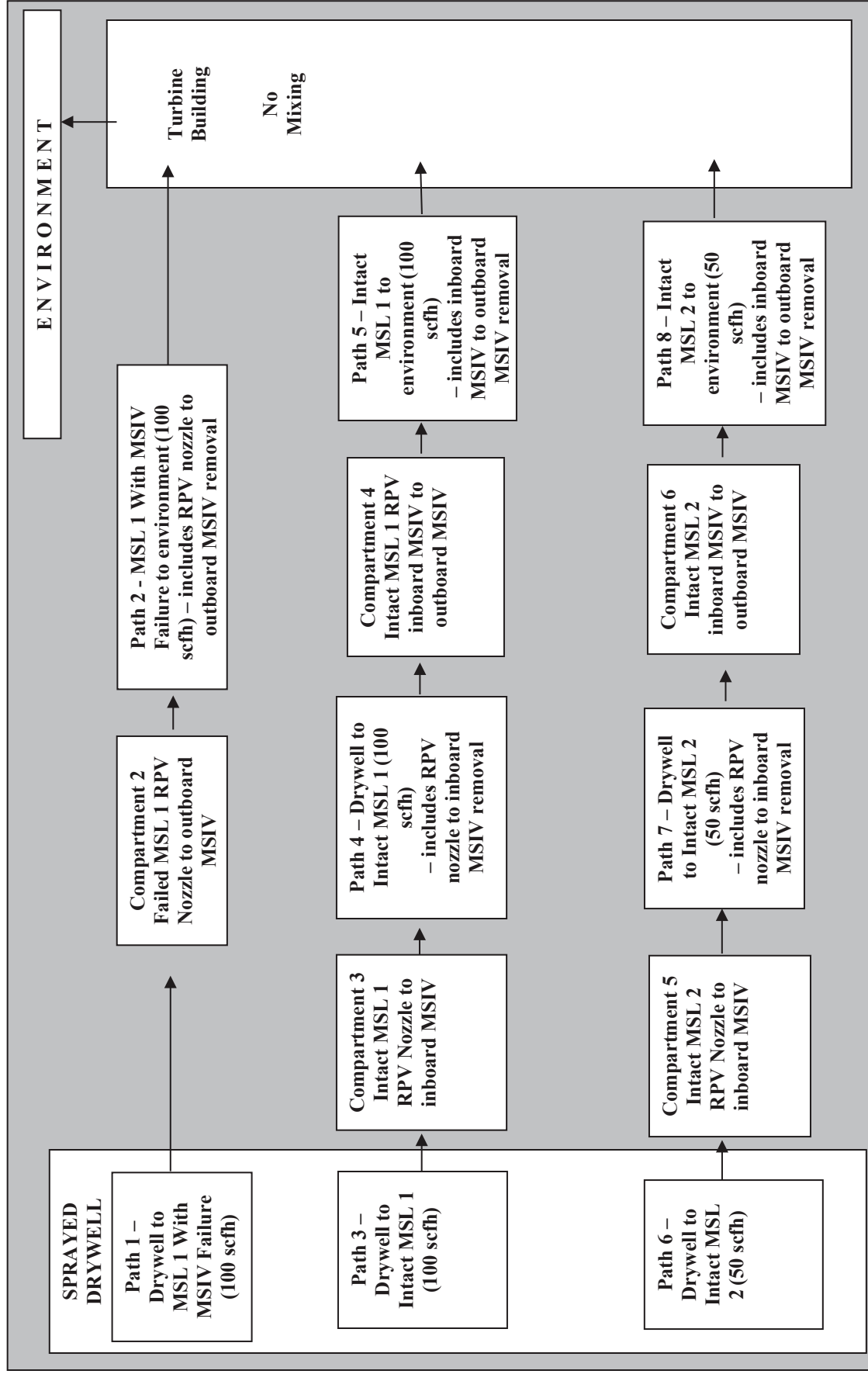


Figure 2: MSIV Leakage RADTRAD Nodalization

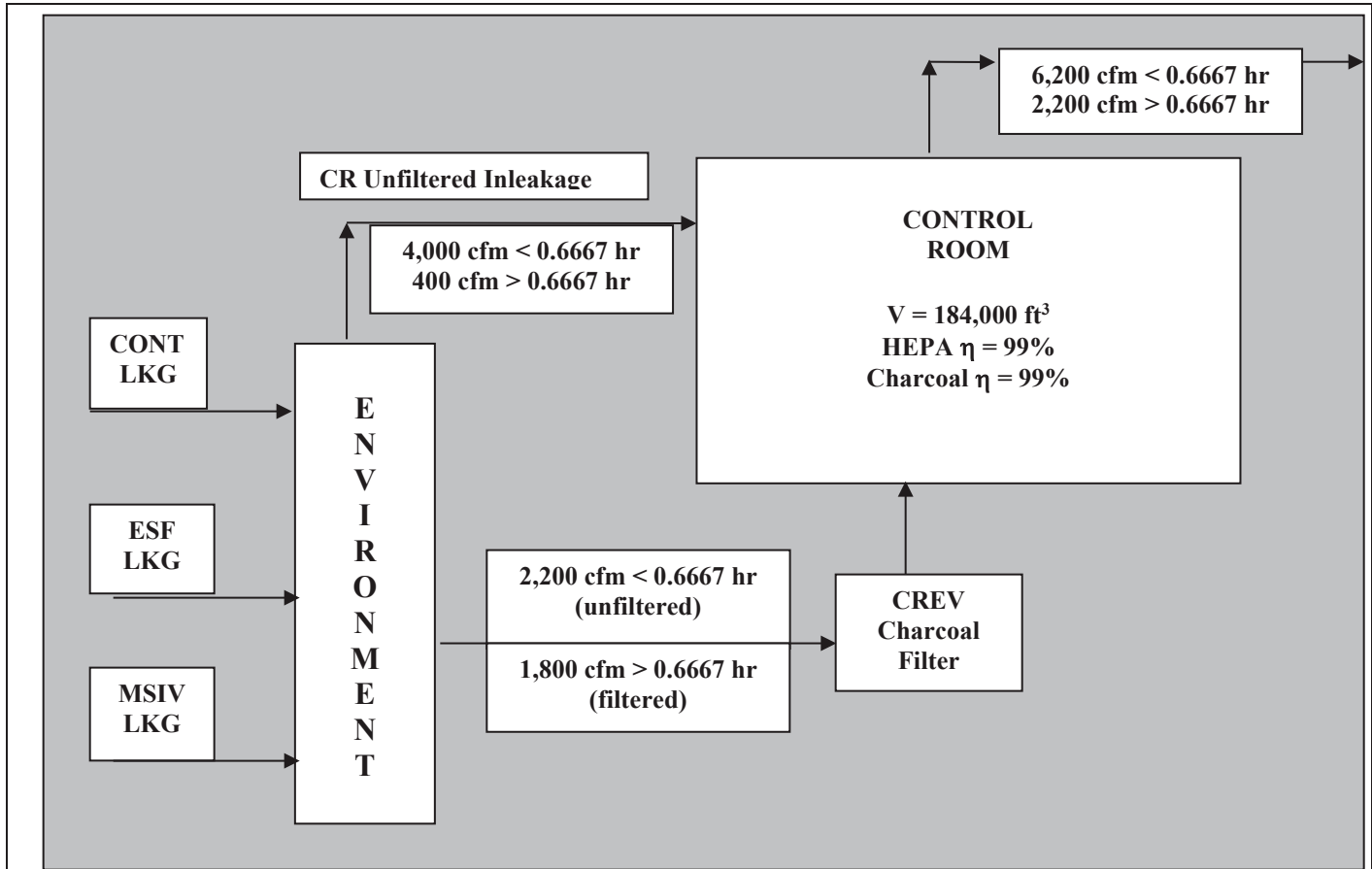
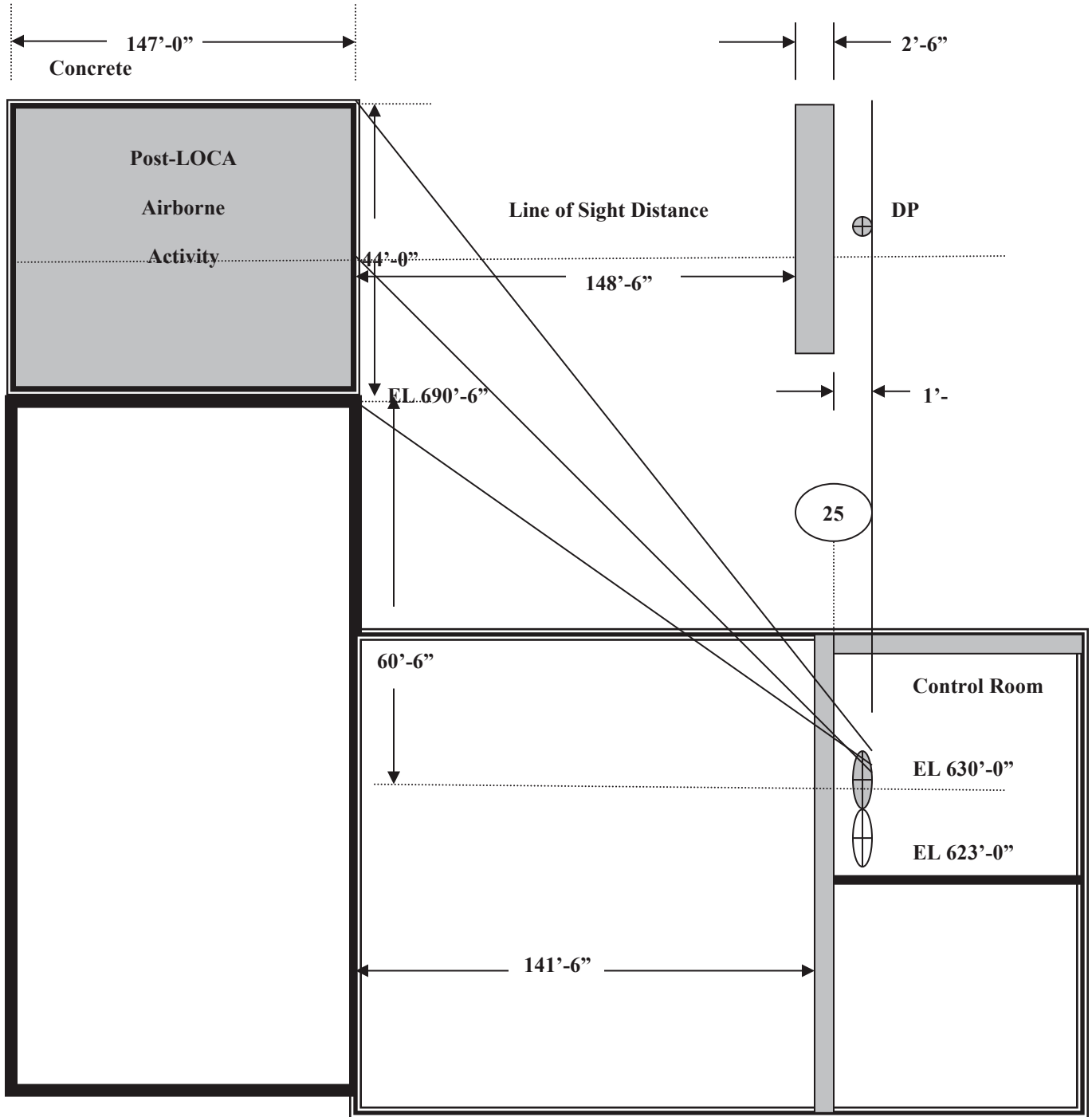
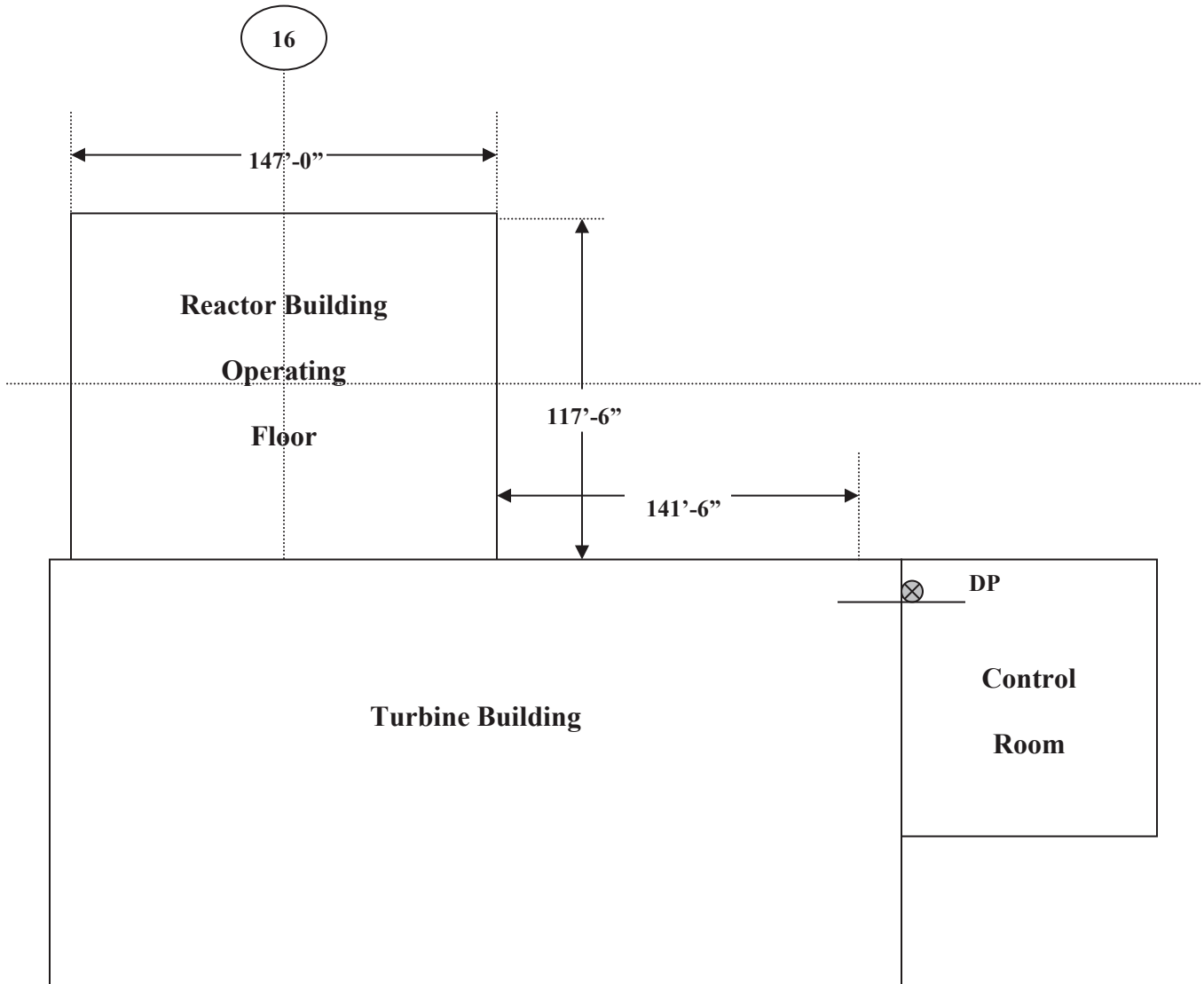


Figure 3 –QCNPS Control Room RADTRAD Nodalization



DP = Dose Point

Figure 4: Elevation View of Containment Shine Shielding Geometry



**Figure 5: Plan View of Containment Shine Shielding Geometry**

## 12.0 AFFECTED DOCUMENTS

Upon approval of this calculation, the following documents should be reviewed:

1. QDC UFSAR Section 15.6.5.5.1 – 15.6.5.5.5, Revision 9, October 2007
2. QDC UFSAR Table 15.6-5b, “Reactor Building Isotopic Core Inventory (Ci/MWt) (Alternative Source Term),” Revision 9, October 2007
3. QDC UFSAR Table 15.6-7, “Loss-of-Coolant Accident Input Parameters For Control Room Dose Analysis,” Revision 9, October 2007
4. QDC UFSAR Table 15.6-8a, “Loss-of-Coolant Accident EAB, LPZ, and Control Room Dose following EPU (Alternative Source Term),” Revision 9, October 2007

## 13.0 ATTACHMENTS

Attachment 13.1 - RADTRAD Output File “QDC39CL02.o0”

Attachment 13.2 - RADTRAD Output File “QDC39ESF02.o0”

Attachment 13.3 - RADTRAD Output File “QDC39MS03.o0”

Attachment 13.4 - RADTRAD Output File “QDC39MS03\_spray.o0”

Attachment 13.5 - RADTRAD Output File “QDC39MS33.o0”

Attachment 13.6 - RADTRAD Nuclide Inventory File “DQLOCA\_ATRIUM\_DEF.nif”

Attachment 13.7 - RADTRAD Release Fraction and Timing File “bwr\_dba.rft”

Attachment 13.8 - MicroShield Output Files “QA[667, 2, 4, 8, 16, & 24].MSD”

Attachment 13.9 - RADTRAD Output File “QDC39MS03\_spray\_sens.o0”

Attachment 13.10 - Sprayco Data Sheet No. 11825-8

Appendix A - Westinghouse SVEA-96 Optima 2 core inventory

Appendix B - Evaluation of 350 scfh MSIV leakage for Unit 2

## Attachment 13.1 - RADTRAD Output File "QDC39CL02.o0"

```
#####
RADTRAD Version 3.03 (Spring 2001) run on 2/04/2020 at 8:06:24
#####
```

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

```
Plant file          = C:\Users\jhead\Desktop\RADTRAD\Rev4\QDC39CL02.psf
Inventory file      = C:\Users\jhead\Desktop\RADTRAD\DQLOCA_ATRIUM_DEF.nif
Release file        = c:\users\jhead\desktop\radtrad\rev2_files\bwr_dba.rft
Dose Conversion file =
c:\users\jhead\desktop\radtrad\rev2_files\fgr11&12.inp
```

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

Radtrad 3.03 4/15/2001

Quad Cities Containment Leakage - Optima Fuel With 39 GWD/MTU, Containment Leakage = 3 %/day and 1.5%/day after 24 hours, CREV Intiated @ 40 Minutes, and CR Unfiltered Inleakage = 4,000 cfm < 0.6667 hrs and 400 cfm >0.6667 hrs

Nuclide Inventory File:

C:\Users\jhead\Desktop\RADTRAD\DQLOCA\_ATRIUM\_DEF.nif

Plant Power Level:

3.0161E+03

Compartments:

5

Compartment 1:

Sprayed Drywell

3

9.5000E+04

1

0

0

0

0

Compartment 2:

Reactor Building

3

2.3500E+06

0

0

0



0  
0

Compartment 3:

Environment

2

0.0000E+00

0

0

0

0

0

Compartment 4:

Control Room

1

1.8400E+05

0

0

0

0

0

Compartment 5:

Unsprayed Drywell

3

6.3000E+04

0

0

0

0

0

Pathways:

8

Pathway 1:

Sprayed Drywell to Reactor Building

1

2

4

Pathway 2:

Reactor Building to Environment

2

3

2

Pathway 3:

Filtered Intake to Control Room

3

4

2

Pathway 4:

Unfiltered Inleakage to Control Room

3

4

2

Pathway 5:

Control Room Exhaust to Environment

4

3

2

Pathway 6:

Sprayed Drywell to Unsprayed Drywell

1

5

2

Pathway 7:

Unsprayed Drywell to Sprayed Drywell

5

1

2

Pathway 8:

Unsprayed Drywell to Reactor Building

5

2

4

End of Plant Model File

Scenario Description Name:

Plant Model Filename:

Source Term:

1

1 1.0000E+00

c:\users\jhead\desktop\radtrad\rev2\_files\fgr11&12.inp

c:\users\jhead\desktop\radtrad\rev2\_files\bwr\_dba.rft

0.0000E+00

1

9.5000E-01 4.8500E-02 1.5000E-03 1.0000E+00

Overlying Pool:

0

0.0000E+00

0

0

0

0

Compartments:

5

Compartment 1:

1

1

1

0.0000E+00

6

0.0000E+00 0.0000E+00

1.6670E-01 1.5000E+01

2.2000E+00 1.5000E+00

2.3000E+00 1.5000E+00

4.0000E+00 0.0000E+00

7.2000E+02 0.0000E+00

1

0.0000E+00

6

0.0000E+00 0.0000E+00

1.6670E-01 1.5000E+01

2.2000E+00 1.5000E+01

2.3000E+00 0.0000E+00

4.0000E+00 0.0000E+00

7.2000E+02 0.0000E+00

1  
0.0000E+00  
0  
0  
0  
0  
0

Compartment 2:

1  
1  
0  
0  
0  
0  
0  
0  
0

Compartment 3:

0  
1  
0  
0  
0  
0  
0  
0  
0

Compartment 4:

0  
1  
0  
0  
0  
0  
0  
0  
0

Compartment 5:

0  
1  
0  
0  
0  
0  
0  
0

Pathways:

8

Pathway 1:

0  
0  
0  
0  
0  
0  
0

0  
 0  
 0  
 1  
 4  
 0.0000E+00    0.0000E+00  
 3.3300E-02    3.0000E+00  
 2.4000E+01    1.5000E+00  
 7.2000E+02    0.0000E+00  
 0

Pathway 2:

0  
 0  
 0  
 0  
 0  
 1  
 4  
 0.0000E+00    0.0000E+00    0.0000E+00    0.0000E+00    0.0000E+00  
 3.3300E-02    4.4000E+03    0.0000E+00    0.0000E+00    0.0000E+00  
 4.1700E-01    4.4000E+03    9.8000E+01    9.0000E+01    9.0000E+01  
 7.2000E+02    0.0000E+00    0.0000E+00    0.0000E+00    0.0000E+00  
 0  
 0  
 0  
 0  
 0  
 0

Pathway 3:

0  
 0  
 0  
 0  
 0  
 1  
 10  
 0.0000E+00    0.0000E+00    0.0000E+00    0.0000E+00    0.0000E+00  
 3.3300E-02    2.2000E+03    0.0000E+00    0.0000E+00    0.0000E+00  
 6.6670E-01    1.8000E+03    9.9000E+01    9.9000E+01    9.9000E+01  
 2.0000E+00    1.8000E+03    9.9000E+01    9.9000E+01    9.9000E+01  
 4.0000E+00    1.8000E+03    9.9000E+01    9.9000E+01    9.9000E+01  
 8.0000E+00    1.8000E+03    9.9000E+01    9.9000E+01    9.9000E+01  
 1.6000E+01    1.8000E+03    9.9000E+01    9.9000E+01    9.9000E+01  
 2.4000E+01    1.8000E+03    9.9000E+01    9.9000E+01    9.9000E+01  
 4.8000E+01    1.8000E+03    9.9000E+01    9.9000E+01    9.9000E+01  
 7.2000E+02    0.0000E+00    0.0000E+00    0.0000E+00    0.0000E+00  
 0  
 0  
 0  
 0  
 0  
 0  
 0

Pathway 4:

0  
 0  
 0  
 0

0				
1				
10				
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	4.0000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
4.0000E+00	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
8.0000E+00	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
1.6000E+01	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
4.8000E+01	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

0  
0  
0  
0  
0  
0

Pathway 5:

0				
0				
0				
0				
0				
1				
10				
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	6.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
4.0000E+00	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
8.0000E+00	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
1.6000E+01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
4.8000E+01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

0  
0  
0  
0  
0  
0

Pathway 6:

0				
0				
0				
0				
0				
1				
2				
0.0000E+00	2.1000E+03	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

0  
0  
0  
0

0

0

Pathway 7:

0

0

0

0

0

1

2

0.0000E+00 2.1000E+03 0.0000E+00 0.0000E+00 0.0000E+00

7.2000E+02 0.0000E+00 0.0000E+00 0.0000E+00 0.0000E+00

0

0

0

0

0

0

Pathway 8:

0

0

0

0

0

0

0

0

0

0

1

4

0.0000E+00 0.0000E+00

3.3300E-02 3.0000E+00

2.4000E+01 1.5000E+00

7.2000E+02 0.0000E+00

0

Dose Locations:

3

Location 1:

Exclusion Area Boundary

3

1

4

0.0000E+00 1.3600E-03

4.1700E-01 1.5700E-04

5.0000E-01 6.3800E-06

7.2000E+02 0.0000E+00

1

2

0.0000E+00 3.5000E-04

7.2000E+02 0.0000E+00

0

Location 2:

Low Population Zone

3

1

8

0.0000E+00	1.0400E-04
4.1700E-01	3.0100E-05
5.0000E-01	2.0500E-05
2.0000E+00	8.7600E-06
8.0000E+00	5.7300E-06
2.4000E+01	2.2800E-06
9.6000E+01	6.0700E-07
7.2000E+02	0.0000E+00

1

4

0.0000E+00	3.5000E-04
8.0000E+00	1.8000E-04
2.4000E+01	2.3000E-04
7.2000E+02	0.0000E+00

0

Location 3:

Control Room

4

0

1

2

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

1

4

0.0000E+00	1.0000E+00
2.4000E+01	6.0000E-01
9.6000E+01	4.0000E-01
7.2000E+02	0.0000E+00

Effective Volume Location:

1

7

0.0000E+00	5.8200E-04
4.1700E-01	5.8400E-06
2.0000E+00	2.6800E-06
8.0000E+00	1.8100E-06
2.4000E+01	7.7700E-07
9.6000E+01	2.3000E-07
7.2000E+02	0.0000E+00

Simulation Parameters:

8

0.0000E+00	1.0000E-02
4.1700E-01	1.0000E-02
2.0000E+00	1.0000E-01
4.0000E+00	1.0000E+00
8.0000E+00	2.0000E+00
2.4000E+01	4.0000E+00
9.6000E+01	8.0000E+00
7.2000E+02	0.0000E+00

Output Filename:

C:\Users\jhead\Desktop\RADTRAD\QDC39CL02.o0

1

1

1

0

0

End of Scenario File





#####  
 RADTRAD Version 3.03 (Spring 2001) run on 2/04/2020 at 8:06:24  
 #####

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

Number of Nuclides = 60

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

Number of compartments = 5

Compartment information

Compartment number 1 (Source term fraction = 1.0000E+00  
 )

Name: Sprayed Drywell

Compartment volume = 9.5000E+04 (Cubic feet)

Compartment type is Normal

Removal devices within compartment:

Spray(s)

Pathways into and out of compartment 1

Inlet Pathway Number 7: Unsprayed Drywell to Sprayed Drywell

Exit Pathway Number 1: Sprayed Drywell to Reactor Building

Exit Pathway Number 6: Sprayed Drywell to Unsprayed Drywell

Compartment number 2

Name: Reactor Building

Compartment volume = 2.3500E+06 (Cubic feet)

Compartment type is Normal

Pathways into and out of compartment 2

Inlet Pathway Number 1: Sprayed Drywell to Reactor Building

Inlet Pathway Number 8: Unsprayed Drywell to Reactor Building

Exit Pathway Number 2: Reactor Building to Environment

Compartment number 3

Name: Environment

Compartment type is Environment

Pathways into and out of compartment 3

Inlet Pathway Number 2: Reactor Building to Environment

Inlet Pathway Number 5: Control Room Exhaust to Environment

Exit Pathway Number 3: Filtered Intake to Control Room

Exit Pathway Number 4: Unfiltered Inleakage to Control Room

Compartment number 4

Name: Control Room

Compartment volume = 1.8400E+05 (Cubic feet)

Compartment type is Control Room

Pathways into and out of compartment 4

Inlet Pathway Number 3: Filtered Intake to Control Room

Inlet Pathway Number 4: Unfiltered Inleakage to Control Room

Exit Pathway Number 5: Control Room Exhaust to Environment

Compartment number 5

Name: Unsprayed Drywell

Compartment volume = 6.3000E+04 (Cubic feet)

Compartment type is Normal

Pathways into and out of compartment 5

Inlet Pathway Number 6: Sprayed Drywell to Unsprayed Drywell

Exit Pathway Number 7: Unsprayed Drywell to Sprayed Drywell

Exit Pathway Number 8: Unsprayed Drywell to Reactor Building

Total number of pathways = 8

#####  
 RADTRAD Version 3.03 (Spring 2001) run on 2/04/2020 at 8:06:24  
 #####

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

Radioactive Decay is enabled  
 Calculation of Daughters is enabled

Release Fractions and Timings

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

Inventory Power = 3016. MWt

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

Te-129	4	8.222E+03	4.176E+03	2.750E-15	5.090E-13	2.090E-11
Te-129m	4	1.664E+03	2.903E+06	3.337E-15	1.563E-10	6.484E-09
Te-131m	4	5.404E+03	1.080E+05	7.463E-14	3.669E-08	1.758E-09
Te-132	4	3.813E+04	2.815E+05	1.030E-14	6.280E-08	2.550E-09
I-131	2	2.666E+04	6.947E+05	1.820E-14	2.920E-07	8.890E-09
I-132	2	3.879E+04	8.280E+03	1.120E-13	1.740E-09	1.030E-10
I-133	2	5.504E+04	7.488E+04	2.940E-14	4.860E-08	1.580E-09
I-134	2	6.100E+04	3.156E+03	1.300E-13	2.880E-10	3.550E-11
I-135	2	5.238E+04	2.380E+04	8.294E-14	8.460E-09	3.320E-10
Xe-133	1	5.272E+04	4.532E+05	1.560E-15	0.000E+00	0.000E+00
Xe-135	1	1.787E+04	3.272E+04	1.190E-14	0.000E+00	0.000E+00
Cs-134	3	6.730E+03	6.507E+07	7.570E-14	1.110E-08	1.250E-08
Cs-136	3	1.837E+03	1.132E+06	1.060E-13	1.730E-09	1.980E-09
Cs-137	3	5.338E+03	9.467E+08	2.725E-14	7.930E-09	8.630E-09
Ba-139	6	4.841E+04	4.962E+03	2.170E-15	2.400E-12	4.640E-11
Ba-140	6	4.874E+04	1.101E+06	8.580E-15	2.560E-10	1.010E-09
La-140	9	5.205E+04	1.450E+05	1.170E-13	6.870E-11	1.310E-09
La-141	9	4.443E+04	1.415E+04	2.390E-15	9.400E-12	1.570E-10
La-142	9	4.343E+04	5.550E+03	1.440E-13	8.740E-12	6.840E-11
Ce-141	8	4.476E+04	2.808E+06	3.430E-15	2.550E-11	2.420E-09
Ce-143	8	4.178E+04	1.188E+05	1.290E-14	6.230E-12	9.160E-10
Ce-144	8	3.846E+04	2.456E+07	2.773E-15	2.920E-10	1.010E-07
Pr-143	9	4.045E+04	1.172E+06	2.100E-17	1.680E-18	2.190E-09
Nd-147	9	1.800E+04	9.487E+05	6.190E-15	1.820E-11	1.850E-09
Np-239	8	5.272E+05	2.035E+05	7.690E-15	7.620E-12	6.780E-10
Pu-238	8	1.379E+02	2.769E+09	4.880E-18	3.860E-10	7.790E-05
Pu-239	8	1.303E+01	7.594E+11	4.240E-18	3.750E-10	8.330E-05
Pu-240	8	2.387E+01	2.063E+11	4.750E-18	3.760E-10	8.330E-05
Pu-241	8	5.272E+03	4.544E+08	7.250E-20	9.150E-12	1.340E-06
Am-241	9	8.653E+00	1.364E+10	8.180E-16	1.600E-09	1.200E-04
Cm-242	9	2.202E+03	1.407E+07	5.690E-18	9.410E-10	4.670E-06
Cm-244	9	1.280E+02	5.715E+08	4.910E-18	1.010E-09	6.700E-05

Nuclide	Daughter	Fraction	Daughter	Fraction	Daughter	Fraction
Kr-85m	Kr-85	0.21	none	0.00	none	0.00
Kr-87	Rb-87	1.00	none	0.00	none	0.00
Kr-88	Rb-88	1.00	none	0.00	none	0.00
Sr-90	Y-90	1.00	none	0.00	none	0.00
Sr-91	Y-91m	0.58	Y-91	0.42	none	0.00
Sr-92	Y-92	1.00	none	0.00	none	0.00
Y-93	Zr-93	1.00	none	0.00	none	0.00
Zr-95	Nb-95m	0.01	Nb-95	0.99	none	0.00
Zr-97	Nb-97m	0.95	Nb-97	0.05	none	0.00
Mo-99	Tc-99m	0.88	Tc-99	0.12	none	0.00
Tc-99m	Tc-99	1.00	none	0.00	none	0.00
Ru-103	Rh-103m	1.00	none	0.00	none	0.00
Ru-105	Rh-105	1.00	none	0.00	none	0.00
Ru-106	Rh-106	1.00	none	0.00	none	0.00
Sb-127	Te-127m	0.18	Te-127	0.82	none	0.00
Sb-129	Te-129m	0.22	Te-129	0.77	none	0.00
Te-127m	Te-127	0.98	none	0.00	none	0.00
Te-129	I-129	1.00	none	0.00	none	0.00
Te-129m	Te-129	0.65	I-129	0.35	none	0.00
Te-131m	Te-131	0.22	I-131	0.78	none	0.00
Te-132	I-132	1.00	none	0.00	none	0.00
I-131	Xe-131m	0.01	none	0.00	none	0.00
I-133	Xe-133m	0.03	Xe-133	0.97	none	0.00

I-135	Xe-135m	0.15	Xe-135	0.85	none	0.00
Xe-135	Cs-135	1.00	none	0.00	none	0.00
Cs-137	Ba-137m	0.95	none	0.00	none	0.00
Ba-140	La-140	1.00	none	0.00	none	0.00
La-141	Ce-141	1.00	none	0.00	none	0.00
Ce-143	Pr-143	1.00	none	0.00	none	0.00
Ce-144	Pr-144m	0.02	Pr-144	0.98	none	0.00
Nd-147	Pm-147	1.00	none	0.00	none	0.00
Np-239	Pu-239	1.00	none	0.00	none	0.00
Pu-238	U-234	1.00	none	0.00	none	0.00
Pu-239	U-235	1.00	none	0.00	none	0.00
Pu-240	U-236	1.00	none	0.00	none	0.00
Pu-241	U-237	0.00	Am-241	1.00	none	0.00
Am-241	Np-237	1.00	none	0.00	none	0.00
Cm-242	Pu-238	1.00	none	0.00	none	0.00
Cm-244	Pu-240	1.00	none	0.00	none	0.00

## Iodine fractions

Aerosol	=	9.5000E-01
Elemental	=	4.8500E-02
Organic	=	1.5000E-03

## COMPARTMENT DATA

Compartment number 1: Sprayed Drywell

## Sprays: Aerosol Removal Data

Time (hr)	Removal Coef. (hr <sup>-1</sup> )
0.0000E+00	0.0000E+00
1.6670E-01	1.5000E+01
2.2000E+00	1.5000E+00
2.3000E+00	1.5000E+00
4.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00

## Sprays: Elemental Removal Data

Time (hr)	Removal Coef. (hr <sup>-1</sup> )
0.0000E+00	0.0000E+00
1.6670E-01	1.5000E+01
2.2000E+00	1.5000E+01
2.3000E+00	0.0000E+00
4.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00

Compartment number 2: Reactor Building

Compartment number 3: Environment

Compartment number 4: Control Room

Compartment number 5: Unsprayed Drywell

## PATHWAY DATA

Pathway number 1: Sprayed Drywell to Reactor Building

## Convection Data

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

Pathway number 2: Reactor Building to Environment

Pathway Filter: Removal Data

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

Pathway number 3: Filtered Intake to Control Room

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
2.0000E+00	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
4.0000E+00	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
8.0000E+00	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
1.6000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
2.4000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
4.8000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 4: Unfiltered Inleakage to Control Room

Pathway Filter: Removal Data

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

Pathway number 5: Control Room Exhaust to Environment

Pathway Filter: Removal Data

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

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	6.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
4.0000E+00	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
8.0000E+00	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
1.6000E+01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
4.8000E+01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 6: Sprayed Drywell to Unsprayed Drywell

Pathway Filter: Removal Data

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

Pathway number 7: Unsprayed Drywell to Sprayed Drywell

Pathway Filter: Removal Data

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

Pathway number 8: Unsprayed Drywell to Reactor Building

Convection Data

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

LOCATION DATA

Location Exclusion Area Boundary is in compartment 3

Location X/Q Data

Time (hr)	X/Q (s * m^-3)
0.0000E+00	1.3600E-03
4.1700E-01	1.5700E-04
5.0000E-01	6.3800E-06
7.2000E+02	0.0000E+00

Location Breathing Rate Data

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

Location Low Population Zone is in compartment 3

Location X/Q Data

Time (hr)	X/Q (s * m^-3)
0.0000E+00	1.0400E-04

4.1700E-01	3.0100E-05
5.0000E-01	2.0500E-05
2.0000E+00	8.7600E-06
8.0000E+00	5.7300E-06
2.4000E+01	2.2800E-06
9.6000E+01	6.0700E-07
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
8.0000E+00	1.8000E-04
2.4000E+01	2.3000E-04
7.2000E+02	0.0000E+00

Location Control Room is in compartment 4

## Location X/Q Data

Time (hr)	X/Q (s * m <sup>-3</sup> )
0.0000E+00	5.8200E-04
4.1700E-01	5.8400E-06
2.0000E+00	2.6800E-06
8.0000E+00	1.8100E-06
2.4000E+01	7.7700E-07
9.6000E+01	2.3000E-07
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 Occupancy Factor Data

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

## USER SPECIFIED TIME STEP DATA - SUPPLEMENTAL TIME STEPS

Time	Time step
0.0000E+00	1.0000E-02
4.1700E-01	1.0000E-02
2.0000E+00	1.0000E-01
4.0000E+00	1.0000E+00
8.0000E+00	2.0000E+00
2.4000E+01	4.0000E+00
9.6000E+01	8.0000E+00
7.2000E+02	0.0000E+00



#####  
 RADTRAD Version 3.03 (Spring 2001) run on 2/04/2020 at 8:06:24  
 #####

```

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

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

Exclusion Area Boundary Doses:

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

Low Population Zone Doses:

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

Control Room Doses:

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

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =	0.0333	Ci	kg	Atoms	Decay
------------	--------	----	----	-------	-------

Sprayed Drywell Transport Group Inventory:

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

Sprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) =	0.0333	Leakage Transport
------------	--------	-------------------

Noble gases (atoms)	0.0000E+00
---------------------	------------

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

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

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

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

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

Reactor Building Compartment Nuclide Inventory:

Time (h) = 0.0333	Ci	kg	Atoms	Decay
-------------------	----	----	-------	-------

Reactor Building Transport Group Inventory:

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

Sprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 0.0333 Leakage Transport

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

Reactor Building to Environment Transport Group Inventory:

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

Unsprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 0.0333 Leakage Transport

Noble gases (atoms)	0.0000E+00
---------------------	------------

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

## Exclusion Area Boundary Doses:

Time (h) =	0.1667	Whole Body	Thyroid	TEDE
Delta dose (rem)		3.1423E-03	5.6963E-01	2.7833E-02
Accumulated dose (rem)		3.1423E-03	5.6963E-01	2.7833E-02

## Low Population Zone Doses:

Time (h) =	0.1667	Whole Body	Thyroid	TEDE
Delta dose (rem)		2.4029E-04	4.3560E-02	2.1284E-03
Accumulated dose (rem)		2.4029E-04	4.3560E-02	2.1284E-03

## Control Room Doses:

Time (h) =	0.1667	Whole Body	Thyroid	TEDE
Delta dose (rem)		5.0155E-06	1.7777E-02	7.7558E-04
Accumulated dose (rem)		5.0155E-06	1.7777E-02	7.7558E-04

## Sprayed Drywell Compartment Nuclide Inventory:

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

## Sprayed Drywell Transport Group Inventory:

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

## Sprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) =	0.1667	Leakage Transport
------------	--------	-------------------

Noble gases (atoms)	4.4726E+19
Elemental I (atoms)	2.9582E+17
Organic I (atoms)	9.1489E+15

Aerosols (kg) 3.1387E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

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

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

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

Reactor Building Compartment Nuclide Inventory:

Time (h) = 0.1667	Ci	kg	Atoms	Decay
Kr-85	2.2710E+00	5.7885E-06	4.1011E+19	1.7201E+13
Kr-85m	3.2956E+01	4.0046E-09	2.8372E+16	2.5115E+14
Kr-87	6.1909E+01	2.1856E-09	1.5129E+16	4.7921E+14
Kr-88	9.0403E+01	7.2096E-09	4.9338E+16	6.9140E+14
Rb-86	2.5522E-01	3.1366E-09	2.1964E+16	1.9332E+12
I-131	1.3320E+02	1.0745E-06	4.9393E+18	1.0091E+15
I-132	1.8737E+02	1.8153E-08	8.2816E+16	1.4316E+15
I-133	2.7365E+02	2.4157E-07	1.0938E+18	2.0755E+15
I-134	2.6735E+02	1.0022E-08	4.5039E+16	2.0899E+15
I-135	2.5738E+02	7.3288E-08	3.2693E+17	1.9576E+15
Xe-133	2.6357E+02	1.4081E-06	6.3758E+18	1.9963E+15
Xe-135	9.1012E+01	3.5639E-08	1.5898E+17	6.8580E+14
Cs-134	3.3651E+01	2.6009E-05	1.1689E+20	2.5488E+14
Cs-136	9.1803E+00	1.2526E-07	5.5465E+17	6.9541E+13
Cs-137	2.6689E+01	3.0683E-04	1.3487E+21	2.0215E+14

Reactor Building Transport Group Inventory:

Time (h) = 0.1667	Atmosphere	Sump	
Noble gases (atoms)	4.7638E+19	0.0000E+00	
Elemental I (atoms)	3.1466E+17	0.0000E+00	
Organic I (atoms)	9.7319E+15	0.0000E+00	
Aerosols (kg)	3.3431E-04	0.0000E+00	
Dose Effective (Ci/cc) I-131 (Thyroid)			2.8190E-09
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			3.5928E-09
Total I (Ci)			1.1190E+03

Sprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 0.1667 Leakage Transport

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

## Reactor Building to Environment Transport Group Inventory:

	Pathway	
Time (h) =	0.1667	
	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.7803E+17
Elemental I (atoms)	0.0000E+00	1.8382E+15
Organic I (atoms)	0.0000E+00	5.6851E+13
Aerosols (kg)	0.0000E+00	1.9511E-06

## Unsprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 0.1667 Leakage Transport

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

## Exclusion Area Boundary Doses:

Time (h) =	0.4170	Whole Body	Thyroid	TEDE
Delta dose (rem)		3.2116E-02	5.7642E+00	2.8194E-01
Accumulated dose (rem)		3.5258E-02	6.3338E+00	3.0977E-01

## Low Population Zone Doses:

Time (h) =	0.4170	Whole Body	Thyroid	TEDE
Delta dose (rem)		2.4559E-03	4.4079E-01	2.1560E-02
Accumulated dose (rem)		2.6962E-03	4.8435E-01	2.3689E-02

## Control Room Doses:

Time (h) =	0.4170	Whole Body	Thyroid	TEDE
Delta dose (rem)		1.4976E-04	5.4480E-01	2.3764E-02
Accumulated dose (rem)		1.5477E-04	5.6258E-01	2.4540E-02

## Sprayed Drywell Compartment Nuclide Inventory:

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

## Sprayed Drywell Transport Group Inventory:

Time (h) =	0.4170	Atmosphere	Sump
Noble gases (atoms)		9.7854E+23	0.0000E+00

Elemental I (atoms)	1.2519E+21	6.0595E+21
Organic I (atoms)	1.9896E+20	0.0000E+00
Aerosols (kg)	1.3360E+00	6.4495E+00
Dose Effective (Ci/cc) I-131 (Thyroid)		2.7934E-04
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)		3.5434E-04
Total I (Ci)		4.2758E+06

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

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

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

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

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

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

Reactor Building Compartment Nuclide Inventory:

Time (h) = 0.4170	Ci	kg	Atoms	Decay
Kr-85	1.4566E+01	3.7126E-05	2.6303E+20	2.7713E+14
Kr-85m	2.0334E+02	2.4709E-08	1.7506E+17	3.9319E+15
Kr-87	3.4643E+02	1.2230E-08	8.4658E+16	6.9826E+15
Kr-88	5.4546E+02	4.3500E-08	2.9769E+17	1.0647E+16
Rb-86	7.7351E-01	9.5063E-09	6.6568E+16	2.0177E+13
I-131	4.0419E+02	3.2603E-06	1.4988E+19	1.0537E+16
I-132	5.3989E+02	5.2304E-08	2.3862E+17	1.4439E+16
I-133	8.2417E+02	7.2755E-07	3.2943E+18	2.1565E+16
I-134	6.6615E+02	2.4971E-08	1.1222E+17	1.9189E+16
I-135	7.6140E+02	2.1681E-07	9.6715E+17	2.0101E+16
Xe-133	1.6896E+03	9.0265E-06	4.0871E+19	3.2155E+16
Xe-135	5.8871E+02	2.3053E-07	1.0284E+18	1.1175E+16
Cs-134	1.0203E+02	7.8856E-05	3.5439E+20	2.6609E+15
Cs-136	2.7819E+01	3.7956E-07	1.6807E+18	7.2572E+14
Cs-137	8.0917E+01	9.3028E-04	4.0892E+21	2.1104E+15

Reactor Building Transport Group Inventory:

Time (h) = 0.4170	Atmosphere	Sump
Noble gases (atoms)	3.0549E+20	0.0000E+00
Elemental I (atoms)	9.4901E+17	0.0000E+00
Organic I (atoms)	6.2091E+16	0.0000E+00

Aerosols (kg)	1.0136E-03	0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)		8.5251E-09
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)		1.0800E-08
Total I (Ci)		3.1958E+03

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

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

Reactor Building to Environment Transport Group Inventory:

	Pathway	
Time (h) = 0.4170	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.7330E+18
Elemental I (atoms)	0.0000E+00	2.0408E+16
Organic I (atoms)	0.0000E+00	9.6406E+14
Aerosols (kg)	0.0000E+00	2.1739E-05

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

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

Exclusion Area Boundary Doses:

Time (h) = 0.5000	Whole Body	Thyroid	TEDE
Delta dose (rem)	5.6228E-04	8.3833E-03	9.0873E-04
Accumulated dose (rem)	3.5821E-02	6.3422E+00	3.1068E-01

Low Population Zone Doses:

Time (h) = 0.5000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.0780E-04	1.6072E-03	1.7422E-04
Accumulated dose (rem)	2.8040E-03	4.8596E-01	2.3863E-02

Control Room Doses:

Time (h) = 0.5000	Whole Body	Thyroid	TEDE
Delta dose (rem)	9.0236E-05	3.3090E-01	1.4433E-02
Accumulated dose (rem)	2.4501E-04	8.9348E-01	3.8973E-02

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 0.5000	Ci	kg	Atoms	Decay
Kr-85	5.4480E+04	1.3886E-01	9.8381E+23	1.9669E+18
Kr-85m	7.5084E+05	9.1238E-05	6.4641E+20	2.7854E+19
Kr-87	1.2384E+06	4.3721E-05	3.0263E+20	4.9274E+19
Kr-88	1.9992E+06	1.5944E-04	1.0911E+21	7.5349E+19
Rb-86	1.0072E+03	1.2379E-05	8.6681E+19	8.2198E+16
I-131	5.2943E+05	4.2705E-03	1.9632E+22	4.3005E+19

I-132	7.5096E+05	7.2752E-05	3.3191E+20	6.1175E+19
I-133	1.0767E+06	9.5047E-04	4.3036E+21	8.8141E+19
I-134	8.1724E+05	3.0635E-05	1.3768E+20	8.1625E+19
I-135	9.8881E+05	2.8156E-04	1.2560E+21	8.2448E+19
Xe-133	6.3176E+06	3.3751E-02	1.5282E+23	2.2819E+20
Xe-135	2.1987E+06	8.6099E-04	3.8407E+21	7.9080E+19
Cs-134	1.3287E+05	1.0269E-01	4.6152E+23	1.0839E+19
Cs-136	3.6222E+04	4.9422E-04	2.1884E+21	2.9565E+18
Cs-137	1.0538E+05	1.2115E+00	5.3254E+24	8.5965E+18

## Sprayed Drywell Transport Group Inventory:

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

## Sprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 0.5000 Leakage Transport

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

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

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

## Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

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

## Reactor Building Compartment Nuclide Inventory:

Time (h) =	0.5000	Ci	kg	Atoms	Decay
Kr-85		2.0916E+01	5.3313E-05	3.7771E+20	4.7638E+14
Kr-85m		2.8827E+02	3.5029E-08	2.4817E+17	6.6947E+15
Kr-87		4.7546E+02	1.6786E-08	1.1619E+17	1.1610E+16
Kr-88		7.6757E+02	6.1213E-08	4.1890E+17	1.8029E+16
Rb-86		9.2138E-01	1.1324E-08	7.9294E+16	2.9642E+13
I-131		4.8170E+02	3.8855E-06	1.7862E+19	1.5484E+16
I-132		6.3357E+02	6.1380E-08	2.8003E+17	2.0999E+16
I-133		9.7978E+02	8.6491E-07	3.9162E+18	3.1640E+16



I-134	7.4368E+02	2.7877E-08	1.2528E+17	2.7074E+16
I-135	8.9980E+02	2.5622E-07	1.1429E+18	2.9380E+16
Xe-133	2.4256E+03	1.2958E-05	5.8674E+19	5.5264E+16
Xe-135	8.4477E+02	3.3080E-07	1.4756E+18	1.9222E+16
Cs-134	1.2155E+02	9.3943E-05	4.2219E+20	3.9094E+15
Cs-136	3.3135E+01	4.5210E-07	2.0019E+18	1.0661E+15
Cs-137	9.6399E+01	1.1083E-03	4.8716E+21	3.1005E+15

## Reactor Building Transport Group Inventory:

Time (h) =	0.5000	Atmosphere	Sump	
Noble gases (atoms)	4.3865E+20	0.0000E+00		
Elemental I (atoms)	1.1287E+18	0.0000E+00		
Organic I (atoms)	8.9013E+16	0.0000E+00		
Aerosols (kg)	1.2075E-03	0.0000E+00		
Dose Effective (Ci/cc) I-131 (Thyroid)				1.0149E-08
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)				1.2833E-08
Total I (Ci)				3.7385E+03

## Sprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) =	0.5000	Leakage Transport
------------	--------	-------------------

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

## Reactor Building to Environment Transport Group Inventory:

	Pathway	
Time (h) =	0.5000	Filtered Transported
Noble gases (atoms)	0.0000E+00	8.1840E+18
Elemental I (atoms)	8.7188E+15	2.1376E+16
Organic I (atoms)	6.3081E+14	1.0342E+15
Aerosols (kg)	1.0147E-05	2.1946E-05

## Unsprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) =	0.5000	Leakage Transport
------------	--------	-------------------

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

## Exclusion Area Boundary Doses:

Time (h) =	0.6667	Whole Body	Thyroid	TEDE
Delta dose (rem)	8.0804E-05	8.9790E-04	1.1904E-04	
Accumulated dose (rem)	3.5901E-02	6.3431E+00	3.1080E-01	

## Low Population Zone Doses:

Time (h) =	0.6667	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.5964E-04	2.8851E-03	3.8250E-04	
Accumulated dose (rem)	3.0637E-03	4.8884E-01	2.4245E-02	

## Control Room Doses:

Time (h) =	0.6667	Whole Body	Thyroid	TEDE
Delta dose (rem)		1.3625E-04	5.1727E-01	2.2560E-02
Accumulated dose (rem)		3.8126E-04	1.4108E+00	6.1533E-02

## Sprayed Drywell Compartment Nuclide Inventory:

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

Pr-143	9.4022E+02	1.3963E-05	5.8800E+19	1.5204E+16
Nd-147	4.1765E+02	5.1626E-06	2.1150E+19	6.7556E+15
Np-239	3.0378E+04	1.3094E-04	3.2994E+20	4.9169E+17
Pu-238	8.0130E+00	4.6806E-04	1.1843E+21	1.2959E+14
Pu-239	7.5709E-01	1.2180E-02	3.0691E+22	1.2244E+13
Pu-240	1.3869E+00	6.0866E-03	1.5273E+22	2.2430E+13
Pu-241	3.0627E+02	2.9732E-03	7.4293E+21	4.9532E+15
Am-241	2.0112E-01	5.8598E-05	1.4642E+20	3.2525E+12
Cm-242	5.1156E+01	1.5435E-05	3.8409E+19	8.2732E+14
Cm-244	2.9742E+00	3.6763E-05	9.0733E+19	4.8100E+13

## Sprayed Drywell Transport Group Inventory:

Time (h) =	0.6667	Atmosphere	Sump	
Noble gases (atoms)	3.7754E+24	0.0000E+00		
Elemental I (atoms)	1.9581E+21	1.1958E+22		
Organic I (atoms)	3.5376E+20	0.0000E+00		
Aerosols (kg)	1.8110E+00	1.2256E+01		
Dose Effective (Ci/cc) I-131 (Thyroid)			4.3759E-04	
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			5.5272E-04	
Total I (Ci)			6.4239E+06	

## Sprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) =	0.6667	Leakage Transport		
------------	--------	-------------------	--	--

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

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

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

## Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

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

## Reactor Building Compartment Nuclide Inventory:

Time (h) =	0.6667	Ci	kg	Atoms	Decay
Co-58		6.9338E-03	2.1806E-10	2.2641E+15	6.3999E+10
Co-60		8.3010E-03	7.3435E-09	7.3706E+16	7.6617E+10
Kr-85		4.9638E+01	1.2652E-04	8.9638E+20	1.2239E+15
Kr-85m		6.6669E+02	8.1012E-08	5.7396E+17	1.6846E+16
Kr-87		1.0303E+03	3.6375E-08	2.5179E+17	2.7745E+16
Kr-88		1.7489E+03	1.3948E-07	9.5449E+17	4.4830E+16
Rb-86		1.2674E+00	1.5576E-08	1.0907E+17	5.4045E+13

Sr-89	9.4050E+00	3.2373E-07	2.1905E+18	8.6809E+13
Sr-90	1.4799E+00	1.0849E-05	7.2594E+19	1.3659E+13
Sr-91	1.1369E+01	3.1362E-09	2.0754E+16	1.0529E+14
Sr-92	1.0653E+01	8.4750E-10	5.5476E+15	9.9521E+13
Y-90	1.6978E-02	3.1206E-11	2.0881E+14	1.5162E+11
Y-91	1.2175E-01	4.9645E-09	3.2853E+16	1.1230E+12
Y-92	3.4875E-01	3.6243E-11	2.3724E+14	2.5666E+12
Y-93	9.2408E-02	2.7698E-11	1.7935E+14	8.5569E+11
Zr-95	1.7320E-01	8.0623E-09	5.1107E+16	1.5987E+12
Zr-97	1.6390E-01	8.5735E-11	5.3228E+14	1.5157E+12
Nb-95	1.7325E-01	4.4306E-09	2.8086E+16	1.5991E+12
Mo-99	2.2551E+00	4.7019E-09	2.8601E+16	2.0825E+13
Tc-99m	2.0136E+00	3.8294E-10	2.3294E+15	1.8577E+13
Ru-103	1.9541E+00	6.0549E-08	3.5401E+17	1.8037E+13
Ru-105	1.2360E+00	1.8387E-10	1.0546E+15	1.1493E+13
Ru-106	8.5269E-01	2.5487E-07	1.4480E+18	7.8703E+12
Rh-105	1.2846E+00	1.5219E-09	8.7288E+15	1.1856E+13
Sb-127	2.1459E+00	8.0354E-09	3.8103E+16	1.9813E+13
Sb-129	7.0541E+00	1.2544E-09	5.8560E+15	6.5605E+13
Te-127	2.1407E+00	8.1116E-10	3.8464E+15	1.9753E+13
Te-127m	3.6696E-01	3.8904E-08	1.8448E+17	3.3870E+12
Te-129	7.2144E+00	3.4449E-10	1.6082E+15	6.6615E+13
Te-129m	1.5100E+00	5.0125E-08	2.3400E+17	1.3937E+13
Te-131m	4.8279E+00	6.0545E-09	2.7833E+16	4.4610E+13
Te-132	3.4387E+01	1.1327E-07	5.1674E+17	3.1752E+14
I-131	6.8738E+02	5.5445E-06	2.5488E+19	2.8472E+16
I-132	8.8531E+02	8.5768E-08	3.9129E+17	3.7891E+16
I-133	1.3911E+03	1.2280E-06	5.5605E+18	5.7987E+16
I-134	9.3067E+02	3.4887E-08	1.5679E+17	4.5792E+16
I-135	1.2624E+03	3.5948E-07	1.6036E+18	5.3424E+16
Xe-133	5.7540E+03	3.0740E-05	1.3919E+20	1.4193E+17
Xe-135	2.0133E+03	7.8838E-07	3.5169E+18	4.9474E+16
Cs-134	1.6724E+02	1.2926E-04	5.8090E+20	7.1290E+15
Cs-136	4.5574E+01	6.2182E-07	2.7535E+18	1.9436E+15
Cs-137	1.3264E+02	1.5249E-03	6.7029E+21	5.6541E+15
Ba-139	1.2562E+01	7.6800E-10	3.3273E+15	1.1875E+14
Ba-140	1.7660E+01	2.4122E-07	1.0376E+18	1.6301E+14
La-140	2.2102E-01	3.9764E-10	1.7104E+15	1.9436E+12
La-141	1.4334E-01	2.5345E-11	1.0825E+14	1.3341E+12
La-142	1.1679E-01	8.1586E-12	3.4600E+13	1.1012E+12
Ce-141	4.0603E-01	1.4250E-08	6.0861E+16	3.7476E+12
Ce-143	3.7372E-01	5.6276E-10	2.3699E+15	3.4528E+12
Ce-144	3.4889E-01	1.0939E-07	4.5747E+17	3.2203E+12
Pr-143	1.4684E-01	2.1806E-09	9.1832E+15	1.3552E+12
Nd-147	6.5216E-02	8.0615E-10	3.3025E+15	6.0201E+11
Np-239	4.7435E+00	2.0447E-08	5.1521E+16	4.3808E+13
Pu-238	1.2512E-03	7.3088E-08	1.8494E+17	1.1549E+10
Pu-239	1.1822E-04	1.9020E-06	4.7925E+18	1.0912E+09
Pu-240	2.1657E-04	9.5043E-07	2.3848E+18	1.9989E+09
Pu-241	4.7825E-02	4.6426E-07	1.1601E+18	4.4142E+11
Am-241	3.1405E-05	9.1502E-09	2.2865E+16	2.8986E+08
Cm-242	7.9880E-03	2.4102E-09	5.9977E+15	7.3729E+10
Cm-244	4.6442E-04	5.7405E-09	1.4168E+16	4.2866E+09

Reactor Building Transport Group Inventory:

Time (h) = 0.6667      Atmosphere      Sump  
Noble gases (atoms)      1.0409E+21      0.0000E+00

Elemental I (atoms)	1.6047E+18	0.0000E+00
Organic I (atoms)	1.6376E+17	0.0000E+00
Aerosols (kg)	1.6772E-03	0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)		1.4452E-08
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)		1.8214E-08
Total I (Ci)		5.1569E+03

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

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

Reactor Building to Environment Transport Group Inventory:

	Pathway	
Time (h) = 0.6667	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.1069E+19
Elemental I (atoms)	3.1534E+16	2.3911E+16
Organic I (atoms)	2.7165E+15	1.2659E+15
Aerosols (kg)	3.6449E-05	2.2482E-05

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

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

Exclusion Area Boundary Doses:

Time (h) = 2.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	7.7633E-03	2.1676E-02	8.8654E-03
Accumulated dose (rem)	4.3665E-02	6.3648E+00	3.1967E-01

Low Population Zone Doses:

Time (h) = 2.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.4945E-02	6.9648E-02	2.8486E-02
Accumulated dose (rem)	2.8008E-02	5.5849E-01	5.2731E-02

Control Room Doses:

Time (h) = 2.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	5.7357E-04	2.2180E+00	9.6821E-02
Accumulated dose (rem)	9.5483E-04	3.6287E+00	1.5835E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 2.0000	Ci	kg	Atoms	Decay
Co-58	5.0848E+01	1.5991E-06	1.6603E+19	9.5333E+15
Co-60	6.0906E+01	5.3880E-05	5.4079E+20	1.1416E+16
Kr-85	9.2627E+05	2.3609E+00	1.6727E+25	1.0606E+20
Kr-85m	1.0122E+07	1.2299E-03	8.7138E+21	1.2679E+21

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

## Sprayed Drywell Transport Group Inventory:

Time (h) =	2.0000	Atmosphere	Sump	
Noble gases (atoms)	1.9408E+25	0.0000E+00		
Elemental I (atoms)	2.0416E+21	5.2663E+22		
Organic I (atoms)	1.1383E+21	0.0000E+00		
Aerosols (kg)	1.9028E+00	4.9905E+01		
Dose Effective (Ci/cc)	I-131 (Thyroid)			4.6496E-04
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)			5.7725E-04
Total I (Ci)				5.8346E+06

## Sprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 2.0000 Leakage Transport

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

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

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

## Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

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

## Reactor Building Compartment Nuclide Inventory:

Time (h) =	2.0000	Ci	kg	Atoms	Decay
Co-58		1.1941E-01	3.7552E-09	3.8990E+16	1.0939E+13
Co-60		1.4303E-01	1.2653E-07	1.2700E+18	1.3100E+13
Kr-85		1.2894E+03	3.2865E-03	2.3284E+22	9.5211E+16
Kr-85m		1.4090E+04	1.7121E-06	1.2130E+19	1.1114E+18
Kr-87		1.2940E+04	4.5683E-07	3.1622E+18	1.2209E+18
Kr-88		3.2811E+04	2.6167E-06	1.7907E+19	2.6920E+18
Rb-86		4.3959E+00	5.4026E-08	3.7831E+17	5.5870E+14
Sr-89		1.6193E+02	5.5738E-06	3.7715E+19	1.4835E+16
Sr-90		2.5499E+01	1.8694E-04	1.2508E+21	2.3354E+15
Sr-91		1.7773E+02	4.9029E-08	3.2446E+17	1.6844E+16
Sr-92		1.3051E+02	1.0383E-08	6.7967E+16	1.3510E+16
Y-90		4.8672E-01	8.9460E-10	5.9860E+15	3.8353E+13
Y-91		2.1237E+00	8.6599E-08	5.7309E+17	1.9370E+14
Y-92		2.3509E+01	2.4431E-09	1.5992E+16	1.6831E+15
Y-93		1.4530E+00	4.3552E-10	2.8202E+15	1.3742E+14
Zr-95		2.9826E+00	1.3883E-07	8.8008E+17	2.7323E+14
Zr-97		2.6738E+00	1.3987E-09	8.6834E+15	2.4962E+14
Nb-95		2.9852E+00	7.6342E-08	4.8394E+17	2.7341E+14

Mo-99	3.8316E+01	7.9890E-08	4.8597E+17	3.5265E+15
Tc-99m	3.4592E+01	6.5787E-09	4.0018E+16	3.1702E+15
Ru-103	3.3638E+01	1.0423E-06	6.0939E+18	3.0819E+15
Ru-105	1.7295E+01	2.5729E-09	1.4757E+16	1.7054E+15
Ru-106	1.4691E+01	4.3911E-06	2.4947E+19	1.3456E+15
Rh-105	2.2059E+01	2.6135E-08	1.4989E+17	2.0233E+15
Sb-127	3.6607E+01	1.3708E-07	6.5000E+17	3.3645E+15
Sb-129	9.8137E+01	1.7452E-08	8.1470E+16	9.6973E+15
Te-127	3.6838E+01	1.3959E-08	6.6190E+16	3.3745E+15
Te-127m	6.3231E+00	6.7035E-07	3.1787E+18	5.7912E+14
Te-129	1.1112E+02	5.3058E-09	2.4769E+16	1.0598E+16
Te-129m	2.6017E+01	8.6362E-07	4.0317E+18	2.3829E+15
Te-131m	8.0665E+01	1.0116E-07	4.6503E+17	7.4678E+15
Te-132	5.8554E+02	1.9287E-06	8.7992E+18	5.3850E+16
I-131	2.7353E+03	2.2064E-05	1.0143E+20	3.3173E+17
I-132	3.0701E+03	2.9743E-07	1.3570E+18	3.9753E+17
I-133	5.3182E+03	4.6947E-06	2.1257E+19	6.5715E+17
I-134	1.2962E+03	4.8588E-08	2.1836E+17	2.7361E+17
I-135	4.3871E+03	1.2492E-06	5.5726E+18	5.6719E+17
Xe-133	1.4880E+05	7.9497E-04	3.5996E+21	1.1004E+19
Xe-135	5.1574E+04	2.0196E-05	9.0089E+19	3.8378E+18
Cs-134	5.8121E+02	4.4922E-04	2.0189E+21	7.3799E+16
Cs-136	1.5793E+02	2.1549E-06	9.5418E+18	2.0081E+16
Cs-137	4.6099E+02	5.2998E-03	2.3297E+22	5.8532E+16
Ba-139	1.1071E+02	6.7681E-09	2.9323E+16	1.2993E+16
Ba-140	3.0337E+02	4.1439E-06	1.7825E+19	2.7814E+16
La-140	7.4666E+00	1.3433E-08	5.7783E+16	5.6683E+14
La-141	1.9522E+00	3.4520E-10	1.4744E+15	1.9440E+14
La-142	1.1050E+00	7.7192E-11	3.2737E+14	1.2615E+14
Ce-141	6.9923E+00	2.4540E-07	1.0481E+18	6.4054E+14
Ce-143	6.2616E+00	9.4289E-09	3.9708E+16	5.7912E+14
Ce-144	6.0108E+00	1.8846E-06	7.8813E+18	5.5055E+14
Pr-143	2.5359E+00	3.7660E-08	1.5860E+17	2.3208E+14
Nd-147	1.1198E+00	1.3842E-08	5.6705E+16	1.0268E+14
Np-239	8.0409E+01	3.4660E-07	8.7334E+17	7.4066E+15
Pu-238	2.1560E-02	1.2594E-06	3.1866E+18	1.9746E+12
Pu-239	2.0374E-03	3.2778E-05	8.2592E+19	1.8659E+11
Pu-240	3.7316E-03	1.6376E-05	4.1092E+19	3.4178E+11
Pu-241	8.2404E-01	7.9994E-06	1.9989E+19	7.5473E+13
Am-241	5.4127E-04	1.5771E-07	3.9408E+17	4.9570E+10
Cm-242	1.3761E-01	4.1519E-08	1.0332E+17	1.2604E+13
Cm-244	8.0022E-03	9.8912E-08	2.4412E+17	7.3291E+11

## Reactor Building Transport Group Inventory:

Time (h) =	2.0000	Atmosphere	Sump	
Noble gases (atoms)	2.7007E+22	0.0000E+00		
Elemental I (atoms)	6.2178E+18	0.0000E+00		
Organic I (atoms)	1.8224E+18	0.0000E+00		
Aerosols (kg)	6.0456E-03	0.0000E+00		
Dose Effective (Ci/cc) I-131 (Thyroid)			5.6611E-08	
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			6.9947E-08	
Total I (Ci)			1.6807E+04	

## Sprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 2.0000 Leakage Transport

Noble gases (atoms) 2.0740E+22



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

Reactor Building to Environment Transport Group Inventory:

	Pathway	
Time (h) = 2.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.6674E+21
Elemental I (atoms)	5.5788E+17	8.2394E+16
Organic I (atoms)	1.1636E+17	1.3893E+16
Aerosols (kg)	6.0192E-04	3.4023E-05

Unsprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 2.0000 Leakage Transport

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

Exclusion Area Boundary Doses:

Time (h) = 2.2000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.8529E-03	5.4734E-03	3.1420E-03
Accumulated dose (rem)	4.6518E-02	6.3702E+00	3.2281E-01

Low Population Zone Doses:

Time (h) = 2.2000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.9171E-03	7.5153E-03	4.3141E-03
Accumulated dose (rem)	3.1926E-02	5.6601E-01	5.7045E-02

Control Room Doses:

Time (h) = 2.2000	Whole Body	Thyroid	TEDE
Delta dose (rem)	6.9862E-05	1.8298E-01	8.0253E-03
Accumulated dose (rem)	1.0247E-03	3.8117E+00	1.6638E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 2.2000	Ci	kg	Atoms	Decay
Co-58	5.1045E+00	1.6053E-07	1.6668E+18	9.7732E+15
Co-60	6.1147E+00	5.4094E-06	5.4294E+19	1.1703E+16
Kr-85	8.7584E+05	2.2324E+00	1.5816E+25	1.2967E+20
Kr-85m	9.2789E+06	1.1275E-03	7.9883E+21	1.5220E+21
Kr-87	7.8817E+06	2.7825E-04	1.9261E+21	1.7123E+21
Kr-88	2.1225E+07	1.6927E-03	1.1584E+22	3.7019E+21
Rb-86	1.3971E+02	1.7170E-06	1.2024E+19	3.5539E+17
Sr-89	6.9220E+03	2.3826E-04	1.6122E+21	1.3255E+19
Sr-90	1.0901E+03	7.9918E-03	5.3476E+22	2.0864E+18
Sr-91	7.4882E+03	2.0657E-06	1.3670E+19	1.5306E+19
Sr-92	5.3014E+03	4.2177E-07	2.7608E+18	1.2832E+19
Y-90	1.7334E+01	3.1861E-08	2.1319E+17	2.3243E+16
Y-91	9.0283E+01	3.6814E-06	2.4363E+19	1.7150E+17
Y-92	6.3757E+02	6.6259E-08	4.3372E+17	3.5870E+17
Y-93	6.1273E+01	1.8365E-08	1.1892E+17	1.2475E+17

Zr-95	1.2750E+02	5.9349E-06	3.7622E+19	2.4412E+17
Zr-97	1.1338E+02	5.9307E-08	3.6820E+17	2.2513E+17
Nb-95	1.2762E+02	3.2638E-06	2.0689E+19	2.4426E+17
Mo-99	1.6347E+03	3.4083E-06	2.0733E+19	3.1582E+18
Tc-99m	1.4782E+03	2.8112E-07	1.7100E+18	2.8333E+18
Ru-103	1.4379E+03	4.4552E-05	2.6049E+20	2.7538E+18
Ru-105	7.1667E+02	1.0661E-07	6.1148E+17	1.5808E+18
Ru-106	6.2806E+02	1.8773E-04	1.0665E+21	1.2021E+18
Rh-105	9.4223E+02	1.1163E-06	6.4025E+18	1.8086E+18
Sb-127	1.5627E+03	5.8515E-06	2.7747E+19	3.0110E+18
Sb-129	4.0631E+03	7.2253E-07	3.3730E+18	8.9979E+18
Te-127	1.5746E+03	5.9664E-07	2.8292E+18	3.9015E+18
Te-127m	2.7033E+02	2.8659E-05	1.3590E+20	5.1737E+17
Te-129	4.6681E+03	2.2290E-07	1.0406E+18	9.6470E+18
Te-129m	1.1122E+03	3.6920E-05	1.7236E+20	2.1289E+18
Te-131m	3.4327E+03	4.3048E-06	1.9789E+19	6.7073E+18
Te-132	2.4989E+04	8.2310E-05	3.7552E+20	4.8207E+19
I-131	1.1299E+05	9.1137E-04	4.1896E+21	2.2263E+20
I-132	1.4483E+05	1.4031E-05	6.4012E+19	3.1581E+20
I-133	2.1829E+05	1.9270E-04	8.7253E+20	4.4484E+20
I-134	4.5725E+04	1.7140E-06	7.7031E+18	2.3974E+20
I-135	1.7752E+05	5.0548E-05	2.2548E+20	3.9234E+20
Xe-133	1.0111E+08	5.4017E-01	2.4459E+24	1.5005E+22
Xe-135	3.5949E+07	1.4077E-02	6.2795E+22	5.3940E+21
Cs-134	1.8478E+04	1.4281E-02	6.4182E+22	4.6921E+19
Cs-136	5.0187E+03	6.8477E-05	3.0322E+20	1.2776E+19
Cs-137	1.4656E+04	1.6849E-01	7.4064E+23	3.7214E+19
Ba-139	4.2800E+03	2.6166E-07	1.1336E+18	1.3148E+19
Ba-140	1.2964E+04	1.7708E-04	7.6171E+20	2.4862E+19
La-140	2.5367E+02	4.5638E-07	1.9631E+18	2.9828E+17
La-141	8.0569E+01	1.4247E-08	6.0847E+16	1.8107E+17
La-142	4.3179E+01	3.0163E-09	1.2792E+16	1.2588E+17
Ce-141	2.9896E+02	1.0492E-05	4.4812E+19	5.7239E+17
Ce-143	2.6657E+02	4.0142E-07	1.6905E+18	5.1989E+17
Ce-144	2.5697E+02	8.0567E-05	3.3694E+20	4.9186E+17
Pr-143	1.0831E+02	1.6085E-06	6.7737E+18	2.0700E+17
Nd-147	4.7848E+01	5.9145E-07	2.4230E+18	9.1792E+16
Np-239	3.4292E+03	1.4782E-05	3.7246E+19	6.6357E+18
Pu-238	9.2174E-01	5.3841E-05	1.3623E+20	1.7641E+15
Pu-239	8.7104E-02	1.4014E-03	3.5311E+21	1.6669E+14
Pu-240	1.5954E-01	7.0013E-04	1.7568E+21	3.0534E+14
Pu-241	3.5229E+01	3.4199E-04	8.5457E+20	6.7426E+16
Am-241	2.3140E-02	6.7420E-06	1.6847E+19	4.4280E+13
Cm-242	5.8827E+00	1.7750E-06	4.4169E+18	1.1261E+16
Cm-244	3.4211E-01	4.2287E-06	1.0437E+19	6.5477E+14

## Sprayed Drywell Transport Group Inventory:

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

## Sprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 2.2000 Leakage Transport

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

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

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

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

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

Reactor Building Compartment Nuclide Inventory:

Time (h) = 2.2000	Ci	kg	Atoms	Decay
Co-58	1.2814E-01	4.0297E-09	4.1840E+16	1.4313E+13
Co-60	1.5349E-01	1.3579E-07	1.3629E+18	1.7142E+13
Kr-85	1.5991E+03	4.0758E-03	2.8876E+22	1.3576E+17
Kr-85m	1.6941E+04	2.0586E-06	1.4585E+19	1.5475E+18
Kr-87	1.4390E+04	5.0802E-07	3.5165E+18	1.6059E+18
Kr-88	3.8752E+04	3.0905E-06	2.1149E+19	3.6984E+18
Rb-86	4.6095E+00	5.6651E-08	3.9669E+17	6.8061E+14
Sr-89	1.7376E+02	5.9809E-06	4.0470E+19	1.9411E+16
Sr-90	2.7365E+01	2.0061E-04	1.3424E+21	3.0561E+15
Sr-91	1.8797E+02	5.1855E-08	3.4316E+17	2.1830E+16
Sr-92	1.3308E+02	1.0587E-08	6.9303E+16	1.7106E+16
Y-90	5.6821E-01	1.0444E-09	6.9883E+15	5.2215E+13
Y-91	2.2850E+00	9.3176E-08	6.1662E+17	2.5374E+14
Y-92	2.8413E+01	2.9528E-09	1.9328E+16	2.3444E+15
Y-93	1.5381E+00	4.6102E-10	2.9853E+15	1.7821E+14
Zr-95	3.2005E+00	1.4898E-07	9.4440E+17	3.5752E+14
Zr-97	2.8460E+00	1.4887E-09	9.2427E+15	3.2487E+14
Nb-95	3.2036E+00	8.1928E-08	5.1935E+17	3.5778E+14
Mo-99	4.1034E+01	8.5556E-08	5.2044E+17	4.6083E+15
Tc-99m	3.7106E+01	7.0568E-09	4.2926E+16	4.1421E+15
Ru-103	3.6094E+01	1.1184E-06	6.5388E+18	4.0325E+15
Ru-105	1.7990E+01	2.6763E-09	1.5350E+16	2.1866E+15
Ru-106	1.5766E+01	4.7124E-06	2.6772E+19	1.7608E+15
Rh-105	2.3652E+01	2.8022E-08	1.6072E+17	2.6460E+15
Sb-127	3.9227E+01	1.4689E-07	6.9652E+17	4.3983E+15
Sb-129	1.0199E+02	1.8137E-08	8.4670E+16	1.2427E+16
Te-127	3.9526E+01	1.4977E-08	7.1019E+16	4.4117E+15
Te-127m	6.7858E+00	7.1940E-07	3.4113E+18	7.5783E+14
Te-129	1.1718E+02	5.5954E-09	2.6121E+16	1.3633E+16

Te-129m	2.7920E+01	9.2679E-07	4.3265E+18	3.1182E+15
Te-131m	8.6168E+01	1.0806E-07	4.9676E+17	9.7423E+15
Te-132	6.2728E+02	2.0662E-06	9.4264E+18	7.0384E+16
I-131	2.8833E+03	2.3257E-05	1.0691E+20	4.0790E+17
I-132	3.1275E+03	3.0299E-07	1.3823E+18	4.8170E+17
I-133	5.5725E+03	4.9192E-06	2.2274E+19	8.0481E+17
I-134	1.1672E+03	4.3755E-08	1.9664E+17	3.0699E+17
I-135	4.5316E+03	1.2904E-06	5.7561E+18	6.8812E+17
Xe-133	1.8439E+05	9.8510E-04	4.4605E+21	1.5682E+19
Xe-135	6.3548E+04	2.4884E-05	1.1101E+20	5.4575E+18
Cs-134	6.0964E+02	4.7119E-04	2.1176E+21	8.9918E+16
Cs-136	1.6558E+02	2.2593E-06	1.0004E+19	2.4460E+16
Cs-137	4.8354E+02	5.5590E-03	2.4436E+22	7.1317E+16
Ba-139	1.0744E+02	6.5684E-09	2.8457E+16	1.5969E+16
Ba-140	3.2542E+02	4.4451E-06	1.9121E+19	3.6386E+16
La-140	8.8744E+00	1.5966E-08	6.8679E+16	7.7980E+14
La-141	2.0225E+00	3.5762E-10	1.5274E+15	2.4861E+14
La-142	1.0839E+00	7.5717E-11	3.2111E+14	1.5601E+14
Ce-141	7.5031E+00	2.6333E-07	1.1247E+18	8.3815E+14
Ce-143	6.6916E+00	1.0076E-08	4.2435E+16	7.5572E+14
Ce-144	6.4505E+00	2.0224E-06	8.4579E+18	7.2043E+14
Pr-143	2.7229E+00	4.0435E-08	1.7028E+17	3.0375E+14
Nd-147	1.2011E+00	1.4847E-08	6.0823E+16	1.3432E+14
Np-239	8.6081E+01	3.7105E-07	9.3495E+17	9.6764E+15
Pu-238	2.3138E-02	1.3515E-06	3.4198E+18	2.5840E+12
Pu-239	2.1865E-03	3.5178E-05	8.8638E+19	2.4417E+11
Pu-240	4.0047E-03	1.7575E-05	4.4099E+19	4.4724E+11
Pu-241	8.8434E-01	8.5848E-06	2.1452E+19	9.8763E+13
Am-241	5.8091E-04	1.6925E-07	4.2293E+17	6.4868E+10
Cm-242	1.4767E-01	4.4556E-08	1.1088E+17	1.6493E+13
Cm-244	8.5878E-03	1.0615E-07	2.6199E+17	9.5908E+11

## Reactor Building Transport Group Inventory:

Time (h) =	2.2000	Atmosphere	Sump	
Noble gases (atoms)	3.3487E+22	0.0000E+00		
Elemental I (atoms)	6.5247E+18	0.0000E+00		
Organic I (atoms)	2.1960E+18	0.0000E+00		
Aerosols (kg)	6.3477E-03	0.0000E+00		
Dose Effective (Ci/cc) I-131 (Thyroid)				5.9537E-08
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)				7.3371E-08
Total I (Ci)				1.7282E+04

## Sprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 2.2000 Leakage Transport

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

## Reactor Building to Environment Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.3473E+21
Elemental I (atoms)	6.8768E+17	9.6816E+16
Organic I (atoms)	1.5704E+17	1.8413E+16

Aerosols (kg) 7.3924E-04 3.6825E-05

Unsprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 2.2000 Leakage Transport

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

Exclusion Area Boundary Doses:

Time (h) = 2.3000 Whole Body Thyroid TEDE  
 Delta dose (rem) 1.5965E-03 2.8169E-03 1.7454E-03  
 Accumulated dose (rem) 4.8114E-02 6.3731E+00 3.2455E-01

Low Population Zone Doses:

Time (h) = 2.3000 Whole Body Thyroid TEDE  
 Delta dose (rem) 2.1921E-03 3.8677E-03 2.3965E-03  
 Accumulated dose (rem) 3.4118E-02 5.6987E-01 5.9442E-02

Control Room Doses:

Time (h) = 2.3000 Whole Body Thyroid TEDE  
 Delta dose (rem) 3.3512E-05 8.1941E-02 3.5974E-03  
 Accumulated dose (rem) 1.0582E-03 3.8937E+00 1.6998E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =	Ci	kg	Atoms	Decay
2.3000				
Co-58	3.1706E+00	9.9709E-08	1.0353E+18	9.8154E+15
Co-60	3.7981E+00	3.3600E-06	3.3724E+19	1.1754E+16
Kr-85	8.6070E+05	2.1938E+00	1.5543E+25	1.4114E+20
Kr-85m	8.9785E+06	1.0910E-03	7.7297E+21	1.6425E+21
Kr-87	7.3346E+06	2.5894E-04	1.7924E+21	1.8127E+21
Kr-88	2.0355E+07	1.6233E-03	1.1109E+22	3.9764E+21
Rb-86	8.7551E+01	1.0760E-06	7.5347E+18	3.5656E+17
Sr-89	4.2994E+03	1.4799E-04	1.0014E+21	1.3312E+19
Sr-90	6.7714E+02	4.9641E-03	3.3216E+22	2.0955E+18
Sr-91	4.6175E+03	1.2738E-06	8.4297E+18	1.5368E+19
Sr-92	3.2098E+03	2.5537E-07	1.6716E+18	1.2875E+19
Y-90	1.2123E+01	2.2282E-08	1.4909E+17	2.3395E+16
Y-91	5.6260E+01	2.2941E-06	1.5182E+19	1.7225E+17
Y-92	5.0925E+02	5.2924E-08	3.4643E+17	3.6469E+17
Y-93	3.7799E+01	1.1330E-08	7.3364E+16	1.2525E+17
Zr-95	7.9193E+01	3.6863E-06	2.3368E+19	2.4518E+17
Zr-97	7.0135E+01	3.6688E-08	2.2777E+17	2.2607E+17
Nb-95	7.9273E+01	2.0273E-06	1.2851E+19	2.4532E+17
Mo-99	1.0143E+03	2.1148E-06	1.2865E+19	3.1717E+18
Tc-99m	9.1795E+02	1.7457E-07	1.0619E+18	2.8454E+18
Ru-103	8.9308E+02	2.7672E-05	1.6179E+20	2.7657E+18
Ru-105	4.3826E+02	6.5198E-08	3.7394E+17	1.5866E+18
Ru-106	3.9011E+02	1.1661E-04	6.6247E+20	1.2073E+18
Rh-105	5.8498E+02	6.9307E-07	3.9750E+18	1.8164E+18
Sb-127	9.6992E+02	3.6320E-06	1.7222E+19	3.0239E+18
Sb-129	2.4836E+03	4.4166E-07	2.0618E+18	9.0312E+18

Te-127	9.7795E+02	3.7056E-07	1.7571E+18	3.0281E+18
Te-127m	1.6791E+02	1.7801E-05	8.4412E+19	5.1961E+17
Te-129	2.8734E+03	1.3721E-07	6.4052E+17	9.6845E+18
Te-129m	6.9085E+02	2.2933E-05	1.0706E+20	2.1381E+18
Te-131m	2.1273E+03	2.6678E-06	1.2264E+19	6.7357E+18
Te-132	1.5508E+04	5.1082E-05	2.3305E+20	4.8414E+19
I-131	7.8833E+04	6.3588E-04	2.9232E+21	2.2368E+20
I-132	9.6736E+04	9.3717E-06	4.2756E+19	3.1711E+20
I-133	1.5186E+05	1.3405E-04	6.0699E+20	4.4687E+20
I-134	2.9489E+04	1.1054E-06	4.9679E+18	2.4015E+20
I-135	1.2261E+05	3.4914E-05	1.5574E+20	3.9398E+20
Xe-133	9.9304E+07	5.3052E-01	2.4022E+24	1.6328E+22
Xe-135	3.5020E+07	1.3713E-02	6.1173E+22	5.8623E+21
Cs-134	1.1581E+04	8.9510E-03	4.0227E+22	4.7075E+19
Cs-136	3.1448E+03	4.2909E-05	1.9000E+20	1.2818E+19
Cs-137	9.1855E+03	1.0560E-01	4.6420E+23	3.7336E+19
Ba-139	2.5281E+03	1.5456E-07	6.6963E+17	1.3182E+19
Ba-140	8.0506E+03	1.0997E-04	4.7303E+20	2.4969E+19
La-140	1.8309E+02	3.2940E-07	1.4169E+18	3.0053E+17
La-141	4.9171E+01	8.6945E-09	3.7135E+16	1.8173E+17
La-142	2.5641E+01	1.7912E-09	7.5964E+15	1.2623E+17
Ce-141	1.8568E+02	6.5166E-06	2.7832E+19	5.7486E+17
Ce-143	1.6523E+02	2.4882E-07	1.0478E+18	5.2210E+17
Ce-144	1.5961E+02	5.0044E-05	2.0929E+20	4.9399E+17
Pr-143	6.7318E+01	9.9969E-07	4.2100E+18	2.0790E+17
Nd-147	2.9713E+01	3.6728E-07	1.5046E+18	9.2188E+16
Np-239	2.1274E+03	9.1704E-06	2.3107E+19	6.6640E+18
Pu-238	5.7254E-01	3.3443E-05	8.4622E+19	1.7717E+15
Pu-239	5.4105E-02	8.7047E-04	2.1933E+21	1.6741E+14
Pu-240	9.9096E-02	4.3488E-04	1.0912E+21	3.0666E+14
Pu-241	2.1883E+01	2.1243E-04	5.3082E+20	6.7718E+16
Am-241	1.4374E-02	4.1880E-06	1.0465E+19	4.4471E+13
Cm-242	3.6540E+00	1.1025E-06	2.7435E+18	1.1309E+16
Cm-244	2.1250E-01	2.6266E-06	6.4828E+18	6.5760E+14

## Sprayed Drywell Transport Group Inventory:

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

## Sprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 2.3000 Leakage Transport

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

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) =	2.3000	Filtered Transported

Noble gases (atoms)	0.0000E+00	2.9412E+25
Elemental I (atoms)	0.0000E+00	5.1827E+21
Organic I (atoms)	0.0000E+00	1.9240E+21
Aerosols (kg)	0.0000E+00	4.9457E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

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

Reactor Building Compartment Nuclide Inventory:

Time (h) = 2.3000	Ci	kg	Atoms	Decay
Co-58	1.2999E-01	4.0882E-09	4.2447E+16	1.6045E+13
Co-60	1.5573E-01	1.3776E-07	1.3827E+18	1.9216E+13
Kr-85	1.7513E+03	4.4637E-03	3.1625E+22	1.5909E+17
Kr-85m	1.8269E+04	2.2199E-06	1.5728E+19	1.7928E+18
Kr-87	1.4924E+04	5.2686E-07	3.6469E+18	1.8102E+18
Kr-88	4.1417E+04	3.3030E-06	2.2604E+19	4.2569E+18
Rb-86	4.6486E+00	5.7131E-08	4.0006E+17	7.4253E+14
Sr-89	1.7628E+02	6.0676E-06	4.1056E+19	2.1759E+16
Sr-90	2.7763E+01	2.0353E-04	1.3619E+21	3.4259E+15
Sr-91	1.8932E+02	5.2227E-08	3.4562E+17	2.4361E+16
Sr-92	1.3160E+02	1.0470E-08	6.8536E+16	1.8881E+16
Y-90	6.0338E-01	1.1090E-09	7.4207E+15	5.9856E+13
Y-91	2.3218E+00	9.4673E-08	6.2652E+17	2.8461E+14
Y-92	3.0643E+01	3.1846E-09	2.0846E+16	2.7215E+15
Y-93	1.5498E+00	4.6452E-10	3.0080E+15	1.9892E+14
Zr-95	3.2469E+00	1.5114E-07	9.5810E+17	4.0077E+14
Zr-97	2.8756E+00	1.5042E-09	9.3388E+15	3.6326E+14
Nb-95	3.2503E+00	8.3120E-08	5.2691E+17	4.0107E+14
Mo-99	4.1587E+01	8.6710E-08	5.2745E+17	5.1625E+15
Tc-99m	3.7637E+01	7.1577E-09	4.3540E+16	4.6407E+15
Ru-103	3.6617E+01	1.1346E-06	6.6335E+18	4.5203E+15
Ru-105	1.7969E+01	2.6732E-09	1.5332E+16	2.4279E+15
Ru-106	1.5995E+01	4.7809E-06	2.7162E+19	1.9738E+15
Rh-105	2.3985E+01	2.8416E-08	1.6298E+17	2.9654E+15
Sb-127	3.9768E+01	1.4891E-07	7.0612E+17	4.9282E+15
Sb-129	1.0183E+02	1.8108E-08	8.4535E+16	1.3794E+16
Te-127	4.0097E+01	1.5193E-08	7.2044E+16	4.9439E+15
Te-127m	6.8846E+00	7.2987E-07	3.4609E+18	8.4953E+14
Te-129	1.1781E+02	5.6256E-09	2.6262E+16	1.5170E+16
Te-129m	2.8325E+01	9.4025E-07	4.3894E+18	3.4955E+15
Te-131m	8.7220E+01	1.0938E-07	5.0283E+17	1.0905E+16
Te-132	6.3584E+02	2.0944E-06	9.5550E+18	7.8858E+16
I-131	2.9134E+03	2.3500E-05	1.0803E+20	4.4672E+17
I-132	3.0962E+03	2.9995E-07	1.3685E+18	5.2331E+17
I-133	5.6137E+03	4.9556E-06	2.2439E+19	8.7971E+17
I-134	1.0901E+03	4.0864E-08	1.8365E+17	3.2210E+17
I-135	4.5326E+03	1.2907E-06	5.7574E+18	7.4881E+17
Xe-133	2.0186E+05	1.0784E-03	4.8829E+21	1.8371E+19
Xe-135	6.9289E+04	2.7132E-05	1.2103E+20	6.3835E+18
Cs-134	6.1490E+02	4.7525E-04	2.1359E+21	9.8109E+16

Cs-136	1.6698E+02	2.2783E-06	1.0088E+19	2.6685E+16
Cs-137	4.8771E+02	5.6070E-03	2.4647E+22	7.7814E+16
Ba-139	1.0366E+02	6.3371E-09	2.7455E+16	1.7385E+16
Ba-140	3.3008E+02	4.5088E-06	1.9395E+19	4.0784E+16
La-140	9.5083E+00	1.7107E-08	7.3584E+16	8.9898E+14
La-141	2.0160E+00	3.5648E-10	1.5225E+15	2.7570E+14
La-142	1.0513E+00	7.3441E-11	3.1146E+14	1.7033E+14
Ce-141	7.6118E+00	2.6714E-07	1.1410E+18	9.3954E+14
Ce-143	6.7747E+00	1.0202E-08	4.2962E+16	8.4605E+14
Ce-144	6.5443E+00	2.0518E-06	8.5809E+18	8.0760E+14
Pr-143	2.7632E+00	4.1035E-08	1.7281E+17	3.4054E+14
Nd-147	1.2182E+00	1.5059E-08	6.1692E+16	1.5055E+14
Np-239	8.7227E+01	3.7599E-07	9.4739E+17	1.0839E+16
Pu-238	2.3474E-02	1.3712E-06	3.4695E+18	2.8967E+12
Pu-239	2.2184E-03	3.5690E-05	8.9929E+19	2.7372E+11
Pu-240	4.0630E-03	1.7831E-05	4.4741E+19	5.0136E+11
Pu-241	8.9721E-01	8.7097E-06	2.1764E+19	1.1071E+14
Am-241	5.8938E-04	1.7172E-07	4.2910E+17	7.2718E+10
Cm-242	1.4982E-01	4.5203E-08	1.1249E+17	1.8489E+13
Cm-244	8.7127E-03	1.0769E-07	2.6580E+17	1.0751E+12

## Reactor Building Transport Group Inventory:

Time (h) =	2.3000	Atmosphere	Sump	
Noble gases (atoms)	3.6671E+22	0.0000E+00		
Elemental I (atoms)	6.5767E+18	0.0000E+00		
Organic I (atoms)	2.3787E+18	0.0000E+00		
Aerosols (kg)	6.4042E-03	0.0000E+00		
Dose Effective (Ci/cc) I-131 (Thyroid)				6.0088E-08
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)				7.3953E-08
Total I (Ci)				1.7246E+04

## Sprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 2.3000 Leakage Transport

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

## Reactor Building to Environment Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.7414E+21
Elemental I (atoms)	7.5399E+17	1.0418E+17
Organic I (atoms)	1.8019E+17	2.0985E+16
Aerosols (kg)	8.0946E-04	3.8258E-05

## Unsprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 2.3000 Leakage Transport

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

## Exclusion Area Boundary Doses:



Time (h) =	4.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		3.8243E-02	5.0850E-02	4.0906E-02
Accumulated dose (rem)		8.6357E-02	6.4239E+00	3.6546E-01

## Low Population Zone Doses:

Time (h) =	4.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		5.2509E-02	6.9820E-02	5.6166E-02
Accumulated dose (rem)		8.6627E-02	6.3969E-01	1.1561E-01

## Control Room Doses:

Time (h) =	4.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		5.7990E-04	7.6986E-01	3.4139E-02
Accumulated dose (rem)		1.6381E-03	4.6635E+00	2.0412E-01

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =	4.0000	Ci	kg	Atoms	Decay
Co-58		3.8534E+00	1.2118E-07	1.2583E+18	1.1223E+16
Co-60		4.6192E+00	4.0864E-06	4.1015E+19	1.3440E+16
Kr-85		8.2101E+05	2.0926E+00	1.4826E+25	3.2848E+20
Kr-85m		6.5836E+06	8.0000E-04	5.6679E+21	3.3620E+21
Kr-87		2.7697E+06	9.7782E-05	6.7685E+20	2.8560E+21
Kr-88		1.2823E+07	1.0226E-03	6.9979E+21	7.6065E+21
Rb-86		1.0659E+02	1.3100E-06	9.1735E+18	3.9553E+17
Sr-89		5.2239E+03	1.7981E-04	1.2167E+21	1.5221E+19
Sr-90		8.2355E+02	6.0374E-03	4.0398E+22	2.3962E+18
Sr-91		4.9608E+03	1.3685E-06	9.0563E+18	1.7309E+19
Sr-92		2.5273E+03	2.0107E-07	1.3161E+18	1.4057E+19
Y-90		2.9819E+01	5.4809E-08	3.6674E+17	3.1147E+16
Y-91		7.0272E+01	2.8655E-06	1.8963E+19	1.9753E+17
Y-92		1.3589E+03	1.4123E-07	9.2445E+17	7.2758E+17
Y-93		4.0910E+01	1.2262E-08	7.9401E+16	1.4119E+17
Zr-95		9.6241E+01	4.4799E-06	2.8399E+19	2.8033E+17
Zr-97		7.9554E+01	4.1615E-08	2.5836E+17	2.5626E+17
Nb-95		9.6412E+01	2.4656E-06	1.5630E+19	2.8052E+17
Mo-99		1.2118E+03	2.5266E-06	1.5369E+19	3.6185E+18
Tc-99m		1.1103E+03	2.1115E-07	1.2844E+18	3.2499E+18
Ru-103		1.0848E+03	3.3613E-05	1.9653E+20	3.1621E+18
Ru-105		4.0878E+02	6.0812E-08	3.4878E+17	1.7599E+18
Ru-106		4.7440E+02	1.4180E-04	8.0560E+20	1.3806E+18
Rh-105		7.0350E+02	8.3347E-07	4.7803E+18	2.0748E+18
Sb-127		1.1647E+03	4.3613E-06	2.0681E+19	3.4522E+18
Sb-129		2.2995E+03	4.0892E-07	1.9089E+18	1.0010E+19
Te-127		1.1866E+03	4.4961E-07	2.1320E+18	3.4604E+18
Te-127m		2.0422E+02	2.1651E-05	1.0266E+20	5.9418E+17
Te-129		2.9319E+03	1.4000E-07	6.5355E+17	1.0840E+19
Te-129m		8.3985E+02	2.7879E-05	1.3015E+20	2.4448E+18
Te-131m		2.4876E+03	3.1196E-06	1.4341E+19	7.6640E+18
Te-132		1.8579E+04	6.1197E-05	2.7920E+20	5.5254E+19
I-131		9.8733E+04	7.9639E-04	3.6611E+21	2.5488E+20
I-132		8.1163E+04	7.8630E-06	3.5873E+19	3.4875E+20
I-133		1.8080E+05	1.5960E-04	7.2265E+20	5.0559E+20
I-134		9.6888E+03	3.6319E-07	1.6322E+18	2.4686E+20
I-135		1.2926E+05	3.6807E-05	1.6419E+20	4.3884E+20

Xe-133	9.3834E+07	5.0130E-01	2.2698E+24	3.7841E+22
Xe-135	2.9282E+07	1.1466E-02	5.1150E+22	1.2999E+22
Cs-134	1.4136E+04	1.0926E-02	4.9102E+22	5.2236E+19
Cs-136	3.8245E+03	5.2183E-05	2.3107E+20	1.4217E+19
Cs-137	1.1213E+04	1.2891E-01	5.6665E+23	4.1430E+19
Ba-139	1.3078E+03	7.9952E-08	3.4639E+17	1.3968E+19
Ba-140	9.7536E+03	1.3323E-04	5.7309E+20	2.8538E+19
La-140	5.0411E+02	9.0696E-07	3.9013E+18	4.2616E+17
La-141	4.4310E+01	7.8350E-09	3.3464E+16	2.0089E+17
La-142	1.4521E+01	1.0144E-09	4.3020E+15	1.3449E+17
Ce-141	2.2556E+02	7.9162E-06	3.3810E+19	6.5728E+17
Ce-143	1.9391E+02	2.9200E-07	1.2297E+18	5.9432E+17
Ce-144	1.9409E+02	6.0854E-05	2.5449E+20	5.6486E+17
Pr-143	8.2300E+01	1.2222E-06	5.1469E+18	2.3786E+17
Nd-147	3.5976E+01	4.4470E-07	1.8218E+18	1.0536E+17
Np-239	2.5340E+03	1.0923E-05	2.7523E+19	7.6000E+18
Pu-238	6.9633E-01	4.0674E-05	1.0292E+20	2.0260E+15
Pu-239	6.5818E-02	1.0589E-03	2.6682E+21	1.9144E+14
Pu-240	1.2052E-01	5.2891E-04	1.3272E+21	3.5066E+14
Pu-241	2.6614E+01	2.5836E-04	6.4558E+20	7.7436E+16
Am-241	1.7490E-02	5.0960E-06	1.2734E+19	5.0856E+13
Cm-242	4.4427E+00	1.3405E-06	3.3357E+18	1.2932E+16
Cm-244	2.5845E-01	3.1945E-06	7.8844E+18	7.5197E+14

## Sprayed Drywell Transport Group Inventory:

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

## Sprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 4.0000 Leakage Transport

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

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	6.8495E+25
Elemental I (atoms)	0.0000E+00	6.3084E+21
Organic I (atoms)	0.0000E+00	4.2085E+21
Aerosols (kg)	0.0000E+00	5.4879E+00

## Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.7051E+25
Elemental I (atoms)	0.0000E+00	5.8847E+21

Organic I (atoms)	0.0000E+00	3.5207E+21
Aerosols (kg)	0.0000E+00	5.3380E+00

## Reactor Building Compartment Nuclide Inventory:

Time (h) =	Ci	kg	Atoms	Decay
4.0000				
Co-58	1.3619E-01	4.2831E-09	4.4471E+16	4.6918E+13
Co-60	1.6326E-01	1.4443E-07	1.4496E+18	5.6213E+13
Kr-85	4.0905E+03	1.0426E-02	7.3867E+22	8.4458E+17
Kr-85m	3.2801E+04	3.9858E-06	2.8239E+19	7.9750E+18
Kr-87	1.3800E+04	4.8718E-07	3.3723E+18	5.3960E+18
Kr-88	6.3885E+04	5.0948E-06	3.4866E+19	1.7175E+19
Rb-86	4.6290E+00	5.6890E-08	3.9837E+17	1.8114E+15
Sr-89	1.8463E+02	6.3552E-06	4.3002E+19	6.3619E+16
Sr-90	2.9107E+01	2.1338E-04	1.4278E+21	1.0022E+16
Sr-91	1.7533E+02	4.8368E-08	3.2008E+17	6.6647E+16
Sr-92	8.9323E+01	7.1064E-09	4.6517E+16	4.4204E+16
Y-90	1.1315E+00	2.0796E-09	1.3915E+16	2.5596E+14
Y-91	2.4949E+00	1.0173E-07	6.7323E+17	8.4275E+14
Y-92	5.3237E+01	5.5327E-09	3.6216E+16	1.2533E+16
Y-93	1.4459E+00	4.3338E-10	2.8063E+15	5.4634E+14
Zr-95	3.4015E+00	1.5834E-07	1.0037E+18	1.1719E+15
Zr-97	2.8117E+00	1.4708E-09	9.1314E+15	1.0230E+15
Nb-95	3.4075E+00	8.7142E-08	5.5240E+17	1.1732E+15
Mo-99	4.2829E+01	8.9299E-08	5.4320E+17	1.4955E+16
Tc-99m	3.9241E+01	7.4628E-09	4.5396E+16	1.3510E+16
Ru-103	3.8341E+01	1.1880E-06	6.9459E+18	1.3214E+16
Ru-105	1.4448E+01	2.1493E-09	1.2327E+16	6.1745E+15
Ru-106	1.6767E+01	5.0117E-06	2.8473E+19	5.7736E+15
Rh-105	2.4864E+01	2.9458E-08	1.6895E+17	8.6305E+15
Sb-127	4.1164E+01	1.5414E-07	7.3092E+17	1.4316E+16
Sb-129	8.1272E+01	1.4453E-08	6.7469E+16	3.4951E+16
Te-127	4.1938E+01	1.5891E-08	7.5352E+16	1.4425E+16
Te-127m	7.2179E+00	7.6521E-07	3.6285E+18	2.4852E+15
Te-129	1.0362E+02	4.9480E-09	2.3099E+16	4.0272E+16
Te-129m	2.9683E+01	9.8533E-07	4.5998E+18	1.0223E+16
Te-131m	8.7920E+01	1.1026E-07	5.0686E+17	3.1223E+16
Te-132	6.5665E+02	2.1629E-06	9.8678E+18	2.2878E+17
I-131	2.9888E+03	2.4108E-05	1.1082E+20	1.1273E+18
I-132	2.2381E+03	2.1683E-07	9.8922E+17	1.1309E+18
I-133	5.4741E+03	4.8323E-06	2.1880E+19	2.1583E+18
I-134	2.9336E+02	1.0997E-08	4.9420E+16	4.6217E+17
I-135	3.9137E+03	1.1144E-06	4.9713E+18	1.7212E+18
Xe-133	4.6740E+05	2.4970E-03	1.1306E+22	9.7005E+19
Xe-135	1.4494E+05	5.6757E-05	2.5319E+20	3.1962E+19
Cs-134	6.1388E+02	4.7447E-04	2.1323E+21	2.3968E+17
Cs-136	1.6609E+02	2.2661E-06	1.0034E+19	6.5058E+16
Cs-137	4.8693E+02	5.5981E-03	2.4608E+22	1.9011E+17
Ba-139	4.6221E+01	2.8258E-09	1.2243E+16	3.3894E+16
Ba-140	3.4473E+02	4.7088E-06	2.0255E+19	1.1905E+17
La-140	1.9260E+01	3.4652E-08	1.4906E+17	4.1421E+15
La-141	1.5661E+00	2.7692E-10	1.1827E+15	6.8916E+14
La-142	5.1323E-01	3.5853E-11	1.5205E+14	3.4453E+14
Ce-141	7.9713E+00	2.7976E-07	1.1949E+18	2.7469E+15
Ce-143	6.8535E+00	1.0320E-08	4.3462E+16	2.4270E+15
Ce-144	6.8599E+00	2.1508E-06	8.9947E+18	2.3623E+15
Pr-143	2.9111E+00	4.3231E-08	1.8206E+17	9.9846E+14

Nd-147	1.2715E+00	1.5717E-08	6.4389E+16	4.3933E+14
Np-239	8.9562E+01	3.8606E-07	9.7276E+17	3.1346E+16
Pu-238	2.4611E-02	1.4376E-06	3.6375E+18	8.4737E+12
Pu-239	2.3262E-03	3.7426E-05	9.4302E+19	8.0081E+11
Pu-240	4.2597E-03	1.8694E-05	4.6907E+19	1.4666E+12
Pu-241	9.4063E-01	9.1312E-06	2.2817E+19	3.2387E+14
Am-241	6.1819E-04	1.8012E-07	4.5008E+17	2.1277E+11
Cm-242	1.5702E-01	4.7377E-08	1.1790E+17	5.4076E+13
Cm-244	9.1344E-03	1.1291E-07	2.7866E+17	3.1451E+12

## Reactor Building Transport Group Inventory:

Time (h) =	4.0000	Atmosphere	Sump	
Noble gases (atoms)	8.5493E+22	0.0000E+00		
Elemental I (atoms)	7.1398E+18	0.0000E+00		
Organic I (atoms)	5.1112E+18	0.0000E+00		
Aerosols (kg)	6.4080E-03	0.0000E+00		
Dose Effective (Ci/cc) I-131 (Thyroid)				6.0514E-08
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)				7.3082E-08
Total I (Ci)				1.4908E+04

## Sprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 4.0000 Leakage Transport

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

## Reactor Building to Environment Transport Group Inventory:

	Pathway	
Time (h) =	4.0000	
	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.4561E+22
Elemental I (atoms)	1.9358E+18	2.3550E+17
Organic I (atoms)	8.3398E+17	9.3629E+16
Aerosols (kg)	2.0300E-03	6.3167E-05

## Unsprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 4.0000 Leakage Transport

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

## Exclusion Area Boundary Doses:

Time (h) =	8.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		1.0678E-01	1.2196E-01	1.1289E-01
Accumulated dose (rem)		1.9314E-01	6.5459E+00	4.7835E-01

## Low Population Zone Doses:

Time (h) =	8.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		1.4661E-01	1.6745E-01	1.5500E-01
Accumulated dose (rem)		2.3324E-01	8.0715E-01	2.7061E-01

## Control Room Doses:

Time (h) =	8.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		1.7509E-03	3.0353E-01	1.5115E-02
Accumulated dose (rem)		3.3890E-03	4.9671E+00	2.1923E-01

## Sprayed Drywell Compartment Nuclide Inventory:

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

Ce-143	2.1876E+02	3.2942E-07	1.3873E+18	7.1469E+17
Ce-144	2.3806E+02	7.4639E-05	3.1214E+20	6.9051E+17
Pr-143	1.0206E+02	1.5157E-06	6.3829E+18	2.9143E+17
Nd-147	4.3681E+01	5.3995E-07	2.2120E+18	1.2853E+17
Np-239	2.9605E+03	1.2761E-05	3.2155E+19	9.2008E+18
Pu-238	8.5444E-01	4.9910E-05	1.2629E+20	2.4769E+15
Pu-239	8.0801E-02	1.3000E-03	3.2755E+21	2.3407E+14
Pu-240	1.4788E-01	6.4899E-04	1.6285E+21	4.2870E+14
Pu-241	3.2655E+01	3.1700E-04	7.9213E+20	9.4668E+16
Am-241	2.1485E-02	6.2598E-06	1.5642E+19	6.2187E+13
Cm-242	5.4474E+00	1.6436E-06	4.0901E+18	1.5807E+16
Cm-244	3.1712E-01	3.9197E-06	9.6742E+18	9.1931E+14

## Sprayed Drywell Transport Group Inventory:

Time (h) =	8.0000	Atmosphere	Sump	
Noble gases (atoms)	1.7002E+25	0.0000E+00		
Elemental I (atoms)	5.4143E+20	5.4908E+22		
Organic I (atoms)	9.3978E+20	0.0000E+00		
Aerosols (kg)	1.8302E-01	5.2615E+01		
Dose Effective (Ci/cc) I-131 (Thyroid)				5.3947E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)				6.3219E-05
Total I (Ci)				4.3538E+05

## Sprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 8.0000 Leakage Transport

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

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

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

## Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

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

## Reactor Building Compartment Nuclide Inventory:

Time (h) =	8.0000	Ci	kg	Atoms	Decay
Co-58		1.1845E-01	3.7250E-09	3.8677E+16	1.1430E+14
Co-60		1.4221E-01	1.2581E-07	1.2627E+18	1.3704E+14
Kr-85		8.0938E+03	2.0630E-02	1.4616E+23	4.1982E+18
Kr-85m		3.4953E+04	4.2473E-06	3.0092E+19	2.7376E+19
Kr-87		3.0857E+03	1.0894E-07	7.5406E+17	9.5016E+18

Kr-88	4.7620E+04	3.7977E-06	2.5989E+19	4.8915E+19
Rb-86	3.8079E+00	4.6799E-08	3.2771E+17	4.0377E+15
Sr-89	1.6047E+02	5.5235E-06	3.7374E+19	1.5493E+17
Sr-90	2.5356E+01	1.8588E-04	1.2438E+21	2.4433E+16
Sr-91	1.1408E+02	3.1469E-08	2.0825E+17	1.4219E+17
Sr-92	2.7972E+01	2.2254E-09	1.4567E+16	7.2212E+16
Y-90	2.0021E+00	3.6800E-09	2.4624E+16	1.0924E+15
Y-91	2.2762E+00	9.2815E-08	6.1422E+17	2.1072E+15
Y-92	4.5640E+01	4.7431E-09	3.1047E+16	4.0138E+16
Y-93	9.5719E-01	2.8690E-10	1.8578E+15	1.1743E+15
Zr-95	2.9578E+00	1.3768E-07	8.7278E+17	2.8545E+15
Zr-97	2.0788E+00	1.0874E-09	6.7510E+15	2.3094E+15
Nb-95	2.9683E+00	7.5909E-08	4.8119E+17	2.8602E+15
Mo-99	3.5775E+01	7.4590E-08	4.5373E+17	3.5731E+16
Tc-99m	3.3483E+01	6.3678E-09	3.8735E+16	3.2653E+16
Ru-103	3.3302E+01	1.0319E-06	6.0330E+18	3.2170E+16
Ru-105	6.7403E+00	1.0027E-09	5.7510E+15	1.1533E+16
Ru-106	1.4602E+01	4.3644E-06	2.4796E+19	1.4074E+16
Rh-105	2.0730E+01	2.4560E-08	1.4086E+17	2.0696E+16
Sb-127	3.4799E+01	1.3031E-07	6.1790E+17	3.4401E+16
Sb-129	3.7264E+01	6.6266E-09	3.0935E+16	6.4865E+16
Te-127	3.6201E+01	1.3717E-08	6.5044E+16	3.5030E+16
Te-127m	6.2878E+00	6.6661E-07	3.1609E+18	6.0588E+15
Te-129	5.7358E+01	2.7388E-09	1.2786E+16	8.0719E+16
Te-129m	2.5809E+01	8.5671E-07	3.9994E+18	2.4907E+16
Te-131m	6.9828E+01	8.7569E-08	4.0256E+17	7.2847E+16
Te-132	5.5210E+02	1.8185E-06	8.2966E+18	5.4833E+17
I-131	2.6309E+03	2.1221E-05	9.7555E+19	2.6157E+18
I-132	1.0137E+03	9.8207E-08	4.4804E+17	1.9273E+18
I-133	4.2768E+03	3.7753E-06	1.7094E+19	4.7313E+18
I-134	1.1081E+01	4.1537E-10	1.8667E+15	5.0789E+17
I-135	2.2968E+03	6.5400E-07	2.9174E+18	3.3304E+18
Xe-133	9.0492E+05	4.8344E-03	2.1890E+22	4.7564E+20
Xe-135	2.1297E+05	8.3396E-05	3.7202E+20	1.3324E+20
Cs-134	5.0805E+02	3.9267E-04	1.7647E+21	5.3579E+17
Cs-136	1.3627E+02	1.8593E-06	8.2330E+18	1.4484E+17
Cs-137	4.0305E+02	4.6337E-03	2.0368E+22	4.2500E+17
Ba-139	5.3866E+00	3.2932E-10	1.4267E+15	4.3965E+16
Ba-140	2.9759E+02	4.0650E-06	1.7485E+19	2.8898E+17
La-140	3.5253E+01	6.3424E-08	2.7282E+17	1.8725E+16
La-141	6.7375E-01	1.1914E-10	5.0883E+14	1.2499E+15
La-142	7.4019E-02	5.1707E-12	2.1929E+13	4.6477E+14
Ce-141	6.9230E+00	2.4297E-07	1.0377E+18	6.6879E+15
Ce-143	5.4892E+00	8.2658E-09	3.4810E+16	5.6848E+15
Ce-144	5.9734E+00	1.8728E-06	7.8323E+18	5.7580E+15
Pr-143	2.5625E+00	3.8054E-08	1.6025E+17	2.4470E+15
Nd-147	1.0961E+00	1.3549E-08	5.5504E+16	1.0657E+15
Np-239	7.4285E+01	3.2021E-07	8.0683E+17	7.4644E+16
Pu-238	2.1440E-02	1.2523E-06	3.1688E+18	2.0659E+13
Pu-239	2.0275E-03	3.2619E-05	8.2190E+19	1.9528E+12
Pu-240	3.7107E-03	1.6285E-05	4.0862E+19	3.5757E+12
Pu-241	8.1939E-01	7.9543E-06	1.9876E+19	7.8958E+14
Am-241	5.3911E-04	1.5708E-07	3.9251E+17	5.1901E+11
Cm-242	1.3669E-01	4.1242E-08	1.0263E+17	1.3179E+14
Cm-244	7.9571E-03	9.8354E-08	2.4275E+17	7.6676E+12

Reactor Building Transport Group Inventory:

Time (h) =	8.0000	Atmosphere	Sump
Noble gases (atoms)	1.6848E+23	0.0000E+00	
Elemental I (atoms)	7.9769E+18	0.0000E+00	
Organic I (atoms)	9.4185E+18	0.0000E+00	
Aerosols (kg)	5.3162E-03	0.0000E+00	
Dose Effective (Ci/cc)	I-131 (Thyroid)		5.1324E-08
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		6.0138E-08
Total I (Ci)			1.0229E+04

## Sprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 8.0000 Leakage Transport

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

## Reactor Building to Environment Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	7.3076E+22
Elemental I (atoms)	5.0140E+18	5.7752E+17
Organic I (atoms)	3.8576E+18	4.2958E+17
Aerosols (kg)	4.5938E-03	1.1549E-04

## Unsprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 8.0000 Leakage Transport

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

## Exclusion Area Boundary Doses:

Time (h) =	16.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		1.5201E-01	2.3757E-01	1.6322E-01
Accumulated dose (rem)		3.4515E-01	6.7834E+00	6.4156E-01

## Low Population Zone Doses:

Time (h) =	16.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		1.3652E-01	1.0973E-01	1.4170E-01
Accumulated dose (rem)		3.6976E-01	9.1688E-01	4.1231E-01

## Control Room Doses:

Time (h) =	16.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		2.1790E-03	3.0525E-02	3.5839E-03
Accumulated dose (rem)		5.5680E-03	4.9976E+00	2.2281E-01

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =	16.0000	Ci	kg	Atoms	Decay
Co-58		4.6583E+00	1.4650E-07	1.5211E+18	1.8712E+16
Co-60		5.6105E+00	4.9634E-06	4.9817E+19	2.2439E+16



Kr-85	8.0863E+05	2.0611E+00	1.4603E+25	1.6305E+21
Kr-85m	1.0129E+06	1.2308E-04	8.7198E+20	8.1180E+21
Kr-87	3.9374E+03	1.3900E-07	9.6218E+17	3.5302E+21
Kr-88	6.7520E+05	5.3847E-05	3.6849E+20	1.4200E+22
Rb-86	1.2711E+02	1.5622E-06	1.0939E+19	6.0127E+17
Sr-89	6.3027E+03	2.1694E-04	1.4679E+21	2.5363E+19
Sr-90	1.0004E+03	7.3342E-03	4.9075E+22	4.0005E+18
Sr-91	2.5108E+03	6.9264E-07	4.5837E+18	2.3743E+19
Sr-92	1.4262E+02	1.1347E-08	7.4274E+16	1.5579E+19
Y-90	1.5397E+02	2.8300E-07	1.8936E+18	1.8280E+17
Y-91	9.4820E+01	3.8664E-06	2.5587E+19	3.4301E+17
Y-92	6.6222E+02	6.8821E-08	4.5049E+17	2.9328E+18
Y-93	2.1811E+01	6.5375E-09	4.2333E+16	1.9546E+17
Zr-95	1.1628E+02	5.4129E-06	3.4313E+19	4.6731E+17
Zr-97	5.9078E+01	3.0904E-08	1.9186E+17	3.7862E+17
Nb-95	1.1711E+02	2.9948E-06	1.8984E+19	4.6830E+17
Mo-99	1.2978E+03	2.7059E-06	1.6460E+19	5.8364E+18
Tc-99m	1.2612E+03	2.3986E-07	1.4590E+18	5.3034E+18
Ru-103	1.3063E+03	4.0475E-05	2.3665E+20	5.2661E+18
Ru-105	7.6279E+01	1.1348E-08	6.5083E+16	2.1189E+18
Ru-106	5.7577E+02	1.7210E-04	9.7774E+20	2.3043E+18
Rh-105	7.2099E+02	8.5420E-07	4.8991E+18	3.3455E+18
Sb-127	1.2931E+03	4.8421E-06	2.2960E+19	5.6219E+18
Sb-129	4.0733E+02	7.2435E-08	3.3815E+17	1.1993E+19
Te-127	1.3970E+03	5.2935E-07	2.5101E+18	5.7097E+18
Te-127m	2.4808E+02	2.6300E-05	1.2471E+20	9.9201E+17
Te-129	1.3849E+03	6.6130E-08	3.0871E+17	1.3913E+19
Te-129m	1.0126E+03	3.3613E-05	1.5691E+20	4.0755E+18
Te-131m	2.2902E+03	2.8721E-06	1.3203E+19	1.1896E+19
Te-132	2.0293E+04	6.6842E-05	3.0495E+20	8.9588E+19
I-131	1.0760E+05	8.6792E-04	3.9899E+21	4.3134E+20
I-132	2.4869E+04	2.4093E-06	1.0992E+19	4.1302E+20
I-133	1.3780E+05	1.2164E-04	5.5078E+20	7.7758E+20
I-134	8.3450E-01	3.1282E-11	1.4059E+14	2.4870E+20
I-135	4.1753E+04	1.1889E-05	5.3035E+19	5.7302E+20
Xe-133	8.6523E+07	4.6224E-01	2.0930E+24	1.8186E+23
Xe-135	1.1590E+07	4.5386E-03	2.0246E+22	4.3505E+22
Cs-134	1.7165E+04	1.3267E-02	5.9623E+22	7.9768E+19
Cs-136	4.5248E+03	6.1738E-05	2.7338E+20	2.1570E+19
Cs-137	1.3621E+04	1.5660E-01	6.8836E+23	6.3273E+19
Ba-139	3.8039E+00	2.3255E-10	1.0075E+15	1.4384E+19
Ba-140	1.1531E+04	1.5751E-04	6.7752E+20	4.7283E+19
La-140	2.6850E+03	4.8306E-06	2.0779E+19	3.0816E+18
La-141	6.4839E+00	1.1465E-09	4.8968E+15	2.3667E+17
La-142	8.0051E-02	5.5921E-12	2.3716E+13	1.3965E+17
Ce-141	2.7135E+02	9.5231E-06	4.0673E+19	1.0946E+18
Ce-143	1.8308E+02	2.7569E-07	1.1610E+18	9.2817E+17
Ce-144	2.3550E+02	7.3836E-05	3.0879E+20	9.4275E+17
Pr-143	1.0271E+02	1.5253E-06	6.4234E+18	4.0046E+17
Nd-147	4.2346E+01	5.2345E-07	2.1444E+18	1.7435E+17
Np-239	2.6571E+03	1.1454E-05	2.8860E+19	1.2190E+19
Pu-238	8.4597E-01	4.9415E-05	1.2504E+20	3.3826E+15
Pu-239	8.0070E-02	1.2882E-03	3.2459E+21	3.1975E+14
Pu-240	1.4641E-01	6.4253E-04	1.6123E+21	5.8546E+14
Pu-241	3.2329E+01	3.1384E-04	7.8421E+20	1.2928E+17
Am-241	2.1318E-02	6.2113E-06	1.5521E+19	8.4984E+13
Cm-242	5.3856E+00	1.6250E-06	4.0437E+18	2.1578E+16

Cm-244 3.1395E-01 3.8806E-06 9.5776E+18 1.2554E+15

Sprayed Drywell Transport Group Inventory:

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

Sprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 16.0000 Leakage Transport

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

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

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

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

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

Reactor Building Compartment Nuclide Inventory:

Time (h) = 16.0000	Ci	kg	Atoms	Decay
Co-58	9.9393E-02	3.1258E-09	3.2455E+16	2.2850E+14
Co-60	1.1971E-01	1.0590E-07	1.0629E+18	2.7437E+14
Kr-85	1.2205E+04	3.1109E-02	2.2041E+23	1.5446E+19
Kr-85m	1.5288E+04	1.8577E-06	1.3161E+19	5.4091E+19
Kr-87	5.9429E+01	2.0981E-09	1.4523E+16	1.0356E+19
Kr-88	1.0191E+04	8.1275E-07	5.5619E+18	7.6159E+19
Rb-86	2.9317E+00	3.6031E-08	2.5231E+17	7.5430E+15
Sr-89	1.3448E+02	4.6288E-06	3.1321E+19	3.0955E+17
Sr-90	2.1346E+01	1.5649E-04	1.0471E+21	4.8918E+16
Sr-91	5.3572E+01	1.4779E-08	9.7800E+16	2.2637E+17
Sr-92	3.0431E+00	2.4210E-10	1.5848E+15	8.4047E+16
Y-90	3.3028E+00	6.0707E-09	4.0620E+16	3.8783E+15
Y-91	2.0260E+00	8.2614E-08	5.4672E+17	4.3696E+15
Y-92	1.4259E+01	1.4818E-09	9.6997E+15	6.9499E+16
Y-93	4.6538E-01	1.3949E-10	9.0324E+14	1.8915E+15
Zr-95	2.4811E+00	1.1549E-07	7.3211E+17	5.7058E+15

Zr-97	1.2605E+00	6.5938E-10	4.0937E+15	4.0292E+15
Nb-95	2.4986E+00	6.3899E-08	4.0506E+17	5.7260E+15
Mo-99	2.7690E+01	5.7735E-08	3.5120E+17	6.8908E+16
Tc-99m	2.6910E+01	5.1177E-09	3.1131E+16	6.3459E+16
Ru-103	2.7871E+01	8.6359E-07	5.0492E+18	6.4238E+16
Ru-105	1.6275E+00	2.4212E-10	1.3886E+15	1.5319E+16
Ru-106	1.2285E+01	3.6720E-06	2.0861E+19	2.8170E+16
Rh-105	1.5383E+01	1.8226E-08	1.0453E+17	3.9580E+16
Sb-127	2.7590E+01	1.0331E-07	4.8989E+17	6.7047E+16
Sb-129	8.6911E+00	1.5455E-09	7.2150E+15	8.5520E+16
Te-127	2.9807E+01	1.1294E-08	5.3556E+16	6.9055E+16
Te-127m	5.2931E+00	5.6116E-07	2.6609E+18	1.2130E+16
Te-129	2.9549E+01	1.4110E-09	6.5869E+15	1.1745E+17
Te-129m	2.1605E+01	7.1718E-07	3.3480E+18	4.9765E+16
Te-131m	4.8865E+01	6.1281E-08	2.8171E+17	1.3458E+17
Te-132	4.3298E+02	1.4262E-06	6.5065E+18	1.0636E+18
I-131	2.2269E+03	1.7963E-05	8.2575E+19	5.1692E+18
I-132	5.2748E+02	5.1101E-08	2.3314E+17	2.6117E+18
I-133	2.8520E+03	2.5176E-06	1.1400E+19	8.4372E+18
I-134	1.7272E-02	6.4745E-13	2.9097E+12	5.0970E+17
I-135	8.6416E+02	2.4607E-07	1.0977E+18	4.8755E+18
Xe-133	1.3060E+06	6.9771E-03	3.1592E+22	1.7041E+21
Xe-135	1.7506E+05	6.8551E-05	3.0580E+20	3.5064E+20
Cs-134	3.9590E+02	3.0599E-04	1.3752E+21	1.0062E+18
Cs-136	1.0436E+02	1.4240E-06	6.3054E+18	2.6996E+17
Cs-137	3.1417E+02	3.6119E-03	1.5877E+22	7.9821E+17
Ba-139	8.1161E-02	4.9619E-12	2.1497E+13	4.5300E+16
Ba-140	2.4603E+02	3.3607E-06	1.4456E+19	5.7384E+17
La-140	5.7593E+01	1.0362E-07	4.4571E+17	6.7593E+16
La-141	1.3834E-01	2.4463E-11	1.0448E+14	1.6059E+15
La-142	1.7080E-03	1.1932E-13	5.0601E+11	4.8501E+14
Ce-141	5.7894E+00	2.0318E-07	8.6780E+17	1.3352E+16
Ce-143	3.9064E+00	5.8824E-09	2.4772E+16	1.0577E+16
Ce-144	5.0248E+00	1.5754E-06	6.5884E+18	1.1524E+16
Pr-143	2.1921E+00	3.2553E-08	1.3709E+17	4.9399E+15
Nd-147	9.0352E-01	1.1169E-08	4.5754E+16	2.1134E+15
Np-239	5.6694E+01	2.4438E-07	6.1577E+17	1.4307E+17
Pu-238	1.8050E-02	1.0543E-06	2.6678E+18	4.1363E+13
Pu-239	1.7084E-03	2.7486E-05	6.9256E+19	3.9116E+12
Pu-240	3.1239E-03	1.3709E-05	3.4400E+19	7.1590E+12
Pu-241	6.8979E-01	6.6962E-06	1.6732E+19	1.5808E+15
Am-241	4.5487E-04	1.3253E-07	3.3117E+17	1.0401E+12
Cm-242	1.1491E-01	3.4671E-08	8.6278E+16	2.6370E+14
Cm-244	6.6986E-03	8.2798E-08	2.0435E+17	1.5351E+13

## Reactor Building Transport Group Inventory:

Time (h) = 16.0000	Atmosphere	Sump	
Noble gases (atoms)	2.5232E+23	0.0000E+00	
Elemental I (atoms)	8.4903E+18	0.0000E+00	
Organic I (atoms)	1.3065E+19	0.0000E+00	
Aerosols (kg)	4.1591E-03	0.0000E+00	
Dose Effective (Ci/cc) I-131 (Thyroid)			4.1022E-08
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			4.6287E-08
Total I (Ci)			6.4706E+03

## Sprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 16.0000 Leakage Transport

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

## Reactor Building to Environment Transport Group Inventory:

	Pathway	
Time (h) = 16.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.6815E+23
Elemental I (atoms)	1.1758E+19	1.3268E+18
Organic I (atoms)	1.3275E+19	1.4760E+18
Aerosols (kg)	8.6935E-03	1.9916E-04

## Unsprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 16.0000 Leakage Transport

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

## Exclusion Area Boundary Doses:

Time (h) = 24.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	9.5722E-02	2.2486E-01	1.0598E-01
Accumulated dose (rem)	4.4087E-01	7.0083E+00	7.4754E-01

## Low Population Zone Doses:

Time (h) = 24.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	8.5970E-02	1.0386E-01	9.0708E-02
Accumulated dose (rem)	4.5573E-01	1.0207E+00	5.0302E-01

## Control Room Doses:

Time (h) = 24.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.3539E-03	1.2148E-02	1.9121E-03
Accumulated dose (rem)	6.9219E-03	5.0097E+00	2.2473E-01

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 24.0000	Ci	kg	Atoms	Decay
Co-58	4.5970E+00	1.4457E-07	1.5010E+18	2.3640E+16
Co-60	5.5541E+00	4.9134E-06	4.9315E+19	2.8383E+16
Kr-85	8.0055E+05	2.0405E+00	1.4456E+25	2.4873E+21
Kr-85m	2.9084E+05	3.5341E-05	2.5039E+20	8.7342E+21
Kr-87	4.9785E+01	1.7576E-09	1.2166E+16	3.5311E+21
Kr-88	9.4867E+04	7.5656E-06	5.1774E+19	1.4515E+22
Rb-86	1.2430E+02	1.5276E-06	1.0697E+19	7.3513E+17
Sr-89	6.2115E+03	2.1380E-04	1.4467E+21	3.2026E+19
Sr-90	9.9045E+02	7.2610E-03	4.8585E+22	5.0606E+18
Sr-91	1.3867E+03	3.8253E-07	2.5315E+18	2.5759E+19
Sr-92	1.8247E+01	1.4517E-09	9.5027E+15	1.5644E+19
Y-90	2.2243E+02	4.0884E-07	2.7357E+18	3.7814E+17
Y-91	9.6624E+01	3.9400E-06	2.6074E+19	4.4490E+17

Y-92	1.7745E+02	1.8441E-08	1.2071E+17	3.3242E+18
Y-93	1.2471E+01	3.7379E-09	2.4205E+16	2.1325E+17
Zr-95	1.1471E+02	5.3397E-06	3.3849E+19	5.9031E+17
Zr-97	4.2129E+01	2.2038E-08	1.3682E+17	4.3200E+17
Nb-95	1.1593E+02	2.9647E-06	1.8793E+19	5.9234E+17
Mo-99	1.1813E+03	2.4631E-06	1.4983E+19	7.1555E+18
Tc-99m	1.1838E+03	2.2514E-07	1.3695E+18	6.5395E+18
Ru-103	1.2857E+03	3.9837E-05	2.3292E+20	6.6462E+18
Ru-105	2.1660E+01	3.2223E-09	1.8481E+16	2.1651E+18
Ru-106	5.6968E+02	1.7028E-04	9.6740E+20	2.9142E+18
Rh-105	6.1643E+02	7.3032E-07	4.1887E+18	4.0564E+18
Sb-127	1.2057E+03	4.5147E-06	2.1408E+19	6.9518E+18
Sb-129	1.1172E+02	1.9868E-08	9.2748E+16	1.2236E+19
Te-127	1.3476E+03	5.1063E-07	2.4213E+18	7.1218E+18
Te-127m	2.4556E+02	2.6034E-05	1.2345E+20	1.2548E+18
Te-129	1.0181E+03	4.8615E-08	2.2695E+17	1.4874E+19
Te-129m	9.9599E+02	3.3061E-05	1.5434E+20	5.1449E+18
Te-131m	1.8848E+03	2.3636E-06	1.0866E+19	1.4112E+19
Te-132	1.8716E+04	6.1647E-05	2.8125E+20	1.1035E+20
I-131	1.0356E+05	8.3531E-04	3.8400E+21	5.4376E+20
I-132	2.2396E+04	2.1697E-06	9.8989E+18	4.3477E+20
I-133	1.0450E+05	9.2248E-05	4.1769E+20	9.0578E+20
I-134	1.4793E-03	5.5451E-14	2.4920E+11	2.4870E+20
I-135	1.7865E+04	5.0871E-06	2.2693E+19	6.0298E+20
Xe-133	8.1975E+07	4.3795E-01	1.9830E+24	2.7156E+23
Xe-135	6.2456E+06	2.4457E-03	1.0910E+22	5.2710E+22
Cs-134	1.6989E+04	1.3131E-02	5.9011E+22	9.7954E+19
Cs-136	4.4015E+03	6.0055E-05	2.6593E+20	2.6323E+19
Cs-137	1.3485E+04	1.5504E-01	6.8149E+23	7.7706E+19
Ba-139	6.7402E-02	4.1207E-12	1.7853E+13	1.4385E+19
Ba-140	1.1211E+04	1.5314E-04	6.5872E+20	5.9391E+19
La-140	3.7839E+03	6.8076E-06	2.9283E+19	6.4399E+18
La-141	1.5657E+00	2.7685E-10	1.1824E+15	2.4035E+17
La-142	2.1723E-03	1.5175E-13	6.4356E+11	1.3968E+17
Ce-141	2.6677E+02	9.3624E-06	3.9987E+19	1.3811E+18
Ce-143	1.5323E+02	2.3073E-07	9.7168E+17	1.1068E+18
Ce-144	2.3297E+02	7.3042E-05	3.0547E+20	1.1922E+18
Pr-143	1.0279E+02	1.5265E-06	6.4284E+18	5.0974E+17
Nd-147	4.1052E+01	5.0745E-07	2.0789E+18	2.1875E+17
Np-239	2.3849E+03	1.0280E-05	2.5903E+19	1.4872E+19
Pu-238	8.3758E-01	4.8925E-05	1.2380E+20	4.2790E+15
Pu-239	7.9339E-02	1.2764E-03	3.2163E+21	4.0463E+14
Pu-240	1.4496E-01	6.3614E-04	1.5962E+21	7.4060E+14
Pu-241	3.2006E+01	3.1070E-04	7.7638E+20	1.6354E+17
Am-241	2.1153E-02	6.1632E-06	1.5401E+19	1.0760E+14
Cm-242	5.3245E+00	1.6065E-06	3.9978E+18	2.7280E+16
Cm-244	3.1081E-01	3.8418E-06	9.4820E+18	1.5881E+15

## Sprayed Drywell Transport Group Inventory:

Time (h) =	24.0000	Atmosphere	Sump	
Noble gases (atoms)	1.6451E+25	0.0000E+00		
Elemental I (atoms)	4.6318E+20	5.4908E+22		
Organic I (atoms)	8.0396E+20	0.0000E+00		
Aerosols (kg)	1.7926E-01	5.2615E+01		
Dose Effective (Ci/cc)	I-131 (Thyroid)		4.5203E-05	
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		4.9732E-05	
Total I (Ci)			2.4832E+05	

Sprayed Drywell to Reactor Building Transport Group Inventory:  
Time (h) = 24.0000 Leakage Transport

Noble gases (atoms)	4.8445E+23
Elemental I (atoms)	1.8717E+19
Organic I (atoms)	2.6157E+19
Aerosols (kg)	9.6854E-03

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 24.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.1403E+26
Elemental I (atoms)	0.0000E+00	1.9873E+22
Organic I (atoms)	0.0000E+00	2.7754E+22
Aerosols (kg)	0.0000E+00	1.0291E+01

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 24.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.0258E+26
Elemental I (atoms)	0.0000E+00	1.9451E+22
Organic I (atoms)	0.0000E+00	2.7066E+22
Aerosols (kg)	0.0000E+00	1.0176E+01

Reactor Building Compartment Nuclide Inventory:

Time (h) = 24.0000	Ci	kg	Atoms	Decay
Co-58	9.0985E-02	2.8613E-09	2.9709E+16	3.2882E+14
Co-60	1.0993E-01	9.7248E-08	9.7607E+17	3.9539E+14
Kr-85	1.3790E+04	3.5148E-02	2.4902E+23	2.9536E+19
Kr-85m	5.0098E+03	6.0876E-07	4.3130E+18	6.4101E+19
Kr-87	8.5756E-01	3.0275E-11	2.0956E+14	1.0371E+19
Kr-88	1.6341E+03	1.3032E-07	8.9183E+17	8.1241E+19
Rb-86	2.5484E+00	3.1320E-08	2.1932E+17	1.0413E+16
Sr-89	1.2294E+02	4.2317E-06	2.8634E+19	4.4520E+17
Sr-90	1.9603E+01	1.4371E-04	9.6162E+20	7.0499E+16
Sr-91	2.7445E+01	7.5712E-09	5.0104E+16	2.6756E+17
Sr-92	3.6116E-01	2.8733E-11	1.8808E+14	8.5374E+16
Y-90	4.4091E+00	8.1040E-09	5.4226E+16	7.8574E+15
Y-91	1.9136E+00	7.8029E-08	5.1638E+17	6.4454E+15
Y-92	3.5231E+00	3.6613E-10	2.3966E+15	7.7575E+16
Y-93	2.4683E-01	7.3982E-11	4.7907E+14	2.2549E+15
Zr-95	2.2704E+00	1.0569E-07	6.6995E+17	8.2098E+15
Zr-97	8.3384E-01	4.3618E-10	2.7080E+15	5.1180E+15
Nb-95	2.2945E+00	5.8678E-08	3.7196E+17	8.2511E+15
Mo-99	2.3382E+01	4.8751E-08	2.9655E+17	9.5775E+16
Tc-99m	2.3431E+01	4.4560E-09	2.7106E+16	8.8631E+16
Ru-103	2.5447E+01	7.8847E-07	4.6100E+18	9.2335E+16
Ru-105	4.2871E-01	6.3777E-11	3.6578E+14	1.6266E+16
Ru-106	1.1275E+01	3.3702E-06	1.9147E+19	4.0587E+16
Rh-105	1.2201E+01	1.4455E-08	8.2904E+16	5.4064E+16
Sb-127	2.3863E+01	8.9356E-08	4.2371E+17	9.4131E+16
Sb-129	2.2113E+00	3.9323E-10	1.8357E+15	9.0511E+16
Te-127	2.6672E+01	1.0106E-08	4.7923E+16	9.7808E+16

Te-127m	4.8603E+00	5.1527E-07	2.4433E+18	1.7481E+16
Te-129	2.0151E+01	9.6221E-10	4.4919E+15	1.3706E+17
Te-129m	1.9713E+01	6.5436E-07	3.0548E+18	7.1538E+16
Te-131m	3.7304E+01	4.6782E-08	2.1506E+17	1.7975E+17
Te-132	3.7042E+02	1.2201E-06	5.5665E+18	1.4864E+18
I-131	2.0224E+03	1.6313E-05	7.4991E+19	7.4130E+18
I-132	4.4316E+02	4.2933E-08	1.9587E+17	3.0537E+18
I-133	2.0408E+03	1.8016E-06	8.1573E+18	1.0999E+19
I-134	2.8889E-05	1.0829E-15	4.8668E+09	5.0970E+17
I-135	3.4890E+02	9.9349E-08	4.4318E+17	5.4758E+18
Xe-133	1.4121E+06	7.5439E-03	3.4158E+22	3.1786E+21
Xe-135	1.0763E+05	4.2148E-05	1.8802E+20	5.0118E+20
Cs-134	3.4832E+02	2.6922E-04	1.2099E+21	1.3961E+18
Cs-136	9.0243E+01	1.2313E-06	5.4523E+18	3.7188E+17
Cs-137	2.7649E+02	3.1787E-03	1.3973E+22	1.1077E+18
Ba-139	1.3340E-03	8.1558E-14	3.5335E+11	4.5320E+16
Ba-140	2.2189E+02	3.0309E-06	1.3038E+19	8.2037E+17
La-140	7.4999E+01	1.3493E-07	5.8042E+17	1.3601E+17
La-141	3.0989E-02	5.4796E-12	2.3403E+13	1.6815E+15
La-142	4.2995E-05	3.0035E-15	1.2738E+10	4.8548E+14
Ce-141	5.2799E+00	1.8530E-07	7.9142E+17	1.9185E+16
Ce-143	3.0327E+00	4.5667E-09	1.9232E+16	1.4216E+16
Ce-144	4.6110E+00	1.4457E-06	6.0459E+18	1.6602E+16
Pr-143	2.0347E+00	3.0216E-08	1.2725E+17	7.1648E+15
Nd-147	8.1251E-01	1.0044E-08	4.1146E+16	3.0174E+15
Np-239	4.7202E+01	2.0346E-07	5.1267E+17	1.9771E+17
Pu-238	1.6578E-02	9.6834E-07	2.4502E+18	5.9613E+13
Pu-239	1.5703E-03	2.5264E-05	6.3658E+19	5.6394E+12
Pu-240	2.8690E-03	1.2591E-05	3.1593E+19	1.0317E+13
Pu-241	6.3347E-01	6.1495E-06	1.5366E+19	2.2782E+15
Am-241	4.1867E-04	1.2198E-07	3.0482E+17	1.5005E+12
Cm-242	1.0538E-01	3.1797E-08	7.9125E+16	3.7979E+14
Cm-244	6.1518E-03	7.6039E-08	1.8767E+17	2.2124E+13

## Reactor Building Transport Group Inventory:

Time (h) = 24.0000	Atmosphere	Sump	
Noble gases (atoms)	2.8337E+23	0.0000E+00	
Elemental I (atoms)	8.3566E+18	0.0000E+00	
Organic I (atoms)	1.3864E+19	0.0000E+00	
Aerosols (kg)	3.6679E-03	0.0000E+00	
Dose Effective (Ci/cc) I-131 (Thyroid)			3.5687E-08
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			3.9266E-08
Total I (Ci)			4.8553E+03

## Sprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 24.0000 Leakage Transport

Noble gases (atoms)	4.8445E+23
Elemental I (atoms)	1.8717E+19
Organic I (atoms)	2.6157E+19
Aerosols (kg)	9.6854E-03

## Reactor Building to Environment Transport Group Inventory:

	Pathway	
Time (h) = 24.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.1135E+23

Elemental I (atoms)	1.8620E+19	2.0893E+18
Organic I (atoms)	2.4315E+19	2.7026E+18
Aerosols (kg)	1.2111E-02	2.6889E-04

Unsprayed Drywell to Reactor Building Transport Group Inventory:  
Time (h) = 24.0000 Leakage Transport

Noble gases (atoms)	3.1411E+23
Elemental I (atoms)	1.2157E+19
Organic I (atoms)	1.6917E+19
Aerosols (kg)	6.3599E-03

Exclusion Area Boundary Doses:

Time (h) = 48.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.2419E-01	4.0564E-01	1.4279E-01
Accumulated dose (rem)	5.6506E-01	7.4139E+00	8.9034E-01

Low Population Zone Doses:

Time (h) = 48.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	4.4380E-02	9.5260E-02	4.8750E-02
Accumulated dose (rem)	5.0011E-01	1.1160E+00	5.5177E-01

Control Room Doses:

Time (h) = 48.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	5.4892E-04	6.5805E-03	8.5116E-04
Accumulated dose (rem)	7.4708E-03	5.0163E+00	2.2558E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 48.0000	Ci	kg	Atoms	Decay
Co-58	4.4844E+00	1.4103E-07	1.4643E+18	3.8150E+16
Co-60	5.4694E+00	4.8385E-06	4.8564E+19	4.5997E+16
Kr-85	7.8849E+05	2.0097E+00	1.4239E+25	5.0264E+21
Kr-85m	6.9900E+03	8.4938E-07	6.0177E+18	8.9775E+21
Kr-87	1.0216E-04	3.6066E-15	2.4965E+10	3.5311E+21
Kr-88	2.6711E+02	2.1302E-08	1.4578E+17	1.4567E+22
Rb-86	1.1798E+02	1.4500E-06	1.0153E+19	1.1222E+18
Sr-89	6.0356E+03	2.0775E-04	1.4057E+21	5.1594E+19
Sr-90	9.7565E+02	7.1525E-03	4.7859E+22	8.2022E+18
Sr-91	2.3712E+02	6.5411E-08	4.3288E+17	2.7839E+19
Sr-92	3.8791E-02	3.0862E-12	2.0202E+13	1.5653E+19
Y-90	3.9351E+02	7.2327E-07	4.8396E+18	1.3588E+18
Y-91	9.7249E+01	3.9655E-06	2.6242E+19	7.5592E+17
Y-92	2.0416E+00	2.1217E-10	1.3889E+15	3.4525E+18
Y-93	2.3663E+00	7.0925E-10	4.5927E+15	2.3268E+17
Zr-95	1.1179E+02	5.2035E-06	3.2986E+19	9.5221E+17
Zr-97	1.5509E+01	8.1126E-09	5.0366E+16	5.1713E+17
Nb-95	1.1415E+02	2.9191E-06	1.8504E+19	9.5982E+17
Mo-99	9.0447E+02	1.8858E-06	1.1471E+19	1.0469E+19
Tc-99m	9.2561E+02	1.7603E-07	1.0708E+18	9.7355E+18
Ru-103	1.2444E+03	3.8557E-05	2.2544E+20	1.0689E+19
Ru-105	5.0346E-01	7.4897E-11	4.2956E+14	2.1831E+18
Ru-106	5.6014E+02	1.6743E-04	9.5121E+20	4.7195E+18
Rh-105	3.8122E+02	4.5165E-07	2.5904E+18	5.6222E+18



Sb-127	9.9201E+02	3.7147E-06	1.7614E+19	1.0452E+19
Sb-129	2.3401E+00	4.1614E-10	1.9427E+15	1.2327E+19
Te-127	1.1776E+03	4.4622E-07	2.1159E+18	1.1026E+19
Te-127m	2.4162E+02	2.5615E-05	1.2146E+20	2.0333E+18
Te-129	8.3450E+02	3.9847E-08	1.8602E+17	1.7015E+19
Te-129m	9.6125E+02	3.1908E-05	1.4896E+20	8.2722E+18
Te-131m	1.0664E+03	1.3373E-06	6.1478E+18	1.8704E+19
Te-132	1.4904E+04	4.9092E-05	2.2397E+20	1.6384E+20
I-131	9.3681E+04	7.5564E-04	3.4737E+21	8.5867E+20
I-132	1.7789E+04	1.7234E-06	7.8626E+18	4.9016E+20
I-133	4.6265E+04	4.0841E-05	1.8493E+20	1.1342E+21
I-135	1.4207E+03	4.0454E-07	1.8046E+18	6.2374E+20
Xe-133	7.0766E+07	3.7806E-01	1.7118E+24	5.1519E+23
Xe-135	9.9017E+05	3.8774E-04	1.7296E+21	6.1830E+22
Cs-134	1.6721E+04	1.2923E-02	5.8079E+22	1.5182E+20
Cs-136	4.1125E+03	5.6112E-05	2.4847E+20	3.9922E+19
Cs-137	1.3284E+04	1.5272E-01	6.7131E+23	1.2048E+20
Ba-139	3.8065E-07	2.3271E-17	1.0082E+08	1.4385E+19
Ba-140	1.0459E+04	1.4287E-04	6.1455E+20	9.4004E+19
La-140	6.1281E+03	1.1025E-05	4.7425E+19	2.2329E+19
La-141	2.2379E-02	3.9572E-12	1.6901E+13	2.4152E+17
La-142	4.4066E-08	3.0783E-18	1.3055E+07	1.3968E+17
Ce-141	2.5726E+02	9.0287E-06	3.8562E+19	2.2184E+18
Ce-143	9.1177E+01	1.3730E-07	5.7820E+17	1.4888E+18
Ce-144	2.2894E+02	7.1780E-05	3.0019E+20	1.9303E+18
Pr-143	1.0212E+02	1.5165E-06	6.3863E+18	8.3758E+17
Nd-147	3.7967E+01	4.6931E-07	1.9226E+18	3.4495E+17
Np-239	1.7503E+03	7.5448E-06	1.9011E+19	2.1428E+19
Pu-238	8.2521E-01	4.8202E-05	1.2197E+20	6.9359E+15
Pu-239	7.8319E-02	1.2600E-03	3.1749E+21	6.5655E+14
Pu-240	1.4280E-01	6.2667E-04	1.5725E+21	1.2004E+15
Pu-241	3.1525E+01	3.0603E-04	7.6472E+20	2.6505E+17
Am-241	2.0976E-02	6.1117E-06	1.5272E+19	1.7490E+14
Cm-242	5.2229E+00	1.5759E-06	3.9215E+18	4.4133E+16
Cm-244	3.0616E-01	3.7842E-06	9.3399E+18	2.5739E+15

## Sprayed Drywell Transport Group Inventory:

Time (h) = 48.0000	Atmosphere	Sump	
Noble gases (atoms)	1.5952E+25	0.0000E+00	
Elemental I (atoms)	3.9604E+20	5.4908E+22	
Organic I (atoms)	6.8742E+20	0.0000E+00	
Aerosols (kg)	1.7646E-01	5.2615E+01	
Dose Effective (Ci/cc) I-131 (Thyroid)			3.7741E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			3.9704E-05
Total I (Ci)			1.5916E+05

## Sprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 48.0000 Leakage Transport

Noble gases (atoms)	7.2747E+23
Elemental I (atoms)	2.5143E+19
Organic I (atoms)	3.7312E+19
Aerosols (kg)	1.2353E-02

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

Pathway

Time (h) = 48.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.0298E+27
Elemental I (atoms)	0.0000E+00	3.3511E+22
Organic I (atoms)	0.0000E+00	5.1426E+22
Aerosols (kg)	0.0000E+00	1.5953E+01

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

Time (h) = 48.0000	Pathway	Filtered	Transported
Noble gases (atoms)		0.0000E+00	1.0183E+27
Elemental I (atoms)		0.0000E+00	3.3089E+22
Organic I (atoms)		0.0000E+00	5.0738E+22
Aerosols (kg)		0.0000E+00	1.5838E+01

Reactor Building Compartment Nuclide Inventory:

Time (h) = 48.0000	Ci	kg	Atoms	Decay
Co-58	4.4947E-02	1.4135E-09	1.4676E+16	5.1406E+14
Co-60	5.4819E-02	4.8496E-08	4.8675E+17	6.2013E+14
Kr-85	7.7644E+03	1.9790E-02	1.4021E+23	5.9785E+19
Kr-85m	6.8831E+01	8.3639E-09	5.9257E+16	6.7448E+19
Kr-87	1.0060E-06	3.5515E-17	2.4583E+08	1.0371E+19
Kr-88	2.6302E+00	2.0976E-10	1.4355E+15	8.1984E+19
Rb-86	1.1882E+00	1.4603E-08	1.0226E+17	1.5453E+16
Sr-89	6.0494E+01	2.0823E-06	1.4089E+19	6.9506E+17
Sr-90	9.7788E+00	7.1688E-05	4.7969E+20	1.1058E+17
Sr-91	2.3766E+00	6.5561E-10	4.3387E+15	2.9667E+17
Sr-92	3.8880E-04	3.0932E-14	2.0248E+11	8.5527E+16
Y-90	3.9444E+00	7.2499E-09	4.8511E+16	1.9985E+16
Y-91	9.7479E-01	3.9749E-08	2.6305E+17	1.0410E+16
Y-92	2.0470E-02	2.1273E-12	1.3925E+13	7.9571E+16
Y-93	2.3717E-02	7.1087E-12	4.6032E+13	2.5254E+15
Zr-95	1.1204E+00	5.2154E-08	3.3061E+17	1.2830E+16
Zr-97	1.5544E-01	8.1311E-11	5.0481E+14	6.2634E+15
Nb-95	1.1441E+00	2.9258E-08	1.8547E+17	1.2940E+16
Mo-99	9.0654E+00	1.8901E-08	1.1498E+17	1.3863E+17
Tc-99m	9.2772E+00	1.7643E-09	1.0732E+16	1.2992E+17
Ru-103	1.2472E+01	3.8646E-07	2.2595E+18	1.4396E+17
Ru-105	5.0461E-03	7.5068E-13	4.3054E+12	1.6540E+16
Ru-106	5.6143E+00	1.6781E-06	9.5338E+18	6.3623E+16
Rh-105	3.8209E+00	4.5269E-09	2.5963E+16	7.4552E+16
Sb-127	9.9428E+00	3.7232E-08	1.7655E+17	1.3923E+17
Sb-129	2.3455E-02	4.1709E-12	1.9471E+13	9.1891E+16
Te-127	1.1803E+01	4.4724E-09	2.1208E+16	1.4795E+17
Te-127m	2.4217E+00	2.5674E-07	1.2174E+18	2.7413E+16
Te-129	8.3641E+00	3.9939E-10	1.8645E+15	1.6466E+17
Te-129m	9.6345E+00	3.1981E-07	1.4930E+18	1.1148E+17
Te-131m	1.0688E+01	1.3404E-08	6.1619E+16	2.4013E+17
Te-132	1.4938E+02	4.9204E-07	2.2448E+18	2.1767E+18
I-131	9.3726E+02	7.5601E-06	3.4754E+19	1.1422E+19
I-132	1.7830E+02	1.7274E-08	7.8806E+16	3.7687E+18
I-133	4.6288E+02	4.0861E-07	1.8502E+18	1.4019E+19
I-135	1.4214E+01	4.0474E-09	1.8055E+16	5.7741E+18
Xe-133	6.9685E+05	3.7228E-03	1.6857E+22	6.0979E+21
Xe-135	9.7514E+03	3.8185E-06	1.7034E+19	6.1874E+20
Cs-134	1.6840E+02	1.3016E-04	5.8495E+20	2.0960E+18

Cs-136	4.1419E+01	5.6514E-07	2.5024E+18	5.4911E+17
Cs-137	1.3379E+02	1.5381E-03	6.7611E+21	1.6634E+18
Ba-139	3.8152E-09	2.3324E-19	1.0105E+06	4.5320E+16
Ba-140	1.0483E+02	1.4320E-06	6.1596E+18	1.2633E+18
La-140	6.1426E+01	1.1051E-07	4.7537E+17	3.3339E+17
La-141	2.2430E-04	3.9662E-14	1.6940E+11	1.6994E+15
La-142	4.4167E-10	3.0853E-20	1.3085E+05	4.8550E+14
Ce-141	2.5785E+00	9.0493E-08	3.8650E+17	2.9880E+16
Ce-143	9.1386E-01	1.3761E-09	5.7952E+15	1.9225E+16
Ce-144	2.2946E+00	7.1944E-07	3.0087E+18	2.6021E+16
Pr-143	1.0235E+00	1.5200E-08	6.4010E+16	1.1346E+16
Nd-147	3.8054E-01	4.7039E-09	1.9270E+16	4.6331E+15
Np-239	1.7543E+01	7.5621E-08	1.9054E+17	2.8269E+17
Pu-238	8.2710E-03	4.8313E-07	1.2225E+18	9.3512E+13
Pu-239	7.8498E-04	1.2629E-05	3.1822E+19	8.8533E+12
Pu-240	1.4312E-03	6.2810E-06	1.5761E+19	1.6184E+13
Pu-241	3.1597E-01	3.0673E-06	7.6647E+18	3.5735E+15
Am-241	2.1024E-04	6.1257E-08	1.5307E+17	2.3590E+12
Cm-242	5.2348E-02	1.5795E-08	3.9305E+16	5.9487E+14
Cm-244	3.0686E-03	3.7929E-08	9.3612E+16	3.4702E+13

## Reactor Building Transport Group Inventory:

Time (h) = 48.0000	Atmosphere	Sump	
Noble gases (atoms)	1.5708E+23	0.0000E+00	
Elemental I (atoms)	3.9220E+18	0.0000E+00	
Organic I (atoms)	6.7700E+18	0.0000E+00	
Aerosols (kg)	1.7767E-03	0.0000E+00	
Dose Effective (Ci/cc) I-131 (Thyroid)			1.5265E-08
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			1.6059E-08
Total I (Ci)			1.5927E+03

## Sprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 48.0000 Leakage Transport

Noble gases (atoms)	7.2747E+23
Elemental I (atoms)	2.5143E+19
Organic I (atoms)	3.7312E+19
Aerosols (kg)	1.2353E-02

## Reactor Building to Environment Transport Group Inventory:

	Pathway	
Time (h) = 48.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.0388E+24
Elemental I (atoms)	3.1551E+19	3.5260E+18
Organic I (atoms)	4.6243E+19	5.1390E+18
Aerosols (kg)	1.8310E-02	3.9542E-04

## Unsprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 48.0000 Leakage Transport

Noble gases (atoms)	4.7528E+23
Elemental I (atoms)	1.6419E+19
Organic I (atoms)	2.4314E+19
Aerosols (kg)	8.1291E-03

## Exclusion Area Boundary Doses:

Time (h) = 96.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.1926E-01	4.8528E-01	1.4276E-01
Accumulated dose (rem)	6.8432E-01	7.8992E+00	1.0331E+00

## Low Population Zone Doses:

Time (h) = 96.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	4.2621E-02	1.1396E-01	4.8138E-02
Accumulated dose (rem)	5.4273E-01	1.2300E+00	5.9990E-01

## Control Room Doses:

Time (h) = 96.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	4.4768E-04	6.7590E-03	7.7491E-04
Accumulated dose (rem)	7.9185E-03	5.0231E+00	2.2635E-01

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 96.0000	Ci	kg	Atoms	Decay
Co-58	4.2675E+00	1.3421E-07	1.3935E+18	6.6114E+16
Co-60	5.3039E+00	4.6921E-06	4.7095E+19	8.0424E+16
Kr-85	7.6492E+05	1.9497E+00	1.3813E+25	9.9904E+21
Kr-85m	4.0376E+00	4.9063E-10	3.4760E+15	8.9835E+21
Kr-88	2.1175E-03	1.6887E-13	1.1556E+12	1.4567E+22
Rb-86	1.0630E+02	1.3064E-06	9.1479E+18	1.8383E+18
Sr-89	5.6986E+03	1.9615E-04	1.3272E+21	8.9084E+19
Sr-90	9.4669E+02	6.9402E-03	4.6438E+22	1.4345E+19
Sr-91	6.9333E+00	1.9126E-09	1.2657E+16	2.8256E+19
Sr-92	1.7531E-07	1.3947E-17	9.1297E+07	1.5653E+19
Y-90	6.1295E+02	1.1266E-06	7.5385E+18	4.6139E+18
Y-91	9.2788E+01	3.7836E-06	2.5039E+19	1.3641E+18
Y-92	1.7475E-04	1.8161E-14	1.1888E+11	3.4539E+18
Y-93	8.5192E-02	2.5535E-11	1.6535E+14	2.3707E+17
Zr-95	1.0616E+02	4.9415E-06	3.1325E+19	1.6486E+18
Zr-97	2.1016E+00	1.0993E-09	6.8251E+15	5.6000E+17
Nb-95	1.1060E+02	2.8284E-06	1.7929E+19	1.6778E+18
Mo-99	5.3020E+02	1.1055E-06	6.7245E+18	1.4948E+19
Tc-99m	5.4357E+02	1.0338E-07	6.2883E+17	1.4094E+19
Ru-103	1.1657E+03	3.6120E-05	2.1119E+20	1.8388E+19
Ru-105	2.7199E-04	4.0463E-14	2.3207E+11	2.1835E+18
Ru-106	5.4155E+02	1.6187E-04	9.1962E+20	8.2400E+18
Rh-105	1.4441E+02	1.7109E-07	9.8126E+17	7.1815E+18
Sb-127	6.7160E+02	2.5149E-06	1.1925E+19	1.5703E+19
Sb-129	1.0267E-03	1.8257E-13	8.5231E+11	1.2329E+19
Te-127	8.7314E+02	3.3085E-07	1.5688E+18	1.7311E+19
Te-127m	2.3335E+02	2.4739E-05	1.1731E+20	3.5512E+18
Te-129	7.7403E+02	3.6960E-08	1.7254E+17	2.0879E+19
Te-129m	8.9514E+02	2.9714E-05	1.3871E+20	1.4202E+19
Te-131m	3.4139E+02	4.2812E-07	1.9681E+18	2.2772E+19
Te-132	9.4514E+03	3.1132E-05	1.4203E+20	2.4035E+20
I-131	7.6590E+04	6.1779E-04	2.8400E+21	1.4010E+21
I-132	1.1281E+04	1.0929E-06	4.9861E+18	5.6936E+20
I-133	9.0687E+03	8.0055E-06	3.6248E+19	1.2801E+21
I-135	8.9840E+00	2.5582E-09	1.1412E+16	6.2552E+20
Xe-133	5.2729E+07	2.8170E-01	1.2755E+24	9.0704E+23
Xe-135	2.4784E+04	9.7052E-06	4.3293E+19	6.3504E+22

Cs-134	1.6197E+04	1.2518E-02	5.6259E+22	2.5701E+20
Cs-136	3.5902E+03	4.8986E-05	2.1691E+20	6.4501E+19
Cs-137	1.2889E+04	1.4819E-01	6.5138E+23	2.0412E+20
Ba-140	9.1036E+03	1.2435E-04	5.3490E+20	1.5642E+20
La-140	8.0171E+03	1.4424E-05	6.2044E+19	6.8439E+19
La-141	4.5721E-06	8.0845E-16	3.4529E+09	2.4153E+17
Ce-141	2.3923E+02	8.3960E-06	3.5859E+19	3.8044E+18
Ce-143	3.2285E+01	4.8615E-08	2.0473E+17	1.8513E+18
Ce-144	2.2109E+02	6.9319E-05	2.8990E+20	3.3683E+18
Pr-143	9.4845E+01	1.4085E-06	5.9315E+18	1.4693E+18
Nd-147	3.2474E+01	4.0142E-07	1.6445E+18	5.6961E+17
Np-239	9.4285E+02	4.0641E-06	1.0241E+19	2.9770E+19
Pu-238	8.0100E-01	4.6789E-05	1.1839E+20	1.2133E+16
Pu-239	7.6206E-02	1.2260E-03	3.0893E+21	1.1504E+15
Pu-240	1.3858E-01	6.0815E-04	1.5260E+21	2.0995E+15
Pu-241	3.0585E+01	2.9691E-04	7.4192E+20	4.6353E+17
Am-241	2.0625E-02	6.0093E-06	1.5016E+19	3.0784E+14
Cm-242	5.0256E+00	1.5163E-06	3.7734E+18	7.6881E+16
Cm-244	2.9704E-01	3.6716E-06	9.0619E+18	4.5015E+15

## Sprayed Drywell Transport Group Inventory:

Time (h) = 96.0000	Atmosphere	Sump	
Noble gases (atoms)	1.5089E+25	0.0000E+00	
Elemental I (atoms)	3.1106E+20	5.4908E+22	
Organic I (atoms)	5.3992E+20	0.0000E+00	
Aerosols (kg)	1.7105E-01	5.2615E+01	
Dose Effective (Ci/cc) I-131 (Thyroid)			2.9057E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			2.9524E-05
Total I (Ci)			9.6949E+04

## Sprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 96.0000 Leakage Transport

Noble gases (atoms)	1.1928E+24
Elemental I (atoms)	3.5675E+19
Organic I (atoms)	5.5592E+19
Aerosols (kg)	1.7565E-02

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.0173E+27
Elemental I (atoms)	0.0000E+00	5.5860E+22
Organic I (atoms)	0.0000E+00	9.0218E+22
Aerosols (kg)	0.0000E+00	2.7013E+01

## Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.0059E+27
Elemental I (atoms)	0.0000E+00	5.5438E+22
Organic I (atoms)	0.0000E+00	8.9530E+22
Aerosols (kg)	0.0000E+00	2.6898E+01

## Reactor Building Compartment Nuclide Inventory:

Time (h) = 96.0000	Ci	kg	Atoms	Decay
Co-58	3.9722E-02	1.2492E-09	1.2970E+16	7.7783E+14
Co-60	4.9369E-02	4.3675E-08	4.3836E+17	9.4484E+14
Kr-85	7.1193E+03	1.8146E-02	1.2856E+23	1.0645E+20
Kr-85m	3.7579E-02	4.5664E-12	3.2352E+13	6.7505E+19
Kr-88	1.9708E-05	1.5717E-15	1.0756E+10	8.1986E+19
Rb-86	9.8943E-01	1.2160E-08	8.5151E+16	2.2216E+16
Sr-89	5.3043E+01	1.8258E-06	1.2354E+19	1.0487E+18
Sr-90	8.8118E+00	6.4599E-05	4.3225E+20	1.6852E+17
Sr-91	6.4535E-02	1.7803E-11	1.1781E+14	3.0066E+17
Sr-92	1.6318E-09	1.2982E-19	8.4980E+05	8.5527E+16
Y-90	5.7054E+00	1.0487E-08	7.0169E+16	5.0625E+16
Y-91	8.6367E-01	3.5218E-08	2.3306E+17	1.6147E+16
Y-92	1.6266E-06	1.6905E-16	1.1065E+09	7.9584E+16
Y-93	7.9297E-04	2.3768E-13	1.5391E+12	2.5674E+15
Zr-95	9.8812E-01	4.5996E-08	2.9157E+17	1.9399E+16
Zr-97	1.9562E-02	1.0233E-11	6.3529E+13	6.6715E+15
Nb-95	1.0294E+00	2.6326E-08	1.6689E+17	1.9711E+16
Mo-99	4.9351E+00	1.0290E-08	6.2592E+16	1.8097E+17
Tc-99m	5.0596E+00	9.6222E-10	5.8532E+15	1.7112E+17
Ru-103	1.0851E+01	3.3621E-07	1.9657E+18	2.1660E+17
Ru-105	2.5317E-06	3.7663E-16	2.1601E+09	1.6544E+16
Ru-106	5.0407E+00	1.5067E-06	8.5599E+18	9.6828E+16
Rh-105	1.3442E+00	1.5925E-09	9.1336E+15	8.9322E+16
Sb-127	6.2512E+00	2.3408E-08	1.1100E+17	1.8883E+17
Sb-129	9.5563E-06	1.6994E-15	7.9333E+09	9.1910E+16
Te-127	8.1272E+00	3.0795E-09	1.4603E+16	2.0729E+17
Te-127m	2.1720E+00	2.3027E-07	1.0919E+18	4.1731E+16
Te-129	7.2047E+00	3.4403E-10	1.6060E+15	2.0111E+17
Te-129m	8.3320E+00	2.7658E-07	1.2912E+18	1.6742E+17
Te-131m	3.1776E+00	3.9850E-09	1.8319E+16	2.7869E+17
Te-132	8.7974E+01	2.8978E-07	1.3220E+18	2.8998E+18
I-131	7.1289E+02	5.7503E-06	2.6434E+19	1.6539E+19
I-132	1.0501E+02	1.0173E-08	4.6411E+16	4.5172E+18
I-133	8.4411E+01	7.4514E-08	3.3740E+17	1.5404E+19
I-135	8.3623E-02	2.3812E-11	1.0622E+14	5.7913E+18
Xe-133	4.9076E+05	2.6218E-03	1.1872E+22	9.7848E+21
Xe-135	2.3067E+02	9.0328E-08	4.0294E+17	6.3467E+20
Cs-134	1.5076E+02	1.1652E-04	5.2367E+20	3.0890E+18
Cs-136	3.3419E+01	4.5597E-07	2.0191E+18	7.8125E+17
Cs-137	1.1998E+02	1.3794E-03	6.0632E+21	2.4530E+18
Ba-140	8.4737E+01	1.1575E-06	4.9789E+18	1.8523E+18
La-140	7.4623E+01	1.3426E-07	5.7751E+17	7.6772E+17
La-141	4.2557E-08	7.5251E-18	3.2140E+07	1.6996E+15
Ce-141	2.2268E+00	7.8150E-08	3.3378E+17	4.4841E+16
Ce-143	3.0051E-01	4.5251E-10	1.9057E+15	2.2660E+16
Ce-144	2.0579E+00	6.4523E-07	2.6984E+18	3.9585E+16
Pr-143	8.8282E-01	1.3110E-08	5.5210E+16	1.7305E+16
Nd-147	3.0227E-01	3.7364E-09	1.5307E+16	6.7532E+15
Np-239	8.7760E+00	3.7829E-08	9.5319E+16	3.6158E+17
Pu-238	7.4558E-03	4.3551E-07	1.1020E+18	1.4253E+14
Pu-239	7.0933E-04	1.1412E-05	2.8755E+19	1.3511E+13
Pu-240	1.2899E-03	5.6607E-06	1.4204E+19	2.4665E+13
Pu-241	2.8469E-01	2.7636E-06	6.9058E+18	5.4455E+15
Am-241	1.9198E-04	5.5935E-08	1.3977E+17	3.6127E+12
Cm-242	4.6778E-02	1.4114E-08	3.5123E+16	9.0376E+14

Cm-244                                      2.7649E-03    3.4176E-08    8.4349E+16    5.2883E+13

Reactor Building Transport Group Inventory:

Time (h) = 96.0000	Atmosphere	Sump	
Noble gases (atoms)	1.4043E+23	0.0000E+00	
Elemental I (atoms)	2.8952E+18	0.0000E+00	
Organic I (atoms)	5.0252E+18	0.0000E+00	
Aerosols (kg)	1.5922E-03	0.0000E+00	
Dose Effective (Ci/cc)	I-131 (Thyroid)		1.0934E-08
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		1.1109E-08
Total I (Ci)			9.0239E+02

Sprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 96.0000    Leakage Transport

Noble gases (atoms)	1.1928E+24
Elemental I (atoms)	3.5675E+19
Organic I (atoms)	5.5592E+19
Aerosols (kg)	1.7565E-02

Reactor Building to Environment Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.8257E+24
Elemental I (atoms)	4.7607E+19	5.3101E+18
Organic I (atoms)	7.4080E+19	8.2320E+18
Aerosols (kg)	2.6985E-02	5.7245E-04

Unsprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 96.0000    Leakage Transport

Noble gases (atoms)	7.8389E+23
Elemental I (atoms)	2.3402E+19
Organic I (atoms)	3.6436E+19
Aerosols (kg)	1.1586E-02

Exclusion Area Boundary Doses:

Time (h) = 720.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.2712E-01	1.9010E+00	4.7218E-01
Accumulated dose (rem)	1.0114E+00	9.8002E+00	1.5053E+00

Low Population Zone Doses:

Time (h) = 720.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.1122E-02	1.1885E-01	4.0191E-02
Accumulated dose (rem)	5.7386E-01	1.3488E+00	6.4010E-01

Control Room Doses:

Time (h) = 720.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.4675E-04	5.2951E-03	6.4868E-04
Accumulated dose (rem)	8.1652E-03	5.0284E+00	2.2700E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 720.0000	Ci	kg	Atoms	Decay
Co-58	2.2400E+00	7.0445E-08	7.3143E+17	3.2748E+17
Co-60	3.5576E+00	3.1472E-06	3.1589E+19	4.4376E+17
Kr-85	5.1552E+05	1.3140E+00	9.3093E+24	6.2507E+22
Rb-86	2.7397E+01	3.3671E-07	2.3578E+18	6.6736E+18
Sr-89	2.7003E+03	9.2946E-05	6.2891E+20	4.2266E+20
Sr-90	6.3988E+02	4.6909E-03	3.1388E+22	7.9430E+19
Y-90	6.4324E+02	1.1823E-06	7.9110E+18	6.5776E+19
Y-91	4.6179E+01	1.8830E-06	1.2461E+19	6.9147E+18
Zr-95	5.4231E+01	2.5244E-06	1.6002E+19	8.0723E+18
Zr-97	1.0920E-11	5.7122E-21	3.5464E+04	5.6672E+17
Nb-95	6.9432E+01	1.7756E-06	1.1256E+19	9.0777E+18
Mo-99	5.1163E-01	1.0668E-09	6.4891E+15	2.1286E+19
Tc-99m	5.2455E-01	9.9757E-11	6.0682E+14	2.0265E+19
Ru-103	4.9885E+02	1.5457E-05	9.0372E+19	8.3672E+19
Ru-106	3.4914E+02	1.0436E-04	5.9290E+20	4.4661E+19
Rh-105	4.7635E-04	5.6436E-13	3.2368E+12	8.1322E+18
Sb-127	4.2151E+00	1.5784E-08	7.4844E+16	2.6638E+19
Te-127	1.4320E+02	5.4261E-08	2.5730E+17	4.2158E+19
Te-127m	1.3643E+02	1.4463E-05	6.8583E+19	1.8639E+19
Te-129	3.0651E+02	1.4636E-08	6.8325E+16	5.2461E+19
Te-129m	3.5447E+02	1.1766E-05	5.4929E+19	6.2698E+19
Te-131m	1.2660E-04	1.5877E-13	7.2987E+11	2.4688E+19
Te-132	2.5354E+01	8.3512E-08	3.8100E+17	3.7263E+20
I-131	5.5156E+03	4.4490E-05	2.0452E+20	3.6465E+21
I-132	3.0262E+01	2.9318E-09	1.3375E+16	7.0628E+20
I-133	5.7183E-06	5.0479E-15	2.2857E+10	1.3157E+21
Xe-133	1.1494E+06	6.1403E-03	2.7803E+22	2.0273E+24
Cs-134	1.0707E+04	8.2752E-03	3.7190E+22	1.3590E+21
Cs-136	6.1416E+02	8.3797E-06	3.7106E+19	2.0455E+20
Cs-137	8.7126E+03	1.0017E-01	4.4030E+23	1.0903E+21
Ba-140	1.4979E+03	2.0461E-05	8.8014E+19	5.0662E+20
La-140	1.7400E+03	3.1305E-06	1.3466E+19	4.5312E+20
Ce-141	9.3030E+01	3.2650E-06	1.3945E+19	1.6666E+19
Ce-143	4.4403E-05	6.6864E-14	2.8158E+11	2.0501E+18
Ce-144	1.4050E+02	4.4050E-05	1.8422E+20	1.8139E+19
Pr-143	1.7653E+01	2.6216E-07	1.1040E+18	5.3540E+18
Nd-147	4.2594E+00	5.2651E-08	2.1569E+17	1.7237E+18
Np-239	3.0310E-01	1.3065E-09	3.2921E+15	3.9508E+19
Pu-238	5.4383E-01	3.1766E-05	8.0379E+19	6.7318E+16
Pu-239	5.1767E-02	8.3285E-04	2.0985E+21	6.4085E+15
Pu-240	9.3825E-02	4.1176E-04	1.0332E+21	1.1634E+16
Pu-241	2.0637E+01	2.0034E-04	5.0061E+20	2.5646E+18
Am-241	1.6323E-02	4.7558E-06	1.1884E+19	1.8389E+15
Cm-242	3.0460E+00	9.1906E-07	2.2871E+18	4.0538E+17
Cm-244	2.0057E-01	2.4791E-06	6.1187E+18	2.4913E+16

## Sprayed Drywell Transport Group Inventory:

Time (h) = 720.0000	Atmosphere	Sump	
Noble gases (atoms)	9.3371E+24	0.0000E+00	
Elemental I (atoms)	2.2082E+19	5.4908E+22	
Organic I (atoms)	3.8329E+19	0.0000E+00	
Aerosols (kg)	1.1498E-01	5.2615E+01	
Dose Effective (Ci/cc)	I-131 (Thyroid)		2.0504E-06
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		2.0507E-06
Total I (Ci)			5.5459E+03



Sprayed Drywell to Reactor Building Transport Group Inventory:  
Time (h) = 720.0000 Leakage Transport

Noble gases (atoms)	5.7717E+24
Elemental I (atoms)	7.8051E+19
Organic I (atoms)	1.2915E+20
Aerosols (kg)	7.2587E-02

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.1734E+28
Elemental I (atoms)	0.0000E+00	1.4579E+23
Organic I (atoms)	0.0000E+00	2.4631E+23
Aerosols (kg)	0.0000E+00	1.4377E+02

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.1723E+28
Elemental I (atoms)	0.0000E+00	1.4537E+23
Organic I (atoms)	0.0000E+00	2.4562E+23
Aerosols (kg)	0.0000E+00	1.4366E+02

Reactor Building Compartment Nuclide Inventory:

Time (h) = 720.0000	Ci	kg	Atoms	Decay
Co-58	2.0843E-02	6.5547E-10	6.8057E+15	3.2098E+15
Co-60	3.3102E-02	2.9284E-08	2.9392E+17	4.3256E+15
Kr-85	4.7967E+03	1.2226E-02	8.6620E+22	5.9510E+20
Rb-86	2.5492E-01	3.1329E-09	2.1938E+16	6.7208E+16
Sr-89	2.5125E+01	8.6483E-07	5.8518E+18	4.1525E+18
Sr-90	5.9538E+00	4.3648E-05	2.9206E+20	7.7411E+17
Y-90	5.9851E+00	1.1001E-08	7.3609E+16	6.1972E+17
Y-91	4.2968E-01	1.7521E-08	1.1595E+17	6.7794E+16
Zr-95	5.0460E-01	2.3488E-08	1.4889E+17	7.9169E+16
Nb-95	6.4604E-01	1.6522E-08	1.0473E+17	8.8566E+16
Mo-99	4.7606E-03	9.9258E-12	6.0378E+13	2.3995E+17
Tc-99m	4.8807E-03	9.2821E-13	5.6463E+12	2.2854E+17
Ru-103	4.6417E+00	1.4382E-07	8.4088E+17	8.2404E+17
Ru-106	3.2487E+00	9.7103E-07	5.5167E+18	4.3572E+17
Rh-105	4.4323E-06	5.2511E-15	3.0117E+10	9.8168E+16
Sb-127	3.9220E-02	1.4686E-10	6.9639E+14	2.9058E+17
Te-127	1.3324E+00	5.0488E-10	2.3941E+15	4.3849E+17
Te-127m	1.2694E+00	1.3458E-07	6.3814E+17	1.8212E+17
Te-129	2.8520E+00	1.3618E-10	6.3574E+14	4.9498E+17
Te-129m	3.2982E+00	1.0948E-07	5.1110E+17	6.1867E+17
Te-131m	1.1780E-06	1.4773E-15	6.7912E+09	2.9652E+17
Te-132	2.3591E-01	7.7705E-10	3.5451E+15	4.1306E+18
I-131	5.1321E+01	4.1396E-07	1.9030E+18	3.7433E+19
I-132	2.8158E-01	2.7279E-11	1.2445E+14	5.7912E+18
I-133	5.3207E-08	4.6969E-17	2.1267E+08	1.5735E+19
Xe-133	1.0694E+04	5.7134E-05	2.5870E+20	2.0208E+22
Cs-134	9.9622E+01	7.6998E-05	3.4604E+20	1.3343E+19
Cs-136	5.7145E+00	7.7970E-08	3.4526E+17	2.0844E+18

Cs-137	8.1067E+01	9.3200E-04	4.0968E+21	1.0699E+19
Ba-140	1.3938E+01	1.9038E-07	8.1894E+17	5.1108E+18
La-140	1.6190E+01	2.9128E-08	1.2530E+17	4.3471E+18
Ce-141	8.6561E-01	3.0379E-08	1.2975E+17	1.6452E+17
Ce-143	4.1316E-07	6.2215E-16	2.6200E+09	2.4510E+16
Ce-144	1.3073E+00	4.0987E-07	1.7141E+18	1.7702E+17
Pr-143	1.6426E-01	2.4393E-09	1.0273E+16	5.3451E+16
Nd-147	3.9632E-02	4.8990E-10	2.0070E+15	1.7492E+16
Np-239	2.8203E-03	1.2157E-11	3.0632E+13	4.5219E+17
Pu-238	5.0602E-03	2.9558E-07	7.4790E+17	6.5601E+14
Pu-239	4.8167E-04	7.7494E-06	1.9526E+19	6.2436E+13
Pu-240	8.7301E-04	3.8312E-06	9.6135E+18	1.1338E+14
Pu-241	1.9202E-01	1.8641E-06	4.6580E+18	2.4995E+16
Am-241	1.5188E-04	4.4251E-08	1.1057E+17	1.7858E+13
Cm-242	2.8342E-02	8.5515E-09	2.1280E+16	3.9604E+15
Cm-244	1.8662E-03	2.3068E-08	5.6933E+16	2.4281E+14

Reactor Building Transport Group Inventory:

Time (h) = 720.0000	Atmosphere	Sump	
Noble gases (atoms)	8.6878E+22	0.0000E+00	
Elemental I (atoms)	2.0547E+17	0.0000E+00	
Organic I (atoms)	3.5663E+17	0.0000E+00	
Aerosols (kg)	1.0698E-03	0.0000E+00	
Dose Effective (Ci/cc)	I-131 (Thyroid)		7.7125E-10
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		7.7138E-10
Total I (Ci)			5.1603E+01

Sprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 720.0000 Leakage Transport

Noble gases (atoms)	5.7717E+24
Elemental I (atoms)	7.8051E+19
Organic I (atoms)	1.2915E+20
Aerosols (kg)	7.2587E-02

Reactor Building to Environment Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	9.4836E+24
Elemental I (atoms)	1.1139E+20	1.2397E+19
Organic I (atoms)	1.8480E+20	2.0534E+19
Aerosols (kg)	1.1717E-01	2.4129E-03

Unsprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 720.0000 Leakage Transport

Noble gases (atoms)	3.8204E+24
Elemental I (atoms)	5.1505E+19
Organic I (atoms)	8.5215E+19
Aerosols (kg)	4.8073E-02

1021

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

Time (hr)	Sprayed Drywell		Reactor Building		Environment	
	I-131 (Curies)		I-131 (Curies)		I-131 (Curies)	
0.000	4.4650E+03		0.0000E+00		0.0000E+00	
0.033	2.6200E+05		0.0000E+00		0.0000E+00	
0.167	1.2153E+06		1.3320E+02		7.7750E-01	
0.417	5.3523E+05		4.0419E+02		8.6646E+00	
0.500	5.2943E+05		4.8170E+02		8.7643E+00	
0.667	8.4094E+05		6.8738E+02		9.0269E+00	
0.920	8.7697E+05		1.0568E+03		9.6289E+00	
1.170	8.8811E+05		1.4405E+03		1.0486E+01	
1.420	8.9580E+05		1.8315E+03		1.1616E+01	
1.670	9.0149E+05		2.2234E+03		1.3023E+01	
1.920	9.0593E+05		2.6120E+03		1.4711E+01	
2.000	9.0716E+05		2.7353E+03		1.5310E+01	
2.200	1.1299E+05		2.8833E+03		1.6899E+01	
2.300	7.8833E+04		2.9134E+03		1.7718E+01	
2.600	1.6278E+05		2.9758E+03		2.0234E+01	
2.900	1.6460E+05		3.0149E+03		2.2821E+01	
3.200	1.4673E+05		3.0308E+03		2.5464E+01	
3.500	1.2668E+05		3.0273E+03		2.8146E+01	
3.800	1.0890E+05		3.0083E+03		3.0854E+01	
4.000	9.8733E+04		2.9888E+03		3.2669E+01	
4.300	1.0818E+05		2.9565E+03		3.5399E+01	
4.600	1.1156E+05		2.9252E+03		3.8139E+01	
4.900	1.1270E+05		2.8949E+03		4.0888E+01	
5.200	1.1302E+05		2.8655E+03		4.3645E+01	
5.500	1.1303E+05		2.8370E+03		4.6410E+01	
5.800	1.1293E+05		2.8094E+03		4.9182E+01	
6.100	1.1280E+05		2.7826E+03		5.1962E+01	
6.400	1.1264E+05		2.7566E+03		5.4748E+01	
6.700	1.1249E+05		2.7315E+03		5.7541E+01	
7.000	1.1233E+05		2.7071E+03		6.0339E+01	
7.300	1.1217E+05		2.6834E+03		6.3143E+01	
7.600	1.1201E+05		2.6604E+03		6.5953E+01	
7.900	1.1185E+05		2.6382E+03		6.8767E+01	
8.000	1.1179E+05		2.6309E+03		6.9707E+01	
8.300	1.1163E+05		2.6095E+03		7.2527E+01	
8.600	1.1147E+05		2.5887E+03		7.5352E+01	
8.900	1.1131E+05		2.5686E+03		7.8181E+01	
9.200	1.1115E+05		2.5490E+03		8.1013E+01	
9.500	1.1099E+05		2.5300E+03		8.3849E+01	
9.800	1.1084E+05		2.5116E+03		8.6688E+01	
10.100	1.1068E+05		2.4937E+03		8.9530E+01	
10.400	1.1052E+05		2.4763E+03		9.2375E+01	
16.000	1.0760E+05		2.2269E+03		1.4566E+02	
24.000	1.0356E+05		2.0224E+03		2.2121E+02	
48.000	9.3681E+04		9.3726E+02		3.6637E+02	
96.000	7.6590E+04		7.1289E+02		5.5426E+02	
720.000	5.5156E+03		5.1321E+01		1.3219E+03	
Time (hr)	Control Room		Unsprayed Drywell			
	I-131 (Curies)		I-131 (Curies)			
0.000	0.0000E+00		1.6446E+00			
0.033	0.0000E+00		5.6993E+03			
0.167	1.2277E-03		1.2410E+05			
0.417	1.1687E-02		2.4857E+05			

0.500	9.8805E-03	2.6436E+05
0.667	7.0532E-03	3.3096E+05
0.920	5.8765E-03	4.2739E+05
1.170	4.9082E-03	4.8930E+05
1.420	4.0999E-03	5.2917E+05
1.670	3.4251E-03	5.5503E+05
1.920	2.8620E-03	5.7199E+05
2.000	2.7023E-03	5.7611E+05
2.200	2.3402E-03	4.5280E+05
2.300	2.1778E-03	3.8161E+05
2.600	1.7554E-03	2.5003E+05
2.900	1.4152E-03	1.8691E+05
3.200	1.1412E-03	1.4888E+05
3.500	9.2052E-04	1.2214E+05
3.800	7.4276E-04	1.0182E+05
4.000	6.4392E-04	9.0777E+04
4.300	5.1997E-04	8.1056E+04
4.600	4.2014E-04	7.7410E+04
4.900	3.3973E-04	7.5999E+04
5.200	2.7496E-04	7.5412E+04
5.500	2.2280E-04	7.5128E+04
5.800	1.8078E-04	7.4956E+04
6.100	1.4694E-04	7.4825E+04
6.400	1.1968E-04	7.4709E+04
6.700	9.7734E-05	7.4599E+04
7.000	8.0055E-05	7.4491E+04
7.300	6.5818E-05	7.4384E+04
7.600	5.4352E-05	7.4278E+04
7.900	4.5119E-05	7.4171E+04
8.000	4.2460E-05	7.4136E+04
8.300	3.5107E-05	7.4030E+04
8.600	2.9186E-05	7.3924E+04
8.900	2.4418E-05	7.3818E+04
9.200	2.0578E-05	7.3712E+04
9.500	1.7487E-05	7.3607E+04
9.800	1.4997E-05	7.3502E+04
10.100	1.2993E-05	7.3396E+04
10.400	1.1379E-05	7.3291E+04
16.000	4.8387E-06	7.1356E+04
24.000	4.6568E-06	6.8675E+04
48.000	9.8644E-07	6.2125E+04
96.000	7.4722E-07	5.0791E+04
720.000	1.5923E-08	3.6577E+03

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

Time (hr)	Exclusion Area Bounda		Low Population Zone		Control Room	
	Thyroid (rem)	TEDE (rem)	Thyroid (rem)	TEDE (rem)	Thyroid (rem)	TEDE (rem)
0.000	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.033	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.167	5.6963E-01	2.7833E-02	4.3560E-02	2.1284E-03	1.7777E-02	7.7558E-04
0.417	6.3338E+00	3.0977E-01	4.8435E-01	2.3689E-02	5.6258E-01	2.4540E-02
0.500	6.3422E+00	3.1068E-01	4.8596E-01	2.3863E-02	8.9348E-01	3.8973E-02
0.667	6.3431E+00	3.1080E-01	4.8884E-01	2.4245E-02	1.4108E+00	6.1533E-02

0.920	6.3452E+00	3.1122E-01	4.9550E-01	2.5597E-02	2.0132E+00	8.7807E-02
1.170	6.3481E+00	3.1208E-01	5.0500E-01	2.8362E-02	2.5077E+00	1.0937E-01
1.420	6.3520E+00	3.1353E-01	5.1754E-01	3.3004E-02	2.9193E+00	1.2734E-01
1.670	6.3569E+00	3.1566E-01	5.3316E-01	3.9863E-02	3.2622E+00	1.4231E-01
1.920	6.3627E+00	3.1856E-01	5.5186E-01	4.9193E-02	3.5478E+00	1.5481E-01
2.000	6.3648E+00	3.1967E-01	5.5849E-01	5.2731E-02	3.6287E+00	1.5835E-01
2.200	6.3702E+00	3.2281E-01	5.6601E-01	5.7045E-02	3.8117E+00	1.6638E-01
2.300	6.3731E+00	3.2455E-01	5.6987E-01	5.9442E-02	3.8937E+00	1.6998E-01
2.600	6.3817E+00	3.3039E-01	5.8172E-01	6.7457E-02	4.1065E+00	1.7934E-01
2.900	6.3905E+00	3.3699E-01	5.9387E-01	7.6520E-02	4.2774E+00	1.8688E-01
3.200	6.3995E+00	3.4420E-01	6.0623E-01	8.6419E-02	4.4149E+00	1.9297E-01
3.500	6.4086E+00	3.5189E-01	6.1872E-01	9.6971E-02	4.5253E+00	1.9789E-01
3.800	6.4178E+00	3.5994E-01	6.3129E-01	1.0802E-01	4.6142E+00	2.0188E-01
4.000	6.4239E+00	3.6546E-01	6.3969E-01	1.1561E-01	4.6635E+00	2.0412E-01
4.300	6.4331E+00	3.7392E-01	6.5229E-01	1.2722E-01	4.7254E+00	2.0694E-01
4.600	6.4423E+00	3.8252E-01	6.6489E-01	1.3904E-01	4.7752E+00	2.0924E-01
4.900	6.4514E+00	3.9122E-01	6.7749E-01	1.5098E-01	4.8154E+00	2.1113E-01
5.200	6.4606E+00	3.9996E-01	6.9008E-01	1.6298E-01	4.8478E+00	2.1268E-01
5.500	6.4698E+00	4.0870E-01	7.0266E-01	1.7498E-01	4.8739E+00	2.1397E-01
5.800	6.4789E+00	4.1741E-01	7.1524E-01	1.8694E-01	4.8951E+00	2.1503E-01
6.100	6.4881E+00	4.2606E-01	7.2781E-01	1.9882E-01	4.9122E+00	2.1593E-01
6.400	6.4972E+00	4.3463E-01	7.4037E-01	2.1059E-01	4.9261E+00	2.1668E-01
6.700	6.5064E+00	4.4310E-01	7.5292E-01	2.2221E-01	4.9374E+00	2.1732E-01
7.000	6.5155E+00	4.5146E-01	7.6545E-01	2.3369E-01	4.9466E+00	2.1786E-01
7.300	6.5246E+00	4.5969E-01	7.7798E-01	2.4498E-01	4.9542E+00	2.1834E-01
7.600	6.5337E+00	4.6778E-01	7.9049E-01	2.5610E-01	4.9604E+00	2.1875E-01
7.900	6.5428E+00	4.7573E-01	8.0298E-01	2.6701E-01	4.9655E+00	2.1912E-01
8.000	6.5459E+00	4.7835E-01	8.0715E-01	2.7061E-01	4.9671E+00	2.1923E-01
8.300	6.5550E+00	4.8611E-01	8.1134E-01	2.7738E-01	4.9710E+00	2.1954E-01
8.600	6.5640E+00	4.9371E-01	8.1553E-01	2.8402E-01	4.9743E+00	2.1981E-01
8.900	6.5731E+00	5.0117E-01	8.1972E-01	2.9053E-01	4.9771E+00	2.2004E-01
9.200	6.5821E+00	5.0847E-01	8.2390E-01	2.9689E-01	4.9794E+00	2.2025E-01
9.500	6.5912E+00	5.1562E-01	8.2807E-01	3.0313E-01	4.9813E+00	2.2044E-01
9.800	6.6002E+00	5.2262E-01	8.3224E-01	3.0923E-01	4.9830E+00	2.2061E-01
10.100	6.6092E+00	5.2948E-01	8.3640E-01	3.1520E-01	4.9844E+00	2.2077E-01
10.400	6.6182E+00	5.3619E-01	8.4056E-01	3.2104E-01	4.9857E+00	2.2091E-01
16.000	6.7834E+00	6.4156E-01	9.1688E-01	4.1231E-01	4.9976E+00	2.2281E-01
24.000	7.0083E+00	7.4754E-01	1.0207E+00	5.0302E-01	5.0097E+00	2.2473E-01
48.000	7.4139E+00	8.9034E-01	1.1160E+00	5.5177E-01	5.0163E+00	2.2558E-01
96.000	7.8992E+00	1.0331E+00	1.2300E+00	5.9990E-01	5.0231E+00	2.2635E-01
720.000	9.8002E+00	1.5053E+00	1.3488E+00	6.4010E-01	5.0284E+00	2.2700E-01

#####  
Worst Two-Hour Doses  
#####

## Exclusion Area Boundary

Time (hr)	Whole Body (rem)	Thyroid (rem)	TEDE (rem)
0.0	4.3665E-02	6.3648E+00	3.1967E-01

**Attachment 13.2 - RADTRAD Output File "QDC39ESF02.o0"**

```
#####
RADTRAD Version 3.03 (Spring 2001) run on 12/16/2018 at 11:29:25
#####
```

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

```
Plant file          = C:\Users\jhead\Desktop\RADTRAD\QDC39ESF02.psf
Inventory file      =
C:\Users\jhead\Desktop\RADTRAD\DQLOCA_ATRIUM_DEF.nif
Release file        =
c:\users\jhead\desktop\radtrad\rev2_files\bwr_i.rft
Dose Conversion file =
c:\users\jhead\desktop\radtrad\rev2_files\fgr11&12.inp
```

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

```
Radtrad 3.03 4/15/2001
Quad Cities ESF Leakage - Optima Fuel With 39 GWD/MTU, ESF Leakage = 2
gpm, Flashing Factor 10%, CR Unfiltered Inleakage = 2,000 cfm for <0.6667
hrs and 400 cfm for >0.6667 hrs, CREV Charcoal @ 99%, and CREV Initiation
@ 40 Minutes
Nuclide Inventory File:
C:\Users\jhead\Desktop\RADTRAD\DQLOCA_ATRIUM_DEF.nif
Plant Power Level:
3.0161E+03
Compartments:
4
Compartment 1:
Suppression Pool
3
1.1000E+05
0
0
0
0
0
```

Compartment 2:

Reactor Building

3

2.3500E+06

0

0

0

0

0

Compartment 3:

Environment

2

0.0000E+00

0

0

0

0

0

Compartment 4:

Control Room

1

1.8400E+05

0

0

0

0

0

Pathways:

5

Pathway 1:

Suppression Pool to Reactor Building

1

2

2

Pathway 2:

Reactor Building to Environment

2

3

2

Pathway 3:

Filtered Intake to Control Room

3

4

2

Pathway 4:

Unfiltered Inleakage to Control Room

3

4

2

Pathway 5:

Control Room Exhaust to Environment

4

3

2

End of Plant Model File  
Scenario Description Name:

Plant Model Filename:

Source Term:

1

1 1.0000E+00

c:\users\jhead\desktop\radtrad\rev2\_files\fgr11&12.inp

c:\users\jhead\desktop\radtrad\rev2\_files\bwr\_i.rft

0.0000E+00

1

0.0000E+00 9.7000E-01 3.0000E-02 1.0000E+00

Overlying Pool:

0

0.0000E+00

0

0

0

0

Compartments:

4

Compartment 1:

0

1

0

0

0

0

0

0

0

Compartment 2:

1

1

0

0

0

0

0

0

0

Compartment 3:

0

1

0

0

0

0

0

0

0

Compartment 4:

0



1  
0  
0  
0  
0  
0  
0  
0  
0

Pathways:

5

Pathway 1:

0  
0  
0  
0  
0

1

3

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	2.6740E-02	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

0  
0  
0  
0  
0  
0

Pathway 2:

0  
0  
0  
0  
0

1

4

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	4.4000E+03	0.0000E+00	0.0000E+00	0.0000E+00
4.1700E-01	4.4000E+03	9.8000E+01	9.0000E+01	9.0000E+01
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

0  
0  
0  
0  
0  
0

Pathway 3:

0  
0  
0  
0  
0

1

10

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
------------	------------	------------	------------	------------

3.3300E-02	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
2.0000E+00	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
4.0000E+00	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
8.0000E+00	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
1.6000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
2.4000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
4.8000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

0  
0  
0  
0  
0  
0  
0

Pathway 4:

0  
0  
0  
0  
0  
1  
10

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	4.0000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
4.0000E+00	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
8.0000E+00	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
1.6000E+01	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
4.8000E+01	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

0  
0  
0  
0  
0  
0  
0

Pathway 5:

0  
0  
0  
0  
0  
1  
10

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	6.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
4.0000E+00	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
8.0000E+00	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
1.6000E+01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00

2.4000E+01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
4.8000E+01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0				
0				
0				
0				
0				
0				

Dose Locations:

3

Location 1:

Exclusion Area Boundary

3

1

4

0.0000E+00	1.3600E-03
4.1700E-01	1.5700E-04
5.0000E-01	6.3800E-06
7.2000E+02	0.0000E+00

1

2

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

0

Location 2:

Low Population Zone

3

1

8

0.0000E+00	1.0400E-04
4.1700E-01	3.0100E-05
5.0000E-01	2.0500E-05
2.0000E+00	8.7600E-06
8.0000E+00	5.7300E-06
2.4000E+01	2.2800E-06
9.6000E+01	6.0700E-07
7.2000E+02	0.0000E+00

1

4

0.0000E+00	3.5000E-04
8.0000E+00	1.8000E-04
2.4000E+01	2.3000E-04
7.2000E+02	0.0000E+00

0

Location 3:

Control Room

4

0

1

2

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

1

4  
0.0000E+00 1.0000E+00  
2.4000E+01 6.0000E-01  
9.6000E+01 4.0000E-01  
7.2000E+02 0.0000E+00

Effective Volume Location:

1  
7  
0.0000E+00 5.8400E-04  
4.1700E-01 5.8400E-06  
2.0000E+00 2.6800E-06  
8.0000E+00 1.8100E-06  
2.4000E+01 7.7700E-07  
9.6000E+01 2.3000E-07  
7.2000E+02 0.0000E+00

Simulation Parameters:

8  
0.0000E+00 1.0000E-02  
4.1700E-01 1.0000E-02  
2.0000E+00 1.0000E-01  
4.0000E+00 1.0000E+00  
8.0000E+00 2.0000E+00  
2.4000E+01 4.0000E+00  
9.6000E+01 8.0000E+00  
7.2000E+02 0.0000E+00

Output Filename:

C:\Users\jhead\Desktop\RADTRAD\QDC39ESF02.o0

1  
1  
1  
0  
0

End of Scenario File

#####  
RADTRAD Version 3.03 (Spring 2001) run on 12/16/2018 at 11:29:25  
#####

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

Number of Nuclides = 60

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

Number of compartments = 4

Compartment information

Compartment number 1 (Source term fraction = 1.0000E+00  
)

Name: Suppression Pool

Compartment volume = 1.1000E+05 (Cubic feet)  
Compartment type is Normal  
Pathways into and out of compartment 1  
Exit Pathway Number 1: Suppression Pool to Reactor Building

Compartment number 2  
Name: Reactor Building  
Compartment volume = 2.3500E+06 (Cubic feet)  
Compartment type is Normal  
Pathways into and out of compartment 2  
Inlet Pathway Number 1: Suppression Pool to Reactor Building  
Exit Pathway Number 2: Reactor Building to Environment

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

Compartment number 4  
Name: Control Room  
Compartment volume = 1.8400E+05 (Cubic feet)  
Compartment type is Control Room  
Pathways into and out of compartment 4  
Inlet Pathway Number 3: Filtered Intake to Control Room  
Inlet Pathway Number 4: Unfiltered Inleakage to Control Room  
Exit Pathway Number 5: Control Room Exhaust to Environment

Total number of pathways = 5

#####  
 RADTRAD Version 3.03 (Spring 2001) run on 12/16/2018 at 11:29:25  
 #####

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

Radioactive Decay is enabled  
 Calculation of Daughters is enabled

Release Fractions and Timings

	GAP	EARLY IN-VESSEL	LATE RELEASE	RELEASE MASS
	0.500000 hr	1.5000 hrs	0.0000 hrs	(gm)
NOBLES	0.0000E+00	0.0000E+00	0.0000E+00	0.000E+00
IODINE	5.0000E-02	2.5000E-01	0.0000E+00	2.575E+02
CESIUM	0.0000E+00	0.0000E+00	0.0000E+00	0.000E+00
TELLURIUM	0.0000E+00	0.0000E+00	0.0000E+00	0.000E+00
STRONTIUM	0.0000E+00	0.0000E+00	0.0000E+00	0.000E+00
BARIUM	0.0000E+00	0.0000E+00	0.0000E+00	0.000E+00
RUTHENIUM	0.0000E+00	0.0000E+00	0.0000E+00	0.000E+00
CERIUM	0.0000E+00	0.0000E+00	0.0000E+00	0.000E+00
LANTHANUM	0.0000E+00	0.0000E+00	0.0000E+00	0.000E+00

Inventory Power = 3016. MWt

Nuclide Name	Group	Specific Inventory (Ci/MWt)	half life (s)	Whole Body DCF (Sv-m3/Bq-s)	Inhaled Thyroid (Sv/Bq)	Inhaled Effective (Sv/Bq)
I-131	2	2.666E+04	6.947E+05	1.820E-14	2.920E-07	8.890E-09
I-132	2	3.879E+04	8.280E+03	1.120E-13	1.740E-09	1.030E-10
I-133	2	5.504E+04	7.488E+04	2.940E-14	4.860E-08	1.580E-09
I-134	2	6.100E+04	3.156E+03	1.300E-13	2.880E-10	3.550E-11
I-135	2	5.238E+04	2.380E+04	8.294E-14	8.460E-09	3.320E-10

Nuclide	Daughter	Fraction	Daughter	Fraction	Daughter	Fraction
Kr-85m	Kr-85	0.21	none	0.00	none	0.00
Kr-87	Rb-87	1.00	none	0.00	none	0.00
Kr-88	Rb-88	1.00	none	0.00	none	0.00
Sr-90	Y-90	1.00	none	0.00	none	0.00
Sr-91	Y-91m	0.58	Y-91	0.42	none	0.00
Sr-92	Y-92	1.00	none	0.00	none	0.00
Y-93	Zr-93	1.00	none	0.00	none	0.00
Zr-95	Nb-95m	0.01	Nb-95	0.99	none	0.00
Zr-97	Nb-97m	0.95	Nb-97	0.05	none	0.00
Mo-99	Tc-99m	0.88	Tc-99	0.12	none	0.00
Tc-99m	Tc-99	1.00	none	0.00	none	0.00
Ru-103	Rh-103m	1.00	none	0.00	none	0.00
Ru-105	Rh-105	1.00	none	0.00	none	0.00
Ru-106	Rh-106	1.00	none	0.00	none	0.00
Sb-127	Te-127m	0.18	Te-127	0.82	none	0.00
Sb-129	Te-129m	0.22	Te-129	0.77	none	0.00
Te-127m	Te-127	0.98	none	0.00	none	0.00
Te-129	I-129	1.00	none	0.00	none	0.00

Te-129m	Te-129	0.65	I-129	0.35	none	0.00
Te-131m	Te-131	0.22	I-131	0.78	none	0.00
Te-132	I-132	1.00	none	0.00	none	0.00
I-131	Xe-131m	0.01	none	0.00	none	0.00
I-133	Xe-133m	0.03	Xe-133	0.97	none	0.00
I-135	Xe-135m	0.15	Xe-135	0.85	none	0.00
Xe-135	Cs-135	1.00	none	0.00	none	0.00
Cs-137	Ba-137m	0.95	none	0.00	none	0.00
Ba-140	La-140	1.00	none	0.00	none	0.00
La-141	Ce-141	1.00	none	0.00	none	0.00
Ce-143	Pr-143	1.00	none	0.00	none	0.00
Ce-144	Pr-144m	0.02	Pr-144	0.98	none	0.00
Nd-147	Pm-147	1.00	none	0.00	none	0.00
Np-239	Pu-239	1.00	none	0.00	none	0.00
Pu-238	U-234	1.00	none	0.00	none	0.00
Pu-239	U-235	1.00	none	0.00	none	0.00
Pu-240	U-236	1.00	none	0.00	none	0.00
Pu-241	U-237	0.00	Am-241	1.00	none	0.00
Am-241	Np-237	1.00	none	0.00	none	0.00
Cm-242	Pu-238	1.00	none	0.00	none	0.00
Cm-244	Pu-240	1.00	none	0.00	none	0.00

## Iodine fractions

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

## COMPARTMENT DATA

Compartment number	1: Suppression Pool
Compartment number	2: Reactor Building
Compartment number	3: Environment
Compartment number	4: Control Room

## PATHWAY DATA

Pathway number 1: Suppression Pool to Reactor Building

## Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	2.6740E-02	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 2: Reactor Building to Environment

## Pathway Filter: Removal Data

Time (hr)	Flow Rate	Filter Efficiencies (%)
-----------	-----------	-------------------------

	(cfm)	Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	4.4000E+03	0.0000E+00	0.0000E+00	0.0000E+00
4.1700E-01	4.4000E+03	9.8000E+01	9.0000E+01	9.0000E+01
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 3: Filtered Intake to Control Room

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
2.0000E+00	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
4.0000E+00	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
8.0000E+00	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
1.6000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
2.4000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
4.8000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 4: Unfiltered Inleakage to Control Room

Pathway Filter: Removal Data

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

Pathway number 5: Control Room Exhaust to Environment

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	6.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
4.0000E+00	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
8.0000E+00	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
1.6000E+01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00



4.8000E+01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

## LOCATION DATA

Location Exclusion Area Boundary is in compartment 3

## Location X/Q Data

Time (hr)	X/Q (s * m <sup>-3</sup> )
0.0000E+00	1.3600E-03
4.1700E-01	1.5700E-04
5.0000E-01	6.3800E-06
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 Low Population Zone is in compartment 3

## Location X/Q Data

Time (hr)	X/Q (s * m <sup>-3</sup> )
0.0000E+00	1.0400E-04
4.1700E-01	3.0100E-05
5.0000E-01	2.0500E-05
2.0000E+00	8.7600E-06
8.0000E+00	5.7300E-06
2.4000E+01	2.2800E-06
9.6000E+01	6.0700E-07
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
8.0000E+00	1.8000E-04
2.4000E+01	2.3000E-04
7.2000E+02	0.0000E+00

Location Control Room is in compartment 4

## Location X/Q Data

Time (hr)	X/Q (s * m <sup>-3</sup> )
0.0000E+00	5.8400E-04
4.1700E-01	5.8400E-06
2.0000E+00	2.6800E-06
8.0000E+00	1.8100E-06
2.4000E+01	7.7700E-07
9.6000E+01	2.3000E-07
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 Occupancy Factor Data

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

## USER SPECIFIED TIME STEP DATA - SUPPLEMENTAL TIME STEPS

Time	Time step
0.0000E+00	1.0000E-02
4.1700E-01	1.0000E-02
2.0000E+00	1.0000E-01
4.0000E+00	1.0000E+00
8.0000E+00	2.0000E+00
2.4000E+01	4.0000E+00
9.6000E+01	8.0000E+00
7.2000E+02	0.0000E+00

```
#####
RADTRAD Version 3.03 (Spring 2001) run on 12/16/2018 at 11:29:25
#####
```

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

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

Exclusion Area Boundary Doses:

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

Low Population Zone Doses:

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

Control Room Doses:

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

Reactor Building Compartment Nuclide Inventory:

Time (h) =	0.0333	Ci	kg	Atoms	Decay
------------	--------	----	----	-------	-------

Reactor Building Transport Group Inventory:

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

Suppression Pool to Reactor Building Transport Group Inventory:

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

Reactor Building to Environment Transport Group Inventory:

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

Exclusion Area Boundary Doses:

Time (h) = 0.4170	Whole Body	Thyroid	TEDE
Delta dose (rem)	4.8438E-04	1.1159E-01	4.0079E-03
Accumulated dose (rem)	4.8438E-04	1.1159E-01	4.0079E-03

Low Population Zone Doses:

Time (h) = 0.4170	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.7041E-05	8.5335E-03	3.0648E-04
Accumulated dose (rem)	3.7041E-05	8.5335E-03	3.0648E-04

Control Room Doses:

Time (h) = 0.4170	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.8797E-06	8.5129E-03	2.7063E-04
Accumulated dose (rem)	1.8797E-06	8.5129E-03	2.7063E-04

Reactor Building Compartment Nuclide Inventory:

Time (h) = 0.4170	Ci	kg	Atoms	Decay
I-131	9.9620E+00	8.0355E-08	3.6940E+17	1.8965E+14
I-132	1.3333E+01	1.2917E-09	5.8932E+15	2.5929E+14
I-133	2.0313E+01	1.7931E-08	8.1192E+16	3.8792E+14
I-134	1.6418E+01	6.1545E-10	2.7659E+15	3.3996E+14
I-135	1.8766E+01	5.3436E-09	2.3837E+16	3.6107E+14
Xe-133	3.0675E-02	1.6388E-10	7.4202E+14	4.2668E+11
Xe-135	3.4405E-01	1.3473E-10	6.0099E+14	4.8142E+12

Reactor Building Transport Group Inventory:

Time (h) = 0.4170	Atmosphere	Sump	
Noble gases (atoms)	1.3430E+15	0.0000E+00	
Elemental I (atoms)	4.6859E+17	0.0000E+00	
Organic I (atoms)	1.4493E+16	0.0000E+00	
Aerosols (kg)	0.0000E+00	0.0000E+00	
Dose Effective (Ci/cc) I-131 (Thyroid)			2.1012E-10
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			2.6619E-10

Total I (Ci) 7.8793E+01

Suppression Pool to Reactor Building Transport Group Inventory:

	Pathway	
Time (h) = 0.4170	Filtered	Transported
Noble gases (atoms)	0.0000E+00	6.8049E+14
Elemental I (atoms)	0.0000E+00	4.7736E+17
Organic I (atoms)	0.0000E+00	1.4764E+16
Aerosols (kg)	0.0000E+00	0.0000E+00

Reactor Building to Environment Transport Group Inventory:

	Pathway	
Time (h) = 0.4170	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.5433E+13
Elemental I (atoms)	0.0000E+00	7.2753E+15
Organic I (atoms)	0.0000E+00	2.2501E+14
Aerosols (kg)	0.0000E+00	0.0000E+00

Exclusion Area Boundary Doses:

Time (h) = 0.5000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.8883E-06	9.3718E-04	3.3458E-05
Accumulated dose (rem)	4.8827E-04	1.1253E-01	4.0413E-03

Low Population Zone Doses:

Time (h) = 0.5000	Whole Body	Thyroid	TEDE
Delta dose (rem)	7.4547E-07	1.7968E-04	6.4146E-06
Accumulated dose (rem)	3.7786E-05	8.7132E-03	3.1290E-04

Control Room Doses:

Time (h) = 0.5000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.2821E-06	6.0754E-03	1.9296E-04
Accumulated dose (rem)	3.1618E-06	1.4588E-02	4.6360E-04

Reactor Building Compartment Nuclide Inventory:

Time (h) = 0.5000	Ci	kg	Atoms	Decay
I-131	1.4302E+01	1.1536E-07	5.3032E+17	3.2591E+14
I-132	1.8832E+01	1.8244E-09	8.3235E+15	4.4018E+14
I-133	2.9089E+01	2.5679E-08	1.1627E+17	6.6539E+14
I-134	2.2080E+01	8.2768E-10	3.7197E+15	5.5692E+14
I-135	2.6715E+01	7.6071E-09	3.3934E+16	6.1660E+14
Xe-133	5.2595E-02	2.8098E-10	1.2723E+15	8.7974E+11
Xe-135	5.8643E-01	2.2964E-10	1.0244E+15	9.8795E+12

Reactor Building Transport Group Inventory:

Time (h) = 0.5000	Atmosphere	Sump
Noble gases (atoms)	2.2966E+15	0.0000E+00
Elemental I (atoms)	6.7179E+17	0.0000E+00
Organic I (atoms)	2.0777E+16	0.0000E+00

Aerosols (kg)	0.0000E+00	0.0000E+00	
Dose Effective (Ci/cc) I-131 (Thyroid)			3.0132E-10
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			3.8103E-10
Total I (Ci)			1.1102E+02

Suppression Pool to Reactor Building Transport Group Inventory:

	Pathway	
Time (h) = 0.5000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.1697E+15
Elemental I (atoms)	0.0000E+00	6.8688E+17
Organic I (atoms)	0.0000E+00	2.1244E+16
Aerosols (kg)	0.0000E+00	0.0000E+00

Reactor Building to Environment Transport Group Inventory:

	Pathway	
Time (h) = 0.5000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.1881E+13
Elemental I (atoms)	4.7607E+15	7.8043E+15
Organic I (atoms)	1.4724E+14	2.4137E+14
Aerosols (kg)	0.0000E+00	0.0000E+00

Exclusion Area Boundary Doses:

Time (h) = 0.6667	Whole Body	Thyroid	TEDE
Delta dose (rem)	5.0167E-07	1.2598E-04	4.4742E-06
Accumulated dose (rem)	4.8877E-04	1.1266E-01	4.0458E-03

Low Population Zone Doses:

Time (h) = 0.6667	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.6119E-06	4.0479E-04	1.4376E-05
Accumulated dose (rem)	3.9398E-05	9.1180E-03	3.2727E-04

Control Room Doses:

Time (h) = 0.6667	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.9226E-06	9.5149E-03	3.0194E-04
Accumulated dose (rem)	5.0844E-06	2.4103E-02	7.6553E-04

Reactor Building Compartment Nuclide Inventory:

Time (h) = 0.6667	Ci	kg	Atoms	Decay
I-131	2.6383E+01	2.1281E-07	9.7828E+17	7.7597E+14
I-132	3.3765E+01	3.2711E-09	1.4924E+16	1.0237E+15
I-133	5.3394E+01	4.7134E-08	2.1342E+17	1.5783E+15
I-134	3.5721E+01	1.3390E-09	6.0178E+15	1.2038E+15
I-135	4.8454E+01	1.3797E-08	6.1548E+16	1.4495E+15
Xe-133	1.2461E-01	6.6573E-10	3.0144E+15	2.7671E+12
Xe-135	1.3730E+00	5.3765E-10	2.3984E+15	3.0782E+13

Reactor Building Transport Group Inventory:

Time (h) = 0.6667	Atmosphere	Sump
-------------------	------------	------

Noble gases (atoms)	5.4128E+15	0.0000E+00
Elemental I (atoms)	1.2360E+18	0.0000E+00
Organic I (atoms)	3.8226E+16	0.0000E+00
Aerosols (kg)	0.0000E+00	0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)		5.5466E-10
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)		6.9897E-10
Total I (Ci)		1.9772E+02

## Suppression Pool to Reactor Building Transport Group Inventory:

	Pathway	
Time (h) = 0.6667	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.7836E+15
Elemental I (atoms)	0.0000E+00	1.2719E+18
Organic I (atoms)	0.0000E+00	3.9336E+16
Aerosols (kg)	0.0000E+00	0.0000E+00

## Reactor Building to Environment Transport Group Inventory:

	Pathway	
Time (h) = 0.6667	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.0034E+14
Elemental I (atoms)	2.0502E+16	9.5533E+15
Organic I (atoms)	6.3408E+14	2.9546E+14
Aerosols (kg)	0.0000E+00	0.0000E+00

## Exclusion Area Boundary Doses:

Time (h) = 2.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.1529E-05	6.8777E-03	2.3767E-04
Accumulated dose (rem)	5.1030E-04	1.1953E-01	4.2835E-03

## Low Population Zone Doses:

Time (h) = 2.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	6.9176E-05	2.2099E-02	7.6369E-04
Accumulated dose (rem)	1.0857E-04	3.1217E-02	1.0910E-03

## Control Room Doses:

Time (h) = 2.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	6.8241E-06	4.1167E-02	1.3014E-03
Accumulated dose (rem)	1.1908E-05	6.5270E-02	2.0669E-03

## Reactor Building Compartment Nuclide Inventory:

Time (h) = 2.0000	Ci	kg	Atoms	Decay
I-131	2.9904E+02	2.4121E-06	1.1089E+19	2.5381E+16
I-132	3.0366E+02	2.9418E-08	1.3421E+17	2.8145E+16
I-133	5.8152E+02	5.1334E-07	2.3244E+18	5.0071E+16
I-134	1.4173E+02	5.3129E-09	2.3877E+16	1.8385E+16
I-135	4.7971E+02	1.3660E-07	6.0934E+17	4.2772E+16
Xe-133	3.9132E+00	2.0906E-08	9.4660E+16	2.5245E+14
Xe-135	3.9209E+01	1.5354E-08	6.8490E+16	2.6013E+15

## Reactor Building Transport Group Inventory:

Time (h) =	2.0000	Atmosphere	Sump	
Noble gases (atoms)	1.6315E+17	0.0000E+00		
Elemental I (atoms)	1.3755E+19	0.0000E+00		
Organic I (atoms)	4.2542E+17	0.0000E+00		
Aerosols (kg)	0.0000E+00	0.0000E+00		
Dose Effective (Ci/cc) I-131 (Thyroid)				6.1865E-09
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)				7.6303E-09
Total I (Ci)				1.8057E+03

## Suppression Pool to Reactor Building Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
2.0000		
Noble gases (atoms)	0.0000E+00	9.0019E+16
Elemental I (atoms)	0.0000E+00	1.4898E+19
Organic I (atoms)	0.0000E+00	4.6076E+17
Aerosols (kg)	0.0000E+00	0.0000E+00

## Reactor Building to Environment Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
2.0000		
Noble gases (atoms)	0.0000E+00	8.9390E+15
Elemental I (atoms)	8.7824E+17	1.0486E+17
Organic I (atoms)	2.7162E+16	3.2430E+15
Aerosols (kg)	0.0000E+00	0.0000E+00

## Exclusion Area Boundary Doses:

Time (h) =	4.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		1.0431E-04	4.3497E-02	1.4659E-03
Accumulated dose (rem)		6.1461E-04	1.6303E-01	5.7494E-03

## Low Population Zone Doses:

Time (h) =	4.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		1.4323E-04	5.9723E-02	2.0127E-03
Accumulated dose (rem)		2.5180E-04	9.0941E-02	3.1037E-03

## Control Room Doses:

Time (h) =	4.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		2.5155E-06	2.1083E-02	6.6258E-04
Accumulated dose (rem)		1.4424E-05	8.6353E-02	2.7295E-03

## Reactor Building Compartment Nuclide Inventory:

Time (h) =	4.0000	Ci	kg	Atoms	Decay
I-131		8.5869E+02	6.9263E-06	3.1841E+19	1.8633E+17
I-132		5.1561E+02	4.9951E-08	2.2789E+17	1.5201E+17
I-133		1.5732E+03	1.3888E-06	6.2882E+18	3.5252E+17
I-134		8.4308E+01	3.1603E-09	1.4203E+16	5.2329E+16



I-135	1.1248E+03	3.2028E-07	1.4287E+18	2.7285E+17
Xe-133	2.6408E+01	1.4108E-07	6.3882E+17	3.8569E+15
Xe-135	2.2996E+02	9.0051E-08	4.0170E+17	3.5651E+16

## Reactor Building Transport Group Inventory:

Time (h) =	4.0000	Atmosphere	Sump	
Noble gases (atoms)	1.0405E+18	0.0000E+00		
Elemental I (atoms)	3.8606E+19	0.0000E+00		
Organic I (atoms)	1.1940E+18	0.0000E+00		
Aerosols (kg)	0.0000E+00	0.0000E+00		
Dose Effective (Ci/cc) I-131 (Thyroid)				1.7376E-08
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)				2.0930E-08
Total I (Ci)				4.1566E+03

## Suppression Pool to Reactor Building Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
4.0000		
Noble gases (atoms)	0.0000E+00	6.3516E+17
Elemental I (atoms)	0.0000E+00	4.6595E+19
Organic I (atoms)	0.0000E+00	1.4411E+18
Aerosols (kg)	0.0000E+00	0.0000E+00

## Reactor Building to Environment Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
4.0000		
Noble gases (atoms)	0.0000E+00	1.2899E+17
Elemental I (atoms)	6.2968E+18	7.0692E+17
Organic I (atoms)	1.9475E+17	2.1864E+16
Aerosols (kg)	0.0000E+00	0.0000E+00

## Exclusion Area Boundary Doses:

Time (h) =	8.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		3.3066E-04	1.8337E-01	6.0415E-03
Accumulated dose (rem)		9.4527E-04	3.4640E-01	1.1791E-02

## Low Population Zone Doses:

Time (h) =	8.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		4.5401E-04	2.5177E-01	8.2952E-03
Accumulated dose (rem)		7.0581E-04	3.4271E-01	1.1399E-02

## Control Room Doses:

Time (h) =	8.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		2.1260E-06	1.6649E-02	5.2077E-04
Accumulated dose (rem)		1.6550E-05	1.0300E-01	3.2502E-03

## Reactor Building Compartment Nuclide Inventory:

Time (h) =	8.0000	Ci	kg	Atoms	Decay
I-131		1.6420E+03	1.3245E-05	6.0888E+19	8.7481E+17

I-132	3.0483E+02	2.9531E-08	1.3473E+17	3.8185E+17
I-133	2.6710E+03	2.3579E-06	1.0676E+19	1.5347E+18
I-134	6.9203E+00	2.5941E-10	1.1658E+15	7.0009E+16
I-135	1.4344E+03	4.0845E-07	1.8220E+18	9.9932E+17
Xe-133	1.0949E+02	5.8491E-07	2.6484E+18	3.8521E+16
Xe-135	7.1774E+02	2.8106E-07	1.2538E+18	2.9049E+17

## Reactor Building Transport Group Inventory:

Time (h) =	8.0000	Atmosphere	Sump	
Noble gases (atoms)	3.9022E+18	0.0000E+00		
Elemental I (atoms)	7.1316E+19	0.0000E+00		
Organic I (atoms)	2.2057E+18	0.0000E+00		
Aerosols (kg)	0.0000E+00	0.0000E+00		
Dose Effective (Ci/cc) I-131 (Thyroid)				3.2008E-08
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)				3.7365E-08
Total I (Ci)				6.0592E+03

## Suppression Pool to Reactor Building Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
8.0000		
Noble gases (atoms)	0.0000E+00	3.0987E+18
Elemental I (atoms)	0.0000E+00	1.0747E+20
Organic I (atoms)	0.0000E+00	3.3239E+18
Aerosols (kg)	0.0000E+00	0.0000E+00

## Reactor Building to Environment Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
8.0000		
Noble gases (atoms)	0.0000E+00	1.2055E+18
Elemental I (atoms)	2.9164E+19	3.2477E+18
Organic I (atoms)	9.0198E+17	1.0044E+17
Aerosols (kg)	0.0000E+00	0.0000E+00

## Exclusion Area Boundary Doses:

Time (h) =	16.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		7.8184E-04	5.7003E-01	1.8436E-02
Accumulated dose (rem)		1.7271E-03	9.1643E-01	3.0227E-02

## Low Population Zone Doses:

Time (h) =	16.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		7.0218E-04	2.6329E-01	8.8565E-03
Accumulated dose (rem)		1.4080E-03	6.0600E-01	2.0255E-02

## Control Room Doses:

Time (h) =	16.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		4.7161E-06	3.0266E-02	9.4216E-04
Accumulated dose (rem)		2.1266E-05	1.3327E-01	4.1924E-03

## Reactor Building Compartment Nuclide Inventory:

Time (h) = 16.0000	Ci	kg	Atoms	Decay
I-131	2.4033E+03	1.9386E-05	8.9117E+19	3.1181E+18
I-132	4.1451E+01	4.0158E-09	1.8321E+16	5.2980E+17
I-133	3.0817E+03	2.7204E-06	1.2318E+19	4.7580E+18
I-134	1.8663E-02	6.9960E-13	3.1441E+12	7.1301E+16
I-135	9.3378E+02	2.6589E-07	1.1861E+18	2.3083E+18
Xe-133	3.0495E+02	1.6292E-06	7.3767E+18	2.5862E+17
Xe-135	1.1387E+03	4.4589E-07	1.9890E+18	1.3443E+18

## Reactor Building Transport Group Inventory:

Time (h) = 16.0000	Atmosphere	Sump
Noble gases (atoms)	9.3657E+18	0.0000E+00
Elemental I (atoms)	9.9560E+19	0.0000E+00
Organic I (atoms)	3.0792E+18	0.0000E+00
Aerosols (kg)	0.0000E+00	0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)		4.4234E-08
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)		4.9685E-08
Total I (Ci)		6.4603E+03

## Suppression Pool to Reactor Building Transport Group Inventory:

Time (h) = 16.0000	Pathway	
	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.1620E+19
Elemental I (atoms)	0.0000E+00	2.2193E+20
Organic I (atoms)	0.0000E+00	6.8637E+18
Aerosols (kg)	0.0000E+00	0.0000E+00

## Reactor Building to Environment Transport Group Inventory:

Time (h) = 16.0000	Pathway	
	Filtered	Transported
Noble gases (atoms)	0.0000E+00	7.2290E+18
Elemental I (atoms)	1.0071E+20	1.1197E+19
Organic I (atoms)	3.1147E+18	3.4630E+17
Aerosols (kg)	0.0000E+00	0.0000E+00

## Exclusion Area Boundary Doses:

Time (h) = 24.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	7.0457E-04	6.6607E-01	2.1244E-02
Accumulated dose (rem)	2.4317E-03	1.5825E+00	5.1471E-02

## Low Population Zone Doses:

Time (h) = 24.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	6.3278E-04	3.0765E-01	1.0120E-02
Accumulated dose (rem)	2.0408E-03	9.1365E-01	3.0375E-02

## Control Room Doses:

Time (h) = 24.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	4.9869E-06	3.4957E-02	1.0829E-03

Accumulated dose (rem) 2.6253E-05 1.6822E-01 5.2753E-03

Reactor Building Compartment Nuclide Inventory:

Time (h) = 24.0000	Ci	kg	Atoms	Decay
I-131	2.6546E+03	2.1412E-05	9.8433E+19	5.8612E+18
I-132	4.2341E+00	4.1020E-10	1.8714E+15	5.4754E+17
I-133	2.6833E+03	2.3687E-06	1.0725E+19	7.8830E+18
I-134	3.7984E-05	1.4239E-15	6.3991E+09	7.1305E+16
I-135	4.5874E+02	1.3063E-07	5.8271E+17	3.0344E+18
Xe-133	4.6035E+02	2.4594E-06	1.1136E+19	6.6582E+17
Xe-135	9.8079E+02	3.8406E-07	1.7132E+18	2.4866E+18

Reactor Building Transport Group Inventory:

Time (h) = 24.0000	Atmosphere	Sump
Noble gases (atoms)	1.2849E+19	0.0000E+00
Elemental I (atoms)	1.0645E+20	0.0000E+00
Organic I (atoms)	3.2923E+18	0.0000E+00
Aerosols (kg)	0.0000E+00	0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)		4.6803E-08
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)		5.1246E-08
Total I (Ci)		5.8009E+03

Suppression Pool to Reactor Building Transport Group Inventory:

Time (h) = 24.0000	Pathway	
	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.3007E+19
Elemental I (atoms)	0.0000E+00	3.2905E+20
Organic I (atoms)	0.0000E+00	1.0177E+19
Aerosols (kg)	0.0000E+00	0.0000E+00

Reactor Building to Environment Transport Group Inventory:

Time (h) = 24.0000	Pathway	
	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.7231E+19
Elemental I (atoms)	1.8515E+20	2.0579E+19
Organic I (atoms)	5.7262E+18	6.3647E+17
Aerosols (kg)	0.0000E+00	0.0000E+00

Exclusion Area Boundary Doses:

Time (h) = 48.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.2839E-03	1.9626E+00	6.1508E-02
Accumulated dose (rem)	3.7156E-03	3.5451E+00	1.1298E-01

Low Population Zone Doses:

Time (h) = 48.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	4.5884E-04	4.6091E-01	1.4602E-02
Accumulated dose (rem)	2.4996E-03	1.3746E+00	4.4977E-02

Control Room Doses:

Time (h) = 48.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.6457E-06	2.9319E-02	9.0247E-04
Accumulated dose (rem)	2.8899E-05	1.9754E-01	6.1778E-03

## Reactor Building Compartment Nuclide Inventory:

Time (h) = 48.0000	Ci	kg	Atoms	Decay
I-131	2.6221E+03	2.1151E-05	9.7231E+19	1.4439E+19
I-132	3.2962E-03	3.1933E-13	1.4569E+12	5.4946E+17
I-133	1.2985E+03	1.1463E-06	5.1901E+18	1.4090E+19
I-135	3.9873E+01	1.1354E-08	5.0647E+16	3.5925E+18
Xe-133	6.7165E+02	3.5882E-06	1.6247E+19	2.5398E+18
Xe-135	2.6203E+02	1.0261E-07	4.5771E+17	4.3135E+18

## Reactor Building Transport Group Inventory:

Time (h) = 48.0000	Atmosphere	Sump
Noble gases (atoms)	1.6705E+19	0.0000E+00
Elemental I (atoms)	9.9397E+19	0.0000E+00
Organic I (atoms)	3.0741E+18	0.0000E+00
Aerosols (kg)	0.0000E+00	0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)		4.2669E-08
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)		4.4670E-08
Total I (Ci)		3.9605E+03

## Suppression Pool to Reactor Building Transport Group Inventory:

	Pathway	
Time (h) = 48.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	6.5144E+19
Elemental I (atoms)	0.0000E+00	6.1838E+20
Organic I (atoms)	0.0000E+00	1.9125E+19
Aerosols (kg)	0.0000E+00	0.0000E+00

## Reactor Building to Environment Transport Group Inventory:

	Pathway	
Time (h) = 48.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.8306E+19
Elemental I (atoms)	4.3849E+20	4.8729E+19
Organic I (atoms)	1.3562E+19	1.5071E+18
Aerosols (kg)	0.0000E+00	0.0000E+00

## Exclusion Area Boundary Doses:

Time (h) = 96.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.0737E-03	3.2944E+00	1.0167E-01
Accumulated dose (rem)	4.7893E-03	6.8395E+00	2.1465E-01

## Low Population Zone Doses:

Time (h) = 96.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.8370E-04	7.7366E-01	2.4008E-02
Accumulated dose (rem)	2.8833E-03	2.1482E+00	6.8985E-02

## Control Room Doses:

Time (h) = 96.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.5346E-06	4.5730E-02	1.3979E-03
Accumulated dose (rem)	3.0433E-05	2.4327E-01	7.5757E-03

## Reactor Building Compartment Nuclide Inventory:

Time (h) = 96.0000	Ci	kg	Atoms	Decay
I-131	2.2167E+03	1.7880E-05	8.2196E+19	2.9898E+19
I-132	1.7282E-09	1.6743E-19	7.6385E+05	5.4946E+17
I-133	2.6344E+02	2.3255E-07	1.0530E+18	1.8246E+19
I-135	2.6098E-01	7.4314E-11	3.3150E+14	3.6429E+18
Xe-133	6.6002E+02	3.5261E-06	1.5966E+19	6.9266E+18
Xe-135	8.5830E+00	3.3610E-09	1.4993E+16	4.8005E+18

## Reactor Building Transport Group Inventory:

Time (h) = 96.0000	Atmosphere	Sump
Noble gases (atoms)	1.5981E+19	0.0000E+00
Elemental I (atoms)	8.0752E+19	0.0000E+00
Organic I (atoms)	2.4975E+18	0.0000E+00
Aerosols (kg)	0.0000E+00	0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)		3.3970E-08
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)		3.4370E-08
Total I (Ci)		2.4804E+03

## Suppression Pool to Reactor Building Transport Group Inventory:

Time (h) = 96.0000	Pathway	
	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.5570E+20
Elemental I (atoms)	0.0000E+00	1.1025E+21
Organic I (atoms)	0.0000E+00	3.4096E+19
Aerosols (kg)	0.0000E+00	0.0000E+00

## Reactor Building to Environment Transport Group Inventory:

Time (h) = 96.0000	Pathway	
	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.4879E+20
Elemental I (atoms)	8.7377E+20	9.7093E+19
Organic I (atoms)	2.7024E+19	3.0029E+18
Aerosols (kg)	0.0000E+00	0.0000E+00

## Exclusion Area Boundary Doses:

Time (h) = 720.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.2357E-03	1.4966E+01	4.5895E-01
Accumulated dose (rem)	8.0251E-03	2.1805E+01	6.7359E-01

## Low Population Zone Doses:

Time (h) = 720.0000	Whole Body	Thyroid	TEDE
---------------------	------------	---------	------

Delta dose (rem)	3.0785E-04	9.3568E-01	2.8799E-02
Accumulated dose (rem)	3.1912E-03	3.0839E+00	9.7784E-02

Control Room Doses:

Time (h) = 720.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	7.7665E-07	4.1582E-02	1.2670E-03
Accumulated dose (rem)	3.1210E-05	2.8486E-01	8.8427E-03

Reactor Building Compartment Nuclide Inventory:

Time (h) = 720.0000	Ci	kg	Atoms	Decay
I-131	2.3350E+02	1.8834E-06	8.6582E+18	1.0314E+20
I-133	2.4313E-07	2.1463E-16	9.7181E+08	1.9298E+19
Xe-133	2.2674E+01	1.2113E-07	5.4849E+17	2.3322E+19

Reactor Building Transport Group Inventory:

Time (h) = 720.0000	Atmosphere	Sump	
Noble gases (atoms)	5.4849E+17	0.0000E+00	
Elemental I (atoms)	8.3984E+18	0.0000E+00	
Organic I (atoms)	2.5975E+17	0.0000E+00	
Aerosols (kg)	0.0000E+00	0.0000E+00	
Dose Effective (Ci/cc) I-131 (Thyroid)			3.5089E-09
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			3.5089E-09
Total I (Ci)			2.3350E+02

Suppression Pool to Reactor Building Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.9110E+20
Elemental I (atoms)	0.0000E+00	3.3315E+21
Organic I (atoms)	0.0000E+00	1.0304E+20
Aerosols (kg)	0.0000E+00	0.0000E+00

Reactor Building to Environment Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.8423E+20
Elemental I (atoms)	2.8802E+21	3.2003E+20
Organic I (atoms)	8.9077E+19	9.8977E+18
Aerosols (kg)	0.0000E+00	0.0000E+00

1020

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

	Suppression Pool	Reactor Building	Environment
Time (hr)	I-131 (Curies)	I-131 (Curies)	I-131 (Curies)
0.000	4.4667E+03	0.0000E+00	0.0000E+00
0.033	2.6770E+05	0.0000E+00	0.0000E+00

0.290	2.3294E+06	4.8101E+00	5.1150E-02
0.417	3.3480E+06	9.9620E+00	1.5437E-01
0.500	4.0133E+06	1.4302E+01	1.6563E-01
0.667	6.2401E+06	2.6383E+01	2.0291E-01
0.920	9.6189E+06	5.4520E+01	3.1525E-01
1.170	1.2948E+07	9.3547E+01	5.2060E-01
1.420	1.6272E+07	1.4341E+02	8.5085E-01
1.670	1.9590E+07	2.0379E+02	1.3360E+00
1.920	2.2903E+07	2.7436E+02	2.0051E+00
2.000	2.3962E+07	2.9904E+02	2.2627E+00
2.400	2.3927E+07	4.2200E+02	3.8846E+00
2.700	2.3901E+07	5.1041E+02	5.4564E+00
3.000	2.3875E+07	5.9569E+02	7.3209E+00
3.300	2.3849E+07	6.7795E+02	9.4676E+00
3.600	2.3824E+07	7.5728E+02	1.1886E+01
3.900	2.3798E+07	8.3379E+02	1.4568E+01
4.000	2.3789E+07	8.5869E+02	1.5518E+01
4.300	2.3764E+07	9.3158E+02	1.8535E+01
4.600	2.3738E+07	1.0019E+03	2.1794E+01
4.900	2.3712E+07	1.0697E+03	2.5284E+01
5.200	2.3687E+07	1.1350E+03	2.9000E+01
5.500	2.3661E+07	1.1980E+03	3.2931E+01
5.800	2.3635E+07	1.2588E+03	3.7071E+01
6.100	2.3610E+07	1.3173E+03	4.1412E+01
6.400	2.3584E+07	1.3738E+03	4.5946E+01
6.700	2.3559E+07	1.4282E+03	5.0668E+01
7.000	2.3533E+07	1.4806E+03	5.5569E+01
7.300	2.3508E+07	1.5312E+03	6.0644E+01
7.600	2.3482E+07	1.5799E+03	6.5886E+01
7.900	2.3457E+07	1.6268E+03	7.1289E+01
8.000	2.3449E+07	1.6420E+03	7.3125E+01
8.300	2.3423E+07	1.6867E+03	7.8733E+01
8.600	2.3398E+07	1.7297E+03	8.4490E+01
8.900	2.3373E+07	1.7712E+03	9.0388E+01
9.200	2.3347E+07	1.8111E+03	9.6424E+01
9.500	2.3322E+07	1.8495E+03	1.0259E+02
9.800	2.3297E+07	1.8865E+03	1.0889E+02
10.100	2.3272E+07	1.9222E+03	1.1530E+02
10.400	2.3246E+07	1.9565E+03	1.2184E+02
16.000	2.2782E+07	2.4033E+03	2.6053E+02
24.000	2.2134E+07	2.6546E+03	4.8968E+02
48.000	2.0298E+07	2.6221E+03	1.2107E+03
96.000	1.7072E+07	2.2167E+03	2.5121E+03
720.000	1.7982E+06	2.3350E+02	8.6783E+03

Control Room	
Time (hr)	I-131 (Curies)
0.000	0.0000E+00
0.033	0.0000E+00
0.290	7.6249E-05
0.417	2.1687E-04
0.500	1.8349E-04
0.667	1.3146E-04
0.920	1.0964E-04



1.170	9.1773E-05
1.420	7.6986E-05
1.670	6.4803E-05
1.920	5.4823E-05
2.000	5.2039E-05
2.400	3.9753E-05
2.700	3.2771E-05
3.000	2.7286E-05
3.300	2.3002E-05
3.600	1.9680E-05
3.900	1.7130E-05
4.000	1.6423E-05
4.300	1.4666E-05
4.600	1.3364E-05
4.900	1.2427E-05
5.200	1.1778E-05
5.500	1.1359E-05
5.800	1.1120E-05
6.100	1.1023E-05
6.400	1.1037E-05
6.700	1.1137E-05
7.000	1.1303E-05
7.300	1.1519E-05
7.600	1.1772E-05
7.900	1.2053E-05
8.000	1.2151E-05
8.300	1.1590E-05
8.600	1.1185E-05
8.900	1.0905E-05
9.200	1.0723E-05
9.500	1.0619E-05
9.800	1.0576E-05
10.100	1.0580E-05
10.400	1.0622E-05
16.000	1.2876E-05
24.000	1.4616E-05
48.000	6.2881E-06
96.000	5.3209E-06
720.000	1.6591E-07

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

Time (hr)	Exclusion Area Bounda		Low Population Zone		Control Room	
	Thyroid (rem)	TEDE (rem)	Thyroid (rem)	TEDE (rem)	Thyroid (rem)	TEDE (rem)
0.000	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00						
0.033	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00						
0.290	3.7022E-02	1.3358E-03	2.8311E-03	1.0215E-04	2.0280E-03	6.4522E-05

04	0.417	1.1159E-01	4.0079E-03	8.5335E-03	3.0648E-04	8.5129E-03	2.7063E-
04	0.500	1.1253E-01	4.0413E-03	8.7132E-03	3.1290E-04	1.4588E-02	4.6360E-
04	0.667	1.1266E-01	4.0458E-03	9.1180E-03	3.2727E-04	2.4103E-02	7.6553E-
03	0.920	1.1303E-01	4.0591E-03	1.0334E-02	3.7014E-04	3.5214E-02	1.1176E-
03	1.170	1.1372E-01	4.0833E-03	1.2551E-02	4.4765E-04	4.4345E-02	1.4065E-
03	1.420	1.1483E-01	4.1217E-03	1.6104E-02	5.7111E-04	5.1972E-02	1.6475E-
03	1.670	1.1645E-01	4.1776E-03	2.1309E-02	7.5085E-04	5.8360E-02	1.8491E-
03	1.920	1.1868E-01	4.2542E-03	2.8467E-02	9.9675E-04	6.3733E-02	2.0185E-
03	2.000	1.1953E-01	4.2835E-03	3.1217E-02	1.0910E-03	6.5270E-02	2.0669E-
03	2.400	1.2491E-01	4.4671E-03	3.8603E-02	1.3431E-03	7.1816E-02	2.2730E-
03	2.700	1.3010E-01	4.6433E-03	4.5732E-02	1.5851E-03	7.5691E-02	2.3948E-
03	3.000	1.3624E-01	4.8508E-03	5.4159E-02	1.8700E-03	7.8890E-02	2.4953E-
03	3.300	1.4329E-01	5.0880E-03	6.3830E-02	2.1957E-03	8.1560E-02	2.5792E-
03	3.600	1.5120E-01	5.3536E-03	7.4692E-02	2.5602E-03	8.3819E-02	2.6500E-
03	3.900	1.5994E-01	5.6461E-03	8.6695E-02	2.9619E-03	8.5762E-02	2.7110E-
03	4.000	1.6303E-01	5.7494E-03	9.0941E-02	3.1037E-03	8.6353E-02	2.7295E-
03	4.300	1.7282E-01	6.0760E-03	1.0439E-01	3.5521E-03	8.7988E-02	2.7807E-
03	4.600	1.8337E-01	6.4268E-03	1.1887E-01	4.0338E-03	8.9457E-02	2.8267E-
03	4.900	1.9463E-01	6.8007E-03	1.3433E-01	4.5472E-03	9.0806E-02	2.8690E-
03	5.200	2.0658E-01	7.1966E-03	1.5074E-01	5.0908E-03	9.2069E-02	2.9085E-
03	5.500	2.1920E-01	7.6136E-03	1.6806E-01	5.6634E-03	9.3273E-02	2.9462E-
03	5.800	2.3244E-01	8.0508E-03	1.8624E-01	6.2636E-03	9.4439E-02	2.9826E-
03	6.100	2.4628E-01	8.5071E-03	2.0525E-01	6.8902E-03	9.5585E-02	3.0185E-
03	6.400	2.6070E-01	8.9818E-03	2.2505E-01	7.5420E-03	9.6724E-02	3.0541E-
03	6.700	2.7568E-01	9.4740E-03	2.4561E-01	8.2178E-03	9.7865E-02	3.0898E-
03	7.000	2.9118E-01	9.9830E-03	2.6690E-01	8.9166E-03	9.9018E-02	3.1258E-
03	7.300	3.0719E-01	1.0508E-02	2.8888E-01	9.6374E-03	1.0019E-01	3.1623E-

```

7.600 3.2369E-01 1.1048E-02 3.1153E-01 1.0379E-02 1.0138E-01 3.1995E-
03
7.900 3.4065E-01 1.1603E-02 3.3481E-01 1.1141E-02 1.0259E-01 3.2374E-
03
8.000 3.4640E-01 1.1791E-02 3.4271E-01 1.1399E-02 1.0300E-01 3.2502E-
03
8.300 3.6394E-01 1.2364E-02 3.5082E-01 1.1676E-02 1.0421E-01 3.2879E-
03
8.600 3.8190E-01 1.2950E-02 3.5911E-01 1.1959E-02 1.0536E-01 3.3238E-
03
8.900 4.0026E-01 1.3549E-02 3.6759E-01 1.2248E-02 1.0648E-01 3.3587E-
03
9.200 4.1900E-01 1.4159E-02 3.7625E-01 1.2542E-02 1.0757E-01 3.3927E-
03
9.500 4.3811E-01 1.4781E-02 3.8507E-01 1.2842E-02 1.0864E-01 3.4261E-
03
9.800 4.5756E-01 1.5413E-02 3.9406E-01 1.3147E-02 1.0970E-01 3.4593E-
03
10.100 4.7734E-01 1.6056E-02 4.0319E-01 1.3457E-02 1.1076E-01 3.4923E-
03
10.400 4.9744E-01 1.6709E-02 4.1248E-01 1.3771E-02 1.1182E-01 3.5253E-
03
16.000 9.1643E-01 3.0227E-02 6.0600E-01 2.0255E-02 1.3327E-01 4.1924E-
03
24.000 1.5825E+00 5.1471E-02 9.1365E-01 3.0375E-02 1.6822E-01 5.2753E-
03
48.000 3.5451E+00 1.1298E-01 1.3746E+00 4.4977E-02 1.9754E-01 6.1778E-
03
96.000 6.8395E+00 2.1465E-01 2.1482E+00 6.8985E-02 2.4327E-01 7.5757E-
03
720.000 2.1805E+01 6.7359E-01 3.0839E+00 9.7784E-02 2.8486E-01 8.8427E-
03

```

```

#####
Worst Two-Hour Doses
#####

```

Exclusion Area Boundary

Time (hr)	Whole Body (rem)	Thyroid (rem)	TEDE (rem)
16.0	1.7614E-04	1.6652E-01	5.3109E-03

## Attachment 13.3 - RADTRAD Output File "QDC39MS03.o0"

```
#####
RADTRAD Version 3.03 (Spring 2001) run on 1/28/2020 at 9:12:40
#####
```

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

```
Plant file          = D:\Projects\RabaioliBrosius\Exelon_RAIs\QDC-0000-N-
1481\Framatome\QDC39MS03.psf
Inventory file      = d:\projects\rabaiolibrosius\exelon_rais\qdc-0000-n-
1481\framatome\dqloca_atrium_def.nif
Release file       = c:\program files
(x86)\radtrad3.03\defaults\bwr_dba.rft
Dose Conversion file = c:\program files
(x86)\radtrad3.03\defaults\fgr11&12.inp
```

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

Radtrad 3.03 4/15/2001

Quad Cities MSIV Leakeg - Optima Fuel With 39 GWD/MTU, MSIV Leakage =  
100/100/50/0 scfh, 40% Aerosol Settling Velocity, CREV Initiated @ 40  
Minutes, CR Unfiltered Inleakage = 4,000 cfm for <0.6667 hrs and 400 cfm  
>0.6667 hrs

Nuclide Inventory File:

d:\projects\rabaiolibrosius\exelon\_rais\qdc-0000-n-  
1481\framatome\dqloca\_atrium\_def.nif

Plant Power Level:

3.0161E+03

Compartments:

9

Compartment 1:

Sprayed Drywell

3

9.5000E+04

1

0

0

0

0

Compartment 2:

MSIV Failed Control Vol 1

3

2.0024E+02

0

0

0

0

0

Compartment 3:

Intact Control Volume 2

3

1.5293E+02

0

0

0

0

0

Compartment 4:

Intact Control Volume 3

3

4.9110E+01

0

0

0

0

0

Compartment 5:

Intact Control Volume 4

3

1.6375E+02

0

0

0

0

0

Compartment 6:

Intact Control Volume 5

3

4.9110E+01

0

0

0

0

0

Compartment 7:

Environment

2

0.0000E+00

0

0

0

0

0

Compartment 8:

Control Room

1

1.8400E+05

0  
0  
0  
0  
0

Compartment 9:  
Unsprayed Drywell

3  
6.3000E+04  
0  
0  
0  
0  
0

Pathways:

13

Pathway 1:

Drywell to MSIV Failed Control Vol 1

1  
2  
2

Pathway 2:

MSIV Failed Control Vol 1 to Environment

2  
7  
2

Pathway 3:

Drywell to Intact Control Volume 2

1  
3  
2

Pathway 4:

Intact Control Volume 2 to Intact Control Volume 3

3  
4  
2

Pathway 5:

Intact Control Volume 3 to Environment

4  
7  
2

Pathway 6:

Drywell to Intact Control Volume 4

1  
5  
2

Pathway 7:

Intact Control Volume 4 to Intact Control Volume 5

5  
6  
2

Pathway 8:

Intact Control Volume 5 to Environment

6  
7  
2

Pathway 9:

Filtered Intake to Control Room

7

8

2

Pathway 10:

Unfiltered Inleakage to Control Room

7

8

2

Pathway 11:

Control Room Exhaust to Environment

8

7

2

Pathway 12:

Sprayed Drywell to Unsprayed Drywell

1

9

2

Pathway 13:

Unsprayed Drywell to Sprayed Drywell

9

1

2

End of Plant Model File

Scenario Description Name:

Plant Model Filename:

Source Term:

1

1 1.0000E+00

c:\program files (x86)\radtrad3.03\defaults\fgr11&12.inp

c:\program files (x86)\radtrad3.03\defaults\bwr\_dba.rft

0.0000E+00

1

9.5000E-01 4.8500E-02 1.5000E-03 1.0000E+00

Overlying Pool:

0

0.0000E+00

0

0

0

0

Compartments:

9

Compartment 1:

1

1

1

0.0000E+00

6

0.0000E+00 0.0000E+00

1.6670E-01 1.5000E+01

2.2000E+00 1.5000E+00

2.3000E+00 1.5000E+00

4.0000E+00 0.0000E+00

7.2000E+02 0.0000E+00

1

0.0000E+00

6

0.0000E+00 0.0000E+00

1.6670E-01 1.5000E+01

2.2000E+00 1.5000E+01

2.3000E+00 0.0000E+00

4.0000E+00 0.0000E+00

7.2000E+02 0.0000E+00

1

0.0000E+00

0

0

0

0

0

Compartment 2:

0

1

0

0

0

0

0

0

0

Compartment 3:

0

1

0

0

0

0

0

0

0

Compartment 4:

0

1

0

0

0

0

0

0

0

Compartment 5:

0

1

0

0

0

0

0

0

0



Compartment 6:

0  
1  
0  
0  
0  
0  
0  
0  
0

Compartment 7:

0  
1  
0  
0  
0  
0  
0  
0  
0

Compartment 8:

0  
1  
0  
0  
0  
0  
0  
0  
0

Compartment 9:

0  
1  
0  
0  
0  
0  
0  
0  
0

Pathways:

13

Pathway 1:

0  
0  
0  
0  
0  
1  
5  
0.0000E+00  
3.3300E-02  
2.0000E+00  
2.4000E+01  
7.2000E+02  
0  
0

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	5.9500E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	3.4900E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	1.7500E-01	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

0  
0  
0  
0

Pathway 2:

0  
0  
0  
0  
0  
1

10

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	1.6670E+00	8.7820E+01	6.8400E+00	0.0000E+00
2.0000E+00	9.7900E-01	8.7820E+01	6.8400E+00	0.0000E+00
8.0000E+00	9.7900E-01	8.7820E+01	9.1100E+00	0.0000E+00
2.4000E+01	4.8900E-01	8.7820E+01	1.5690E+01	0.0000E+00
4.8000E+01	4.8900E-01	8.7820E+01	3.1540E+01	0.0000E+00
7.2000E+01	4.8900E-01	8.7820E+01	5.2530E+01	0.0000E+00
9.6000E+01	4.8900E-01	8.7820E+01	7.2070E+01	0.0000E+00
2.4000E+02	4.8900E-01	8.7820E+01	9.7260E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

0  
0  
0  
0  
0  
0

Pathway 3:

0  
0  
0  
0  
0  
1  
5

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	5.9500E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	3.4900E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	1.7500E-01	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

0  
0  
0  
0  
0  
0

Pathway 4:

0  
0  
0  
0  
0  
1

10

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	1.6670E+00	7.6750E+01	4.1600E+00	0.0000E+00

2.0000E+00	9.7900E-01	7.6750E+01	4.1600E+00	0.0000E+00
8.0000E+00	9.7900E-01	7.6750E+01	5.5700E+00	0.0000E+00
2.4000E+01	4.8900E-01	7.6750E+01	9.7400E+00	0.0000E+00
4.8000E+01	4.8900E-01	7.6750E+01	2.0390E+01	0.0000E+00
7.2000E+01	4.8900E-01	7.6750E+01	3.6240E+01	0.0000E+00
9.6000E+01	4.8900E-01	7.6750E+01	5.4010E+01	0.0000E+00
2.4000E+02	4.8900E-01	7.6750E+01	9.3310E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

0

0

0

0

0

0

Pathway 5:

0

0

0

0

0

1

10

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	1.6670E+00	8.0220E+01	1.4970E+01	0.0000E+00
2.0000E+00	9.7900E-01	8.0220E+01	1.4970E+01	0.0000E+00
8.0000E+00	9.7900E-01	8.0220E+01	1.9630E+01	0.0000E+00
2.4000E+01	4.8900E-01	8.0220E+01	3.2260E+01	0.0000E+00
4.8000E+01	4.8900E-01	8.0220E+01	5.7570E+01	0.0000E+00
7.2000E+01	4.8900E-01	8.0220E+01	8.0730E+01	0.0000E+00
9.6000E+01	4.8900E-01	8.0220E+01	9.2810E+01	0.0000E+00
2.4000E+02	4.8900E-01	8.0220E+01	9.7840E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

0

0

0

0

0

0

Pathway 6:

0

0

0

0

0

1

5

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	2.9700E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	1.7500E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	8.7000E-02	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

0

0

0

0

0

0

Pathway 7:

0				
0				
0				
0				
0				
1				
10				
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	8.3300E-01	8.9010E+01	4.7500E+00	0.0000E+00
2.0000E+00	4.8900E-01	8.9010E+01	4.7500E+00	0.0000E+00
8.0000E+00	4.8900E-01	8.9010E+01	6.3500E+00	0.0000E+00
2.4000E+01	2.4500E-01	8.9010E+01	1.1060E+01	0.0000E+00
4.8000E+01	2.4500E-01	8.9010E+01	2.2950E+01	0.0000E+00
7.2000E+01	2.4500E-01	8.9010E+01	4.0200E+01	0.0000E+00
9.6000E+01	2.4500E-01	8.9010E+01	5.8780E+01	0.0000E+00
2.4000E+02	2.4500E-01	8.9010E+01	9.4930E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0				
0				
0				
0				
0				
0				

Pathway 8:

0				
0				
0				
0				
0				
1				
10				
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	8.3300E-01	8.9030E+01	1.4970E+01	0.0000E+00
2.0000E+00	4.8900E-01	8.9030E+01	1.4970E+01	0.0000E+00
8.0000E+00	4.8900E-01	8.9030E+01	1.9630E+01	0.0000E+00
2.4000E+01	2.4500E-01	8.9030E+01	3.2260E+01	0.0000E+00
4.8000E+01	2.4500E-01	8.9030E+01	5.7570E+01	0.0000E+00
7.2000E+01	2.4500E-01	8.9030E+01	8.0730E+01	0.0000E+00
9.6000E+01	2.4500E-01	8.9030E+01	9.2810E+01	0.0000E+00
2.4000E+02	2.4500E-01	8.9030E+01	9.7840E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0				
0				
0				
0				
0				
0				

Pathway 9:

0				
0				
0				
0				
0				
1				
8				
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

3.3300E-02	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
2.0000E+00	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
8.0000E+00	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
2.4000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
9.6000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

0  
0  
0  
0  
0  
0

Pathway 10:

0  
0  
0  
0  
0  
1  
8

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	4.0000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
8.0000E+00	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
9.6000E+01	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

0  
0  
0  
0  
0  
0

Pathway 11:

0  
0  
0  
0  
0  
1  
8

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	6.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
8.0000E+00	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
9.6000E+01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

0  
0  
0  
0  
0  
0

## Pathway 12:

0				
0				
0				
0				
0				
1				
2				
0.0000E+00	2.1000E+03	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0				
0				
0				
0				
0				
0				

## Pathway 13:

0				
0				
0				
0				
0				
1				
2				
0.0000E+00	2.1000E+03	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0				
0				
0				
0				
0				
0				

## Dose Locations:

3

## Location 1:

## Exclusion Area Boundary

7				
1				
2				
0.0000E+00	1.3600E-03			
7.2000E+02	0.0000E+00			
1				
2				
0.0000E+00	3.5000E-04			
7.2000E+02	0.0000E+00			
0				

## Location 2:

## Low Population Zone

7				
1				
6				
0.0000E+00	1.0400E-04			
2.0000E+00	4.1400E-05			
8.0000E+00	2.6200E-05			
2.4000E+01	9.9600E-06			
9.6000E+01	2.5200E-06			
7.2000E+02	0.0000E+00			

1  
4  
0.0000E+00 3.5000E-04  
8.0000E+00 1.8000E-04  
2.4000E+01 2.3000E-04  
7.2000E+02 0.0000E+00  
0

Location 3:  
Control Room

8  
0  
1  
2  
0.0000E+00 3.5000E-04  
7.2000E+02 0.0000E+00  
1  
4  
0.0000E+00 1.0000E+00  
2.4000E+01 6.0000E-01  
9.6000E+01 4.0000E-01  
7.2000E+02 0.0000E+00

Effective Volume Location:

1  
6  
0.0000E+00 1.0200E-03  
2.0000E+00 8.2300E-04  
8.0000E+00 3.5500E-04  
2.4000E+01 2.3200E-04  
9.6000E+01 1.3800E-04  
7.2000E+02 0.0000E+00

Simulation Parameters:

7  
0.0000E+00 1.0000E-01  
1.0000E+00 1.0000E-02  
2.0000E+00 5.0000E-01  
8.0000E+00 1.0000E+00  
2.4000E+01 2.0000E+00  
9.6000E+01 5.0000E+00  
7.2000E+02 0.0000E+00

Output Filename:

D:\Projects\RabaioliBrosius\Exelon\_RAIs\QDC-0000-N-1481\Framatome\QDC39MS03.o0

1  
1  
1  
0  
0

End of Scenario File

#####  
 RADTRAD Version 3.03 (Spring 2001) run on 1/28/2020 at 9:12:40  
 #####

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

Number of Nuclides = 60

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

Number of compartments = 9

Compartment information

Compartment number 1 (Source term fraction = 1.0000E+00  
 )

Name: Sprayed Drywell

Compartment volume = 9.5000E+04 (Cubic feet)

Compartment type is Normal

Removal devices within compartment:

Spray(s)

Pathways into and out of compartment 1

Inlet Pathway Number 13: Unsprayed Drywell to Sprayed Drywell

Exit Pathway Number 1: Drywell to MSIV Failed Control Vol 1

Exit Pathway Number 3: Drywell to Intact Control Volume 2

Exit Pathway Number 6: Drywell to Intact Control Volume 4

Exit Pathway Number 12: Sprayed Drywell to Unsprayed Drywell

Compartment number 2

Name: MSIV Failed Control Vol 1

Compartment volume = 2.0024E+02 (Cubic feet)

Compartment type is Normal

Pathways into and out of compartment 2

Inlet Pathway Number 1: Drywell to MSIV Failed Control Vol 1

Exit Pathway Number 2: MSIV Failed Control Vol 1 to Environment

Compartment number 3

Name: Intact Control Volume 2

Compartment volume = 1.5293E+02 (Cubic feet)

Compartment type is Normal

Pathways into and out of compartment 3

Inlet Pathway Number 3: Drywell to Intact Control Volume 2

Exit Pathway Number 4: Intact Control Volume 2 to Intact Control

Volume 3

Compartment number 4

Name: Intact Control Volume 3

Compartment volume = 4.9110E+01 (Cubic feet)

Compartment type is Normal

Pathways into and out of compartment 4

Inlet Pathway Number 4: Intact Control Volume 2 to Intact Control  
 Volume 3

Exit Pathway Number 5: Intact Control Volume 3 to Environment



Compartment number 5  
Name: Intact Control Volume 4  
Compartment volume = 1.6375E+02 (Cubic feet)  
Compartment type is Normal  
Pathways into and out of compartment 5  
    Inlet Pathway Number 6: Drywell to Intact Control Volume 4  
    Exit Pathway Number 7: Intact Control Volume 4 to Intact Control  
Volume 5

Compartment number 6  
Name: Intact Control Volume 5  
Compartment volume = 4.9110E+01 (Cubic feet)  
Compartment type is Normal  
Pathways into and out of compartment 6  
    Inlet Pathway Number 7: Intact Control Volume 4 to Intact Control  
Volume 5  
    Exit Pathway Number 8: Intact Control Volume 5 to Environment

Compartment number 7  
Name: Environment  
Compartment type is Environment  
Pathways into and out of compartment 7  
    Inlet Pathway Number 2: MSIV Failed Control Vol 1 to Environment  
    Inlet Pathway Number 5: Intact Control Volume 3 to Environment  
    Inlet Pathway Number 8: Intact Control Volume 5 to Environment  
    Inlet Pathway Number 11: Control Room Exhaust to Environment  
    Exit Pathway Number 9: Filtered Intake to Control Room  
    Exit Pathway Number 10: Unfiltered Inleakage to Control Room

Compartment number 8  
Name: Control Room  
Compartment volume = 1.8400E+05 (Cubic feet)  
Compartment type is Control Room  
Pathways into and out of compartment 8  
    Inlet Pathway Number 9: Filtered Intake to Control Room  
    Inlet Pathway Number 10: Unfiltered Inleakage to Control Room  
    Exit Pathway Number 11: Control Room Exhaust to Environment

Compartment number 9  
Name: Unsprayed Drywell  
Compartment volume = 6.3000E+04 (Cubic feet)  
Compartment type is Normal  
Pathways into and out of compartment 9  
    Inlet Pathway Number 12: Sprayed Drywell to Unsprayed Drywell  
    Exit Pathway Number 13: Unsprayed Drywell to Sprayed Drywell

Total number of pathways = 13

#####  
 RADTRAD Version 3.03 (Spring 2001) run on 1/28/2020 at 9:12:40  
 #####

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

Radioactive Decay is enabled  
 Calculation of Daughters is enabled

Release Fractions and Timings

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

Inventory Power = 3016. MWt

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

Te-129	4	8.222E+03	4.176E+03	2.750E-15	5.090E-13	2.090E-11
Te-129m	4	1.664E+03	2.903E+06	3.337E-15	1.563E-10	6.484E-09
Te-131m	4	5.404E+03	1.080E+05	7.463E-14	3.669E-08	1.758E-09
Te-132	4	3.813E+04	2.815E+05	1.030E-14	6.280E-08	2.550E-09
I-131	2	2.666E+04	6.947E+05	1.820E-14	2.920E-07	8.890E-09
I-132	2	3.879E+04	8.280E+03	1.120E-13	1.740E-09	1.030E-10
I-133	2	5.504E+04	7.488E+04	2.940E-14	4.860E-08	1.580E-09
I-134	2	6.100E+04	3.156E+03	1.300E-13	2.880E-10	3.550E-11
I-135	2	5.238E+04	2.380E+04	8.294E-14	8.460E-09	3.320E-10
Xe-133	1	5.272E+04	4.532E+05	1.560E-15	0.000E+00	0.000E+00
Xe-135	1	1.787E+04	3.272E+04	1.190E-14	0.000E+00	0.000E+00
Cs-134	3	6.730E+03	6.507E+07	7.570E-14	1.110E-08	1.250E-08
Cs-136	3	1.837E+03	1.132E+06	1.060E-13	1.730E-09	1.980E-09
Cs-137	3	5.338E+03	9.467E+08	2.725E-14	7.930E-09	8.630E-09
Ba-139	6	4.841E+04	4.962E+03	2.170E-15	2.400E-12	4.640E-11
Ba-140	6	4.874E+04	1.101E+06	8.580E-15	2.560E-10	1.010E-09
La-140	9	5.205E+04	1.450E+05	1.170E-13	6.870E-11	1.310E-09
La-141	9	4.443E+04	1.415E+04	2.390E-15	9.400E-12	1.570E-10
La-142	9	4.343E+04	5.550E+03	1.440E-13	8.740E-12	6.840E-11
Ce-141	8	4.476E+04	2.808E+06	3.430E-15	2.550E-11	2.420E-09
Ce-143	8	4.178E+04	1.188E+05	1.290E-14	6.230E-12	9.160E-10
Ce-144	8	3.846E+04	2.456E+07	2.773E-15	2.920E-10	1.010E-07
Pr-143	9	4.045E+04	1.172E+06	2.100E-17	1.680E-18	2.190E-09
Nd-147	9	1.800E+04	9.487E+05	6.190E-15	1.820E-11	1.850E-09
Np-239	8	5.272E+05	2.035E+05	7.690E-15	7.620E-12	6.780E-10
Pu-238	8	1.379E+02	2.769E+09	4.880E-18	3.860E-10	7.790E-05
Pu-239	8	1.303E+01	7.594E+11	4.240E-18	3.750E-10	8.330E-05
Pu-240	8	2.387E+01	2.063E+11	4.750E-18	3.760E-10	8.330E-05
Pu-241	8	5.272E+03	4.544E+08	7.250E-20	9.150E-12	1.340E-06
Am-241	9	8.653E+00	1.364E+10	8.180E-16	1.600E-09	1.200E-04
Cm-242	9	2.202E+03	1.407E+07	5.690E-18	9.410E-10	4.670E-06
Cm-244	9	1.280E+02	5.715E+08	4.910E-18	1.010E-09	6.700E-05

Nuclide	Daughter	Fraction	Daughter	Fraction	Daughter	Fraction
Kr-85m	Kr-85	0.21	none	0.00	none	0.00
Kr-87	Rb-87	1.00	none	0.00	none	0.00
Kr-88	Rb-88	1.00	none	0.00	none	0.00
Sr-90	Y-90	1.00	none	0.00	none	0.00
Sr-91	Y-91m	0.58	Y-91	0.42	none	0.00
Sr-92	Y-92	1.00	none	0.00	none	0.00
Y-93	Zr-93	1.00	none	0.00	none	0.00
Zr-95	Nb-95m	0.01	Nb-95	0.99	none	0.00
Zr-97	Nb-97m	0.95	Nb-97	0.05	none	0.00
Mo-99	Tc-99m	0.88	Tc-99	0.12	none	0.00
Tc-99m	Tc-99	1.00	none	0.00	none	0.00
Ru-103	Rh-103m	1.00	none	0.00	none	0.00
Ru-105	Rh-105	1.00	none	0.00	none	0.00
Ru-106	Rh-106	1.00	none	0.00	none	0.00
Sb-127	Te-127m	0.18	Te-127	0.82	none	0.00
Sb-129	Te-129m	0.22	Te-129	0.77	none	0.00
Te-127m	Te-127	0.98	none	0.00	none	0.00
Te-129	I-129	1.00	none	0.00	none	0.00
Te-129m	Te-129	0.65	I-129	0.35	none	0.00
Te-131m	Te-131	0.22	I-131	0.78	none	0.00
Te-132	I-132	1.00	none	0.00	none	0.00
I-131	Xe-131m	0.01	none	0.00	none	0.00
I-133	Xe-133m	0.03	Xe-133	0.97	none	0.00

I-135	Xe-135m	0.15	Xe-135	0.85	none	0.00
Xe-135	Cs-135	1.00	none	0.00	none	0.00
Cs-137	Ba-137m	0.95	none	0.00	none	0.00
Ba-140	La-140	1.00	none	0.00	none	0.00
La-141	Ce-141	1.00	none	0.00	none	0.00
Ce-143	Pr-143	1.00	none	0.00	none	0.00
Ce-144	Pr-144m	0.02	Pr-144	0.98	none	0.00
Nd-147	Pm-147	1.00	none	0.00	none	0.00
Np-239	Pu-239	1.00	none	0.00	none	0.00
Pu-238	U-234	1.00	none	0.00	none	0.00
Pu-239	U-235	1.00	none	0.00	none	0.00
Pu-240	U-236	1.00	none	0.00	none	0.00
Pu-241	U-237	0.00	Am-241	1.00	none	0.00
Am-241	Np-237	1.00	none	0.00	none	0.00
Cm-242	Pu-238	1.00	none	0.00	none	0.00
Cm-244	Pu-240	1.00	none	0.00	none	0.00

## Iodine fractions

Aerosol	=	9.5000E-01
Elemental	=	4.8500E-02
Organic	=	1.5000E-03

## COMPARTMENT DATA

Compartment number 1: Sprayed Drywell

## Sprays: Aerosol Removal Data

Time (hr)	Removal Coef. (hr <sup>-1</sup> )
0.0000E+00	0.0000E+00
1.6670E-01	1.5000E+01
2.2000E+00	1.5000E+00
2.3000E+00	1.5000E+00
4.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00

## Sprays: Elemental Removal Data

Time (hr)	Removal Coef. (hr <sup>-1</sup> )
0.0000E+00	0.0000E+00
1.6670E-01	1.5000E+01
2.2000E+00	1.5000E+01
2.3000E+00	0.0000E+00
4.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00

Compartment number 2: MSIV Failed Control Vol 1

Compartment number 3: Intact Control Volume 2

Compartment number 4: Intact Control Volume 3

Compartment number 5: Intact Control Volume 4

Compartment number 6: Intact Control Volume 5

Compartment number 7: Environment

Compartment number 8: Control Room

Compartment number 9: Unsprayed Drywell

PATHWAY DATA

Pathway number 1: Drywell to MSIV Failed Control Vol 1

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	5.9500E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	3.4900E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	1.7500E-01	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 2: MSIV Failed Control Vol 1 to Environment

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	1.6670E+00	8.7820E+01	6.8400E+00	0.0000E+00
2.0000E+00	9.7900E-01	8.7820E+01	6.8400E+00	0.0000E+00
8.0000E+00	9.7900E-01	8.7820E+01	9.1100E+00	0.0000E+00
2.4000E+01	4.8900E-01	8.7820E+01	1.5690E+01	0.0000E+00
4.8000E+01	4.8900E-01	8.7820E+01	3.1540E+01	0.0000E+00
7.2000E+01	4.8900E-01	8.7820E+01	5.2530E+01	0.0000E+00
9.6000E+01	4.8900E-01	8.7820E+01	7.2070E+01	0.0000E+00
2.4000E+02	4.8900E-01	8.7820E+01	9.7260E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 3: Drywell to Intact Control Volume 2

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	5.9500E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	3.4900E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	1.7500E-01	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 4: Intact Control Volume 2 to Intact Control Volume 3

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	1.6670E+00	7.6750E+01	4.1600E+00	0.0000E+00
2.0000E+00	9.7900E-01	7.6750E+01	4.1600E+00	0.0000E+00
8.0000E+00	9.7900E-01	7.6750E+01	5.5700E+00	0.0000E+00
2.4000E+01	4.8900E-01	7.6750E+01	9.7400E+00	0.0000E+00

4.8000E+01	4.8900E-01	7.6750E+01	2.0390E+01	0.0000E+00
7.2000E+01	4.8900E-01	7.6750E+01	3.6240E+01	0.0000E+00
9.6000E+01	4.8900E-01	7.6750E+01	5.4010E+01	0.0000E+00
2.4000E+02	4.8900E-01	7.6750E+01	9.3310E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 5: Intact Control Volume 3 to Environment

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	1.6670E+00	8.0220E+01	1.4970E+01	0.0000E+00
2.0000E+00	9.7900E-01	8.0220E+01	1.4970E+01	0.0000E+00
8.0000E+00	9.7900E-01	8.0220E+01	1.9630E+01	0.0000E+00
2.4000E+01	4.8900E-01	8.0220E+01	3.2260E+01	0.0000E+00
4.8000E+01	4.8900E-01	8.0220E+01	5.7570E+01	0.0000E+00
7.2000E+01	4.8900E-01	8.0220E+01	8.0730E+01	0.0000E+00
9.6000E+01	4.8900E-01	8.0220E+01	9.2810E+01	0.0000E+00
2.4000E+02	4.8900E-01	8.0220E+01	9.7840E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 6: Drywell to Intact Control Volume 4

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	2.9700E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	1.7500E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	8.7000E-02	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 7: Intact Control Volume 4 to Intact Control Volume 5

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	8.3300E-01	8.9010E+01	4.7500E+00	0.0000E+00
2.0000E+00	4.8900E-01	8.9010E+01	4.7500E+00	0.0000E+00
8.0000E+00	4.8900E-01	8.9010E+01	6.3500E+00	0.0000E+00
2.4000E+01	2.4500E-01	8.9010E+01	1.1060E+01	0.0000E+00
4.8000E+01	2.4500E-01	8.9010E+01	2.2950E+01	0.0000E+00
7.2000E+01	2.4500E-01	8.9010E+01	4.0200E+01	0.0000E+00
9.6000E+01	2.4500E-01	8.9010E+01	5.8780E+01	0.0000E+00
2.4000E+02	2.4500E-01	8.9010E+01	9.4930E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 8: Intact Control Volume 5 to Environment

Pathway Filter: Removal Data

Time (hr)	Flow Rate	Filter Efficiencies (%)
-----------	-----------	-------------------------

	(cfm)	Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	8.3300E-01	8.9030E+01	1.4970E+01	0.0000E+00
2.0000E+00	4.8900E-01	8.9030E+01	1.4970E+01	0.0000E+00
8.0000E+00	4.8900E-01	8.9030E+01	1.9630E+01	0.0000E+00
2.4000E+01	2.4500E-01	8.9030E+01	3.2260E+01	0.0000E+00
4.8000E+01	2.4500E-01	8.9030E+01	5.7570E+01	0.0000E+00
7.2000E+01	2.4500E-01	8.9030E+01	8.0730E+01	0.0000E+00
9.6000E+01	2.4500E-01	8.9030E+01	9.2810E+01	0.0000E+00
2.4000E+02	2.4500E-01	8.9030E+01	9.7840E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 9: Filtered Intake to Control Room

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
2.0000E+00	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
8.0000E+00	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
2.4000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
9.6000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 10: Unfiltered Inleakage to Control Room

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	4.0000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
8.0000E+00	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
9.6000E+01	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 11: Control Room Exhaust to Environment

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	6.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
8.0000E+00	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
9.6000E+01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 12: Sprayed Drywell to Unsprayed Drywell

Pathway Filter: Removal Data

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

Pathway number 13: Unsprayed Drywell to Sprayed Drywell

Pathway Filter: Removal Data

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

#### LOCATION DATA

Location Exclusion Area Boundary is in compartment 7

Location X/Q Data

Time (hr)	X/Q (s * m <sup>-3</sup> )
0.0000E+00	1.3600E-03
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 Low Population Zone is in compartment 7

Location X/Q Data

Time (hr)	X/Q (s * m <sup>-3</sup> )
0.0000E+00	1.0400E-04
2.0000E+00	4.1400E-05
8.0000E+00	2.6200E-05
2.4000E+01	9.9600E-06
9.6000E+01	2.5200E-06
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
8.0000E+00	1.8000E-04
2.4000E+01	2.3000E-04
7.2000E+02	0.0000E+00

Location Control Room is in compartment 8

Location X/Q Data

Time (hr)	X/Q (s * m <sup>-3</sup> )
0.0000E+00	1.0200E-03
2.0000E+00	8.2300E-04
8.0000E+00	3.5500E-04
2.4000E+01	2.3200E-04
9.6000E+01	1.3800E-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 Occupancy Factor Data

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

## USER SPECIFIED TIME STEP DATA - SUPPLEMENTAL TIME STEPS

Time	Time step
0.0000E+00	1.0000E-01
1.0000E+00	1.0000E-02
2.0000E+00	5.0000E-01
8.0000E+00	1.0000E+00
2.4000E+01	2.0000E+00
9.6000E+01	5.0000E+00
7.2000E+02	0.0000E+00

#####  
 RADTRAD Version 3.03 (Spring 2001) run on 1/28/2020 at 9:12:40  
 #####

```

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

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

Exclusion Area Boundary Doses:

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

Low Population Zone Doses:

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

Control Room Doses:

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

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =	0.0333	Ci	kg	Atoms	Decay
------------	--------	----	----	-------	-------

Sprayed Drywell Transport Group Inventory:

Time (h) =	0.0333	Atmosphere	Sump	
Noble gases (atoms)		9.3660E+22	0.0000E+00	
Elemental I (atoms)		6.2043E+20	0.0000E+00	
Organic I (atoms)		1.9188E+19	0.0000E+00	
Aerosols (kg)		6.5728E-01	0.0000E+00	
Dose Effective (Ci/cc)		I-131 (Thyroid)		1.3741E-04
Dose Effective (Ci/cc)		I-131 (ICRP2 Thyroid)		1.7573E-04
Total I (Ci)				2.2772E+06

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

		Pathway	
Time (h) =	0.0333	Filtered	Transported

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

Drywell to Intact Control Volume 2 Transport Group Inventory:

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

Drywell to Intact Control Volume 4 Transport Group Inventory:

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

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 0.0333	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.0833E+21
Elemental I (atoms)	0.0000E+00	1.3811E+19
Organic I (atoms)	0.0000E+00	4.2713E+17
Aerosols (kg)	0.0000E+00	1.4620E-02

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 0.0333	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.5284E+19
Elemental I (atoms)	0.0000E+00	3.0020E+17
Organic I (atoms)	0.0000E+00	9.2845E+15
Aerosols (kg)	0.0000E+00	3.1779E-04

Exclusion Area Boundary Doses:

Time (h) = 0.1667	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.1449E-03	1.2124E-01	6.0306E-03
Accumulated dose (rem)	1.1449E-03	1.2124E-01	6.0306E-03

Low Population Zone Doses:

Time (h) = 0.1667	Whole Body	Thyroid	TEDE
Delta dose (rem)	8.7554E-05	9.2709E-03	4.6116E-04
Accumulated dose (rem)	8.7554E-05	9.2709E-03	4.6116E-04

Control Room Doses:

Time (h) = 0.1667	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.7623E-06	7.7934E-03	3.1794E-04

Accumulated dose (rem) 3.7623E-06 7.7934E-03 3.1794E-04

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =	Ci	kg	Atoms	Decay
0.1667				
Kr-85	2.0720E+04	5.2812E-02	3.7416E+23	3.1771E+17
Kr-85m	3.0067E+05	3.6536E-05	2.5885E+20	4.6567E+18
Kr-87	5.6483E+05	1.9941E-05	1.3803E+20	8.9726E+18
Kr-88	8.2480E+05	6.5777E-05	4.5014E+20	1.2848E+19
Rb-86	2.3285E+03	2.8617E-05	2.0039E+20	3.5708E+16
I-131	1.2153E+06	9.8028E-03	4.5064E+22	1.8639E+19
I-132	1.7110E+06	1.6576E-04	7.5625E+20	2.6631E+19
I-133	2.4967E+06	2.2040E-03	9.9794E+21	3.8365E+19
I-134	2.4392E+06	9.1435E-05	4.1092E+20	3.9377E+19
I-135	2.3482E+06	6.6865E-04	2.9827E+21	3.6250E+19
Xe-133	2.4047E+06	1.2847E-02	5.8170E+22	3.6866E+19
Xe-135	8.3040E+05	3.2517E-04	1.4505E+21	1.2568E+19
Cs-134	3.0702E+05	2.3729E-01	1.0664E+24	4.7077E+18
Cs-136	8.3757E+04	1.1428E-03	5.0604E+21	1.2845E+18
Cs-137	2.4349E+05	2.7994E+00	1.2305E+25	3.7336E+18

Sprayed Drywell Transport Group Inventory:

Time (h) =	Atmosphere	Sump	
0.1667			
Noble gases (atoms)	4.3463E+23	0.0000E+00	
Elemental I (atoms)	2.8709E+21	0.0000E+00	
Organic I (atoms)	8.8790E+19	0.0000E+00	
Aerosols (kg)	3.0501E+00	0.0000E+00	
Dose Effective (Ci/cc) I-131 (Thyroid)			6.3621E-04
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			8.1087E-04
Total I (Ci)			1.0210E+07

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

Time (h) =	Pathway	
	Filtered	Transported
0.1667		
Noble gases (atoms)	0.0000E+00	1.3448E+19
Elemental I (atoms)	0.0000E+00	8.9005E+16
Organic I (atoms)	0.0000E+00	2.7527E+15
Aerosols (kg)	0.0000E+00	9.4375E-05

Drywell to Intact Control Volume 2 Transport Group Inventory:

Time (h) =	Pathway	
	Filtered	Transported
0.1667		
Noble gases (atoms)	0.0000E+00	1.3448E+19
Elemental I (atoms)	0.0000E+00	8.9005E+16
Organic I (atoms)	0.0000E+00	2.7527E+15
Aerosols (kg)	0.0000E+00	9.4375E-05

Drywell to Intact Control Volume 4 Transport Group Inventory:

Time (h) =	Pathway	
	Filtered	Transported
0.1667		
Noble gases (atoms)	0.0000E+00	6.7128E+18
Elemental I (atoms)	0.0000E+00	4.4428E+16
Organic I (atoms)	0.0000E+00	1.3740E+15
Aerosols (kg)	0.0000E+00	4.7108E-05

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 0.1667	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.9547E+22
Elemental I (atoms)	0.0000E+00	3.2795E+20
Organic I (atoms)	0.0000E+00	1.0143E+19
Aerosols (kg)	0.0000E+00	3.4771E-01

## Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 0.1667	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.1416E+21
Elemental I (atoms)	0.0000E+00	3.4021E+19
Organic I (atoms)	0.0000E+00	1.0522E+18
Aerosols (kg)	0.0000E+00	3.6082E-02

## Exclusion Area Boundary Doses:

Time (h) = 0.5000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.3987E-02	1.8252E+00	9.6824E-02
Accumulated dose (rem)	2.5132E-02	1.9464E+00	1.0285E-01

## Low Population Zone Doses:

Time (h) = 0.5000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.8343E-03	1.3957E-01	7.4042E-03
Accumulated dose (rem)	1.9218E-03	1.4884E-01	7.8653E-03

## Control Room Doses:

Time (h) = 0.5000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.1324E-04	3.6142E-01	1.4677E-02
Accumulated dose (rem)	2.1700E-04	3.6921E-01	1.4995E-02

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 0.5000	Ci	kg	Atoms	Decay
Kr-85	5.4484E+04	1.3887E-01	9.8389E+23	2.2188E+18
Kr-85m	7.5090E+05	9.1245E-05	6.4646E+20	3.1458E+19
Kr-87	1.2385E+06	4.3724E-05	3.0266E+20	5.5825E+19
Kr-88	1.9994E+06	1.5945E-04	1.0912E+21	8.5160E+19
Rb-86	1.0072E+03	1.2379E-05	8.6684E+19	8.5796E+16
I-131	5.2943E+05	4.2705E-03	1.9632E+22	4.4904E+19
I-132	7.3931E+05	7.1623E-05	3.2676E+20	6.3829E+19
I-133	1.0767E+06	9.5050E-04	4.3038E+21	9.2070E+19
I-134	8.1727E+05	3.0636E-05	1.3768E+20	8.6214E+19
I-135	9.8885E+05	2.8157E-04	1.2561E+21	8.6211E+19
Xe-133	6.3169E+06	3.3748E-02	1.5281E+23	2.5738E+20
Xe-135	2.1864E+06	8.5616E-04	3.8192E+21	8.8792E+19
Cs-134	1.3287E+05	1.0270E-01	4.6154E+23	1.1313E+19
Cs-136	3.6223E+04	4.9423E-04	2.1885E+21	3.0860E+18
Cs-137	1.0538E+05	1.2115E+00	5.3256E+24	8.9727E+18

## Sprayed Drywell Transport Group Inventory:

Time (h) =	0.5000	Atmosphere	Sump	
Noble gases (atoms)	1.1426E+24	0.0000E+00		
Elemental I (atoms)	1.2349E+21	7.5496E+21		
Organic I (atoms)	2.3192E+20	0.0000E+00		
Aerosols (kg)	1.3200E+00	8.0349E+00		
Dose Effective (Ci/cc)	I-131 (Thyroid)			2.7601E-04
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)			3.4947E-04
Total I (Ci)				4.1516E+06

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.1374E+20
Elemental I (atoms)	0.0000E+00	2.7814E+17
Organic I (atoms)	0.0000E+00	2.3187E+16
Aerosols (kg)	0.0000E+00	2.9567E-04

Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.1374E+20
Elemental I (atoms)	0.0000E+00	2.7814E+17
Organic I (atoms)	0.0000E+00	2.3187E+16
Aerosols (kg)	0.0000E+00	2.9567E-04

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.6775E+19
Elemental I (atoms)	0.0000E+00	1.3884E+17
Organic I (atoms)	0.0000E+00	1.1574E+16
Aerosols (kg)	0.0000E+00	1.4759E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.0352E+23
Elemental I (atoms)	0.0000E+00	9.9548E+20
Organic I (atoms)	0.0000E+00	8.2265E+19
Aerosols (kg)	0.0000E+00	1.0582E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.0978E+23
Elemental I (atoms)	0.0000E+00	3.7778E+20
Organic I (atoms)	0.0000E+00	2.2359E+19
Aerosols (kg)	0.0000E+00	4.0232E-01

Exclusion Area Boundary Doses:

Time (h) =	0.6667	Whole Body	Thyroid	TEDE
------------	--------	------------	---------	------

Delta dose (rem)	3.1352E-02	1.6055E+00	9.6900E-02
Accumulated dose (rem)	5.6484E-02	3.5519E+00	1.9975E-01

## Low Population Zone Doses:

Time (h) =	0.6667	Whole Body	Thyroid	TEDE
Delta dose (rem)		2.3975E-03	1.2278E-01	7.4100E-03
Accumulated dose (rem)		4.3194E-03	2.7162E-01	1.5275E-02

## Control Room Doses:

Time (h) =	0.6667	Whole Body	Thyroid	TEDE
Delta dose (rem)		3.6536E-04	4.8499E-01	1.9817E-02
Accumulated dose (rem)		5.8236E-04	8.5420E-01	3.4812E-02

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =	Ci	kg	Atoms	Decay
Co-58	4.4405E+01	1.3965E-06	1.4500E+19	9.0095E+14
Co-60	5.3161E+01	4.7029E-05	4.7202E+20	1.0786E+15
Kr-85	1.8004E+05	4.5889E-01	3.2512E+24	5.5807E+18
Kr-85m	2.4181E+06	2.9383E-04	2.0818E+21	7.7155E+19
Kr-87	3.7371E+06	1.3193E-04	9.1325E+20	1.2863E+20
Kr-88	6.3435E+06	5.0589E-04	3.4620E+21	2.0587E+20
Rb-86	1.3045E+03	1.6032E-05	1.1226E+20	1.1418E+17
Sr-89	6.0231E+04	2.0732E-03	1.4028E+22	1.2221E+18
Sr-90	9.4775E+03	6.9479E-02	4.6490E+23	1.9228E+17
Sr-91	7.2807E+04	2.0085E-05	1.3292E+20	1.4858E+18
Sr-92	6.8221E+04	5.4275E-06	3.5528E+19	1.4129E+18
Y-90	1.0761E+02	1.9780E-07	1.3235E+18	2.0108E+15
Y-91	7.7953E+02	3.1786E-05	2.1035E+20	1.5790E+16
Y-92	2.0955E+03	2.1777E-07	1.4255E+18	1.9872E+16
Y-93	5.9180E+02	1.7738E-07	1.1486E+18	1.2073E+16
Zr-95	1.1092E+03	5.1632E-05	3.2730E+20	2.2505E+16
Zr-97	1.0496E+03	5.4906E-07	3.4088E+18	2.1366E+16
Nb-95	1.1095E+03	2.8375E-05	1.7987E+20	2.2510E+16
Mo-99	1.4442E+04	3.0112E-05	1.8317E+20	2.9326E+17
Tc-99m	1.2899E+04	2.4532E-06	1.4923E+19	2.6046E+17
Ru-103	1.2515E+04	3.8776E-04	2.2672E+21	2.5392E+17
Ru-105	7.9156E+03	1.1776E-06	6.7537E+18	1.6262E+17
Ru-106	5.4608E+03	1.6322E-03	9.2732E+21	1.1079E+17
Rh-105	8.2268E+03	9.7467E-06	5.5901E+19	1.6678E+17
Sb-127	1.3743E+04	5.1460E-05	2.4402E+20	2.7898E+17
Sb-129	4.5176E+04	8.0335E-06	3.7503E+19	9.2845E+17
Te-127	1.3712E+04	5.1955E-06	2.4636E+19	2.7733E+17
Te-127m	2.3501E+03	2.4915E-04	1.1814E+21	4.7680E+16
Te-129	4.6519E+04	2.2213E-06	1.0370E+19	9.2624E+17
Te-129m	9.6706E+03	3.2101E-04	1.4986E+21	1.9619E+17
Te-131m	3.0919E+04	3.8774E-05	1.7825E+20	6.2846E+17
Te-132	2.2022E+05	7.2537E-04	3.3093E+21	4.4711E+18
I-131	8.4096E+05	6.7833E-03	3.1183E+22	6.2966E+19
I-132	1.1889E+06	1.1518E-04	5.2549E+20	8.9524E+19
I-133	1.7016E+06	1.5021E-03	6.8016E+21	1.2871E+20
I-134	1.1384E+06	4.2674E-05	1.9178E+20	1.1232E+20
I-135	1.5442E+06	4.3972E-04	1.9615E+21	1.1966E+20
Xe-133	2.0875E+07	1.1152E-01	5.0497E+23	6.4727E+20
Xe-135	7.3604E+06	2.8822E-03	1.2857E+22	2.2618E+20

Cs-134	1.7213E+05	1.3304E-01	5.9789E+23	1.5058E+19
Cs-136	4.6907E+04	6.4001E-04	2.8340E+21	4.1065E+18
Cs-137	1.3652E+05	1.5695E+00	6.8990E+24	1.1942E+19
Ba-139	8.0450E+04	4.9184E-06	2.1309E+19	1.6999E+18
Ba-140	1.1310E+05	1.5448E-03	6.6452E+21	2.2950E+18
La-140	1.3943E+03	2.5085E-06	1.0790E+19	2.5016E+16
La-141	9.1796E+02	1.6232E-07	6.9326E+17	1.8890E+16
La-142	7.4795E+02	5.2249E-08	2.2159E+17	1.5736E+16
Ce-141	2.6003E+03	9.1259E-05	3.8977E+20	5.2756E+16
Ce-143	2.3934E+03	3.6040E-06	1.5178E+19	4.8640E+16
Ce-144	2.2344E+03	7.0054E-04	2.9297E+21	4.5332E+16
Pr-143	9.4036E+02	1.3965E-05	5.8809E+19	1.9072E+16
Nd-147	4.1766E+02	5.1627E-06	2.1150E+19	8.4754E+15
Np-239	3.0378E+04	1.3095E-04	3.2995E+20	6.1694E+17
Pu-238	8.0132E+00	4.6807E-04	1.1844E+21	1.6258E+14
Pu-239	7.5711E-01	1.2181E-02	3.0692E+22	1.5360E+13
Pu-240	1.3870E+00	6.0867E-03	1.5273E+22	2.8139E+13
Pu-241	3.0628E+02	2.9732E-03	7.4295E+21	6.2139E+15
Am-241	2.0112E-01	5.8599E-05	1.4643E+20	4.0804E+12
Cm-242	5.1157E+01	1.5435E-05	3.8410E+19	1.0379E+15
Cm-244	2.9742E+00	3.6763E-05	9.0735E+19	6.0343E+13

## Sprayed Drywell Transport Group Inventory:

Time (h) =	0.6667	Atmosphere	Sump	
Noble gases (atoms)	3.7755E+24	0.0000E+00		
Elemental I (atoms)	1.9580E+21	1.1945E+22		
Organic I (atoms)	3.5375E+20	0.0000E+00		
Aerosols (kg)	1.8111E+00	1.2217E+01		
Dose Effective (Ci/cc)	I-131 (Thyroid)		4.3758E-04	
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		5.5260E-04	
Total I (Ci)			6.4142E+06	

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

		Pathway	
Time (h) =	0.6667	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.7017E+20	
Elemental I (atoms)	0.0000E+00	3.8827E+17	
Organic I (atoms)	0.0000E+00	4.1627E+16	
Aerosols (kg)	0.0000E+00	4.0045E-04	

## Drywell to Intact Control Volume 2 Transport Group Inventory:

		Pathway	
Time (h) =	0.6667	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.7017E+20	
Elemental I (atoms)	0.0000E+00	3.8827E+17	
Organic I (atoms)	0.0000E+00	4.1627E+16	
Aerosols (kg)	0.0000E+00	4.0045E-04	

## Drywell to Intact Control Volume 4 Transport Group Inventory:

		Pathway	
Time (h) =	0.6667	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.3486E+20	
Elemental I (atoms)	0.0000E+00	1.9381E+17	
Organic I (atoms)	0.0000E+00	2.0778E+16	



Aerosols (kg) 0.0000E+00 1.9989E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 0.6667	Filtered	Transported
Noble gases (atoms)	0.0000E+00	9.5562E+23
Elemental I (atoms)	0.0000E+00	1.3842E+21
Organic I (atoms)	0.0000E+00	1.4735E+20
Aerosols (kg)	0.0000E+00	1.4280E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 0.6667	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.6171E+23
Elemental I (atoms)	0.0000E+00	6.0694E+20
Organic I (atoms)	0.0000E+00	4.8326E+19
Aerosols (kg)	0.0000E+00	6.4249E-01

Exclusion Area Boundary Doses:

Time (h) = 2.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.5813E+00	3.5151E+01	4.2418E+00
Accumulated dose (rem)	2.6377E+00	3.8703E+01	4.4415E+00

Low Population Zone Doses:

Time (h) = 2.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.9739E-01	2.6880E+00	3.2437E-01
Accumulated dose (rem)	2.0171E-01	2.9596E+00	3.3965E-01

Control Room Doses:

Time (h) = 2.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.4275E-02	4.6063E+00	2.1994E-01
Accumulated dose (rem)	2.4857E-02	5.4605E+00	2.5475E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 2.0000	Ci	kg	Atoms	Decay
Co-58	5.0851E+01	1.5992E-06	1.6604E+19	9.7346E+15
Co-60	6.0909E+01	5.3884E-05	5.4082E+20	1.1657E+16
Kr-85	9.2660E+05	2.3618E+00	1.6733E+25	1.0811E+20
Kr-85m	1.0125E+07	1.2303E-03	8.7169E+21	1.2954E+21
Kr-87	9.2989E+06	3.2829E-04	2.2724E+21	1.5303E+21
Kr-88	2.3579E+07	1.8804E-03	1.2868E+22	3.1875E+21
Rb-86	1.3607E+03	1.6723E-05	1.1710E+20	3.5390E+17
Sr-89	6.8959E+04	2.3736E-03	1.6061E+22	1.3203E+19
Sr-90	1.0859E+04	7.9607E-02	5.3267E+23	2.0782E+18
Sr-91	7.5687E+04	2.0879E-05	1.3817E+20	1.5284E+19
Sr-92	5.5579E+04	4.4218E-06	2.8944E+19	1.2893E+19
Y-90	1.2405E+02	2.2800E-07	1.5256E+18	2.2915E+16
Y-91	8.9277E+02	3.6404E-05	2.4091E+20	1.7079E+17
Y-92	1.9925E+03	2.0707E-07	1.3555E+18	3.3236E+17
Y-93	6.1878E+02	1.8547E-07	1.2010E+18	1.2455E+17
Zr-95	1.2701E+03	5.9123E-05	3.7479E+20	2.4316E+17

Zr-97	1.1386E+03	5.9563E-07	3.6979E+18	2.2456E+17
Nb-95	1.2713E+03	3.2511E-05	2.0609E+20	2.4329E+17
Mo-99	1.6317E+04	3.4022E-05	2.0695E+20	3.1468E+18
Tc-99m	1.4738E+04	2.8028E-06	1.7049E+19	2.8197E+18
Ru-103	1.4325E+04	4.4386E-04	2.5951E+21	2.7429E+18
Ru-105	7.3652E+03	1.0957E-06	6.2841E+18	1.5829E+18
Ru-106	6.2562E+03	1.8700E-03	1.0624E+22	1.1974E+18
Rh-105	9.3941E+03	1.1130E-05	6.3833E+19	1.8012E+18
Sb-127	1.5589E+04	5.8375E-05	2.7681E+20	2.9998E+18
Sb-129	4.1792E+04	7.4319E-06	3.4694E+19	9.0115E+18
Te-127	1.5691E+04	5.9455E-06	2.8193E+19	3.0012E+18
Te-127m	2.6927E+03	2.8547E-04	1.3537E+21	5.1532E+17
Te-129	4.7599E+04	2.2729E-06	1.0611E+19	9.6471E+18
Te-129m	1.1079E+04	3.6778E-04	1.7169E+21	2.1205E+18
Te-131m	3.4351E+04	4.3079E-05	1.9804E+20	6.6861E+18
Te-132	2.4936E+05	8.2135E-04	3.7472E+21	4.8031E+19
I-131	9.0723E+05	7.3179E-03	3.3641E+22	2.2117E+20
I-132	1.2834E+06	1.2433E-04	5.6724E+20	3.1411E+20
I-133	1.7631E+06	1.5564E-03	7.0472E+21	4.4241E+20
I-134	4.2970E+05	1.6108E-05	7.2391E+19	2.4434E+20
I-135	1.4544E+06	4.1414E-04	1.8474E+21	3.9116E+20
Xe-133	1.0709E+08	5.7214E-01	2.5906E+24	1.2514E+22
Xe-135	3.8692E+07	1.5151E-02	6.7587E+22	4.4890E+21
Cs-134	1.7991E+05	1.3905E-01	6.2491E+23	4.6721E+19
Cs-136	4.8886E+04	6.6701E-04	2.9535E+21	1.2723E+19
Cs-137	1.4269E+05	1.6405E+00	7.2111E+24	3.7055E+19
Ba-139	4.7144E+04	2.8822E-06	1.2487E+19	1.3319E+19
Ba-140	1.2919E+05	1.7647E-03	7.5909E+21	2.4765E+19
La-140	1.6097E+03	2.8961E-06	1.2458E+19	2.9264E+17
La-141	8.3137E+02	1.4701E-07	6.2787E+17	1.8145E+17
La-142	4.7058E+02	3.2873E-08	1.3941E+17	1.2730E+17
Ce-141	2.9786E+03	1.0454E-04	4.4648E+20	5.7012E+17
Ce-143	2.6665E+03	4.0154E-06	1.6910E+19	5.1821E+17
Ce-144	2.5597E+03	8.0255E-04	3.3563E+21	4.8991E+17
Pr-143	1.0775E+03	1.6001E-05	6.7384E+19	2.0617E+17
Nd-147	4.7686E+02	5.8946E-06	2.4148E+19	9.1436E+16
Np-239	3.4242E+04	1.4760E-04	3.7192E+20	6.6122E+18
Pu-238	9.1815E+00	5.3631E-04	1.3570E+21	1.7571E+15
Pu-239	8.6763E-01	1.3959E-02	3.5172E+22	1.6603E+14
Pu-240	1.5891E+00	6.9740E-03	1.7499E+22	3.0413E+14
Pu-241	3.5092E+02	3.4066E-03	8.5125E+21	6.7159E+16
Am-241	2.3048E-01	6.7152E-05	1.6780E+20	4.4104E+13
Cm-242	5.8600E+01	1.7681E-05	4.3999E+19	1.1216E+16
Cm-244	3.4078E+00	4.2122E-05	1.0396E+20	6.5218E+14

## Sprayed Drywell Transport Group Inventory:

Time (h) =	2.0000	Atmosphere	Sump	
Noble gases (atoms)	1.9415E+25	0.0000E+00		
Elemental I (atoms)	2.0418E+21	5.2662E+22		
Organic I (atoms)	1.1387E+21	0.0000E+00		
Aerosols (kg)	1.9030E+00	4.9870E+01		
Dose Effective (Ci/cc)	I-131 (Thyroid)		4.6500E-04	
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		5.7733E-04	
Total I (Ci)			5.8378E+06	

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
2.0000		
Noble gases (atoms)	0.0000E+00	6.2364E+21
Elemental I (atoms)	0.0000E+00	1.4083E+18
Organic I (atoms)	0.0000E+00	4.2180E+17
Aerosols (kg)	0.0000E+00	1.3437E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
2.0000		
Noble gases (atoms)	0.0000E+00	6.2364E+21
Elemental I (atoms)	0.0000E+00	1.4083E+18
Organic I (atoms)	0.0000E+00	4.2180E+17
Aerosols (kg)	0.0000E+00	1.3437E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
2.0000		
Noble gases (atoms)	0.0000E+00	3.1130E+21
Elemental I (atoms)	0.0000E+00	7.0298E+17
Organic I (atoms)	0.0000E+00	2.1054E+17
Aerosols (kg)	0.0000E+00	6.7074E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
2.0000		
Noble gases (atoms)	0.0000E+00	2.2013E+25
Elemental I (atoms)	0.0000E+00	4.9844E+21
Organic I (atoms)	0.0000E+00	1.4891E+21
Aerosols (kg)	0.0000E+00	4.7572E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
2.0000		
Noble gases (atoms)	0.0000E+00	1.2731E+25
Elemental I (atoms)	0.0000E+00	3.6478E+21
Organic I (atoms)	0.0000E+00	9.1397E+20
Aerosols (kg)	0.0000E+00	3.5375E+00

Exclusion Area Boundary Doses:

Time (h) =	Whole Body	Thyroid	TEDE
2.2000			
Delta dose (rem)	5.1563E-01	4.7800E+00	7.4623E-01
Accumulated dose (rem)	3.1534E+00	4.3483E+01	5.1878E+00

Low Population Zone Doses:

Time (h) =	Whole Body	Thyroid	TEDE
2.2000			
Delta dose (rem)	1.5696E-02	1.4551E-01	2.2716E-02
Accumulated dose (rem)	2.1741E-01	3.1051E+00	3.6236E-01

Control Room Doses:

Time (h) =	2.2000	Whole Body	Thyroid	TEDE
Delta dose (rem)		9.9047E-03	7.5797E-01	4.4191E-02
Accumulated dose (rem)		3.4762E-02	6.2184E+00	2.9894E-01

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =	Ci	kg	Atoms	Decay
Co-58	5.1072E+00	1.6061E-07	1.6677E+18	9.9746E+15
Co-60	6.1179E+00	5.4122E-06	5.4322E+19	1.1944E+16
Kr-85	8.7632E+05	2.2336E+00	1.5825E+25	1.3174E+20
Kr-85m	9.2840E+06	1.1281E-03	7.9927E+21	1.5496E+21
Kr-87	7.8860E+06	2.7841E-04	1.9271E+21	1.7550E+21
Kr-88	2.1237E+07	1.6936E-03	1.1590E+22	3.7744E+21
Rb-86	1.3979E+02	1.7180E-06	1.2030E+19	3.6040E+17
Sr-89	6.9257E+03	2.3839E-04	1.6130E+21	1.3528E+19
Sr-90	1.0907E+03	7.9960E-03	5.3503E+22	2.1294E+18
Sr-91	7.4922E+03	2.0668E-06	1.3678E+19	1.5639E+19
Sr-92	5.3042E+03	4.2199E-07	2.7623E+18	1.3150E+19
Y-90	1.7379E+01	3.1944E-08	2.1374E+17	2.3584E+16
Y-91	9.0335E+01	3.6836E-06	2.4377E+19	1.7502E+17
Y-92	6.4165E+02	6.6684E-08	4.3650E+17	3.4943E+17
Y-93	6.1305E+01	1.8375E-08	1.1899E+17	1.2745E+17
Zr-95	1.2757E+02	5.9380E-06	3.7642E+19	2.4915E+17
Zr-97	1.1343E+02	5.9338E-08	3.6839E+17	2.2992E+17
Nb-95	1.2769E+02	3.2655E-06	2.0700E+19	2.4929E+17
Mo-99	1.6355E+03	3.4101E-06	2.0743E+19	3.2237E+18
Tc-99m	1.4796E+03	2.8138E-07	1.7116E+18	2.8889E+18
Ru-103	1.4386E+03	4.4576E-05	2.6062E+20	2.8106E+18
Ru-105	7.1704E+02	1.0667E-07	6.1180E+17	1.6173E+18
Ru-106	6.2838E+02	1.8783E-04	1.0671E+21	1.2269E+18
Rh-105	9.4273E+02	1.1169E-06	6.4059E+18	1.8455E+18
Sb-127	1.5635E+03	5.8546E-06	2.7762E+19	3.0733E+18
Sb-129	4.0652E+03	7.2290E-07	3.3748E+18	9.2063E+18
Te-127	1.5757E+03	5.9706E-07	2.8312E+18	3.0750E+18
Te-127m	2.7047E+02	2.8674E-05	1.3597E+20	5.2803E+17
Te-129	4.6954E+03	2.2421E-07	1.0467E+18	9.8647E+18
Te-129m	1.1128E+03	3.6940E-05	1.7245E+20	2.1727E+18
Te-131m	3.4345E+03	4.3070E-06	1.9800E+19	6.8479E+18
Te-132	2.5002E+04	8.2353E-05	3.7571E+20	4.9207E+19
I-131	1.1305E+05	9.1188E-04	4.1920E+21	2.2600E+20
I-132	1.4515E+05	1.4062E-05	6.4155E+19	3.2060E+20
I-133	2.1841E+05	1.9281E-04	8.7302E+20	4.5176E+20
I-134	4.5750E+04	1.7150E-06	7.7074E+18	2.4648E+20
I-135	1.7762E+05	5.0576E-05	2.2561E+20	3.9883E+20
Xe-133	1.0116E+08	5.4043E-01	2.4470E+24	1.5243E+22
Xe-135	3.5909E+07	1.4061E-02	6.2726E+22	5.4653E+21
Cs-134	1.8488E+04	1.4290E-02	6.4219E+22	4.7581E+19
Cs-136	5.0216E+03	6.8516E-05	3.0339E+20	1.2956E+19
Cs-137	1.4664E+04	1.6859E-01	7.4106E+23	3.7738E+19
Ba-139	4.2822E+03	2.6180E-07	1.1342E+18	1.3533E+19
Ba-140	1.2971E+04	1.7717E-04	7.6211E+20	2.5375E+19
La-140	2.5448E+02	4.5784E-07	1.9694E+18	3.0181E+17
La-141	8.0611E+01	1.4254E-08	6.0879E+16	1.8532E+17
La-142	4.3201E+01	3.0179E-09	1.2799E+16	1.2944E+17
Ce-141	2.9911E+02	1.0498E-05	4.4836E+19	5.8418E+17
Ce-143	2.6671E+02	4.0163E-07	1.6914E+18	5.3077E+17
Ce-144	2.5710E+02	8.0609E-05	3.3711E+20	5.0199E+17

Pr-143	1.0837E+02	1.6093E-06	6.7773E+18	2.1126E+17
Nd-147	4.7873E+01	5.9176E-07	2.4243E+18	9.3687E+16
Np-239	3.4310E+03	1.4789E-05	3.7265E+19	6.7736E+18
Pu-238	9.2222E-01	5.3869E-05	1.3630E+20	1.8005E+15
Pu-239	8.7149E-02	1.4021E-03	3.5329E+21	1.7012E+14
Pu-240	1.5962E-01	7.0049E-04	1.7577E+21	3.1163E+14
Pu-241	3.5248E+01	3.4217E-04	8.5502E+20	6.8815E+16
Am-241	2.3152E-02	6.7456E-06	1.6856E+19	4.5192E+13
Cm-242	5.8858E+00	1.7759E-06	4.4193E+18	1.1493E+16
Cm-244	3.4229E-01	4.2309E-06	1.0442E+19	6.6826E+14

## Sprayed Drywell Transport Group Inventory:

Time (h) =	2.2000	Atmosphere	Sump	
Noble gases (atoms)	1.8356E+25	0.0000E+00		
Elemental I (atoms)	2.0802E+20	5.4669E+22		
Organic I (atoms)	1.0799E+21	0.0000E+00		
Aerosols (kg)	1.9529E-01	5.1743E+01		
Dose Effective (Ci/cc)	I-131 (Thyroid)		5.7789E-05	
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		7.1455E-05	
Total I (Ci)			6.9998E+05	

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
2.2000		
Noble gases (atoms)	0.0000E+00	7.0664E+21
Elemental I (atoms)	0.0000E+00	1.4378E+18
Organic I (atoms)	0.0000E+00	4.7060E+17
Aerosols (kg)	0.0000E+00	1.3713E-03

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
2.2000		
Noble gases (atoms)	0.0000E+00	7.0664E+21
Elemental I (atoms)	0.0000E+00	1.4378E+18
Organic I (atoms)	0.0000E+00	4.7060E+17
Aerosols (kg)	0.0000E+00	1.3713E-03

## Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
2.2000		
Noble gases (atoms)	0.0000E+00	3.5292E+21
Elemental I (atoms)	0.0000E+00	7.1777E+17
Organic I (atoms)	0.0000E+00	2.3502E+17
Aerosols (kg)	0.0000E+00	6.8454E-04

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
2.2000		
Noble gases (atoms)	0.0000E+00	2.7007E+25
Elemental I (atoms)	0.0000E+00	5.1618E+21
Organic I (atoms)	0.0000E+00	1.7828E+21
Aerosols (kg)	0.0000E+00	4.9229E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 2.2000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.6674E+25
Elemental I (atoms)	0.0000E+00	4.1226E+21
Organic I (atoms)	0.0000E+00	1.1527E+21
Aerosols (kg)	0.0000E+00	3.9832E+00

Exclusion Area Boundary Doses:

Time (h) = 2.3000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.7128E-01	2.3900E+00	3.8613E-01
Accumulated dose (rem)	3.4247E+00	4.5873E+01	5.5739E+00

Low Population Zone Doses:

Time (h) = 2.3000	Whole Body	Thyroid	TEDE
Delta dose (rem)	8.2582E-03	7.2755E-02	1.1754E-02
Accumulated dose (rem)	2.2566E-01	3.1779E+00	3.7412E-01

Control Room Doses:

Time (h) = 2.3000	Whole Body	Thyroid	TEDE
Delta dose (rem)	5.0950E-03	3.6751E-01	2.1808E-02
Accumulated dose (rem)	3.9857E-02	6.5859E+00	3.2075E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 2.3000	Ci	kg	Atoms	Decay
Co-58	3.1730E+00	9.9786E-08	1.0361E+18	1.0017E+16
Co-60	3.8011E+00	3.3626E-06	3.3750E+19	1.1995E+16
Kr-85	8.6125E+05	2.1952E+00	1.5553E+25	1.4321E+20
Kr-85m	8.9843E+06	1.0917E-03	7.7346E+21	1.6702E+21
Kr-87	7.3393E+06	2.5910E-04	1.7935E+21	1.8555E+21
Kr-88	2.0368E+07	1.6244E-03	1.1116E+22	4.0490E+21
Rb-86	8.7624E+01	1.0769E-06	7.5409E+18	3.6157E+17
Sr-89	4.3027E+03	1.4810E-04	1.0021E+21	1.3585E+19
Sr-90	6.7766E+02	4.9679E-03	3.3242E+22	2.1385E+18
Sr-91	4.6211E+03	1.2748E-06	8.4361E+18	1.5700E+19
Sr-92	3.2123E+03	2.5556E-07	1.6729E+18	1.3194E+19
Y-90	1.2162E+01	2.2353E-08	1.4957E+17	2.3736E+16
Y-91	5.6308E+01	2.2960E-06	1.5195E+19	1.7576E+17
Y-92	5.1266E+02	5.3278E-08	3.4875E+17	3.5547E+17
Y-93	3.7828E+01	1.1338E-08	7.3421E+16	1.2796E+17
Zr-95	7.9253E+01	3.6891E-06	2.3386E+19	2.5021E+17
Zr-97	7.0189E+01	3.6716E-08	2.2795E+17	2.3085E+17
Nb-95	7.9334E+01	2.0288E-06	1.2861E+19	2.5035E+17
Mo-99	1.0151E+03	2.1165E-06	1.2874E+19	3.2373E+18
Tc-99m	9.1903E+02	1.7478E-07	1.0632E+18	2.9010E+18
Ru-103	8.9376E+02	2.7693E-05	1.6191E+20	2.8225E+18
Ru-105	4.3860E+02	6.5248E-08	3.7422E+17	1.6231E+18
Ru-106	3.9041E+02	1.1670E-04	6.6298E+20	1.2321E+18
Rh-105	5.8544E+02	6.9361E-07	3.9781E+18	1.8533E+18
Sb-127	9.7067E+02	3.6348E-06	1.7235E+19	3.0863E+18
Sb-129	2.4855E+03	4.4199E-07	2.0634E+18	9.2397E+18
Te-127	9.7888E+02	3.7091E-07	1.7588E+18	3.0880E+18

Te-127m	1.6804E+02	1.7815E-05	8.4476E+19	5.3027E+17
Te-129	2.8902E+03	1.3801E-07	6.4427E+17	9.9024E+18
Te-129m	6.9138E+02	2.2950E-05	1.0714E+20	2.1820E+18
Te-131m	2.1289E+03	2.6698E-06	1.2273E+19	6.8763E+18
Te-132	1.5520E+04	5.1121E-05	2.3322E+20	4.9414E+19
I-131	7.8894E+04	6.3637E-04	2.9254E+21	2.2705E+20
I-132	9.6952E+04	9.3927E-06	4.2851E+19	3.2190E+20
I-133	1.5198E+05	1.3416E-04	6.0746E+20	4.5379E+20
I-134	2.9512E+04	1.1063E-06	4.9718E+18	2.4689E+20
I-135	1.2271E+05	3.4941E-05	1.5586E+20	4.0047E+20
Xe-133	9.9361E+07	5.3083E-01	2.4035E+24	1.6566E+22
Xe-135	3.4984E+07	1.3699E-02	6.1109E+22	5.9330E+21
Cs-134	1.1591E+04	8.9583E-03	4.0260E+22	4.7736E+19
Cs-136	3.1474E+03	4.2944E-05	1.9016E+20	1.2998E+19
Cs-137	9.1931E+03	1.0569E-01	4.6458E+23	3.7860E+19
Ba-139	2.5301E+03	1.5468E-07	6.7014E+17	1.3568E+19
Ba-140	8.0568E+03	1.1005E-04	4.7339E+20	2.5482E+19
La-140	1.8379E+02	3.3067E-07	1.4224E+18	3.0407E+17
La-141	4.9208E+01	8.7012E-09	3.7163E+16	1.8598E+17
La-142	2.5661E+01	1.7926E-09	7.6023E+15	1.2979E+17
Ce-141	1.8582E+02	6.5216E-06	2.7854E+19	5.8666E+17
Ce-143	1.6536E+02	2.4901E-07	1.0486E+18	5.3298E+17
Ce-144	1.5974E+02	5.0082E-05	2.0945E+20	5.0412E+17
Pr-143	6.7370E+01	1.0005E-06	4.2132E+18	2.1216E+17
Nd-147	2.9736E+01	3.6757E-07	1.5058E+18	9.4083E+16
Np-239	2.1291E+03	9.1774E-06	2.3124E+19	6.8020E+18
Pu-238	5.7298E-01	3.3469E-05	8.4686E+19	1.8081E+15
Pu-239	5.4147E-02	8.7114E-04	2.1950E+21	1.7084E+14
Pu-240	9.9172E-02	4.3522E-04	1.0921E+21	3.1295E+14
Pu-241	2.1900E+01	2.1259E-04	5.3122E+20	6.9107E+16
Am-241	1.4385E-02	4.1912E-06	1.0473E+19	4.5383E+13
Cm-242	3.6568E+00	1.1033E-06	2.7456E+18	1.1542E+16
Cm-244	2.1266E-01	2.6287E-06	6.4878E+18	6.7109E+14

## Sprayed Drywell Transport Group Inventory:

Time (h) =	2.3000	Atmosphere	Sump	
Noble gases (atoms)	1.8038E+25	0.0000E+00		
Elemental I (atoms)	1.2993E+20	5.4908E+22		
Organic I (atoms)	1.0617E+21	0.0000E+00		
Aerosols (kg)	1.2236E-01	5.1967E+01		
Dose Effective (Ci/cc)	I-131 (Thyroid)		4.0277E-05	
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		4.9709E-05	
Total I (Ci)			4.8004E+05	

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	7.4673E+21
Elemental I (atoms)	0.0000E+00	1.4413E+18
Organic I (atoms)	0.0000E+00	4.9422E+17
Aerosols (kg)	0.0000E+00	1.3746E-03

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported

Noble gases (atoms)	0.0000E+00	7.4673E+21
Elemental I (atoms)	0.0000E+00	1.4413E+18
Organic I (atoms)	0.0000E+00	4.9422E+17
Aerosols (kg)	0.0000E+00	1.3746E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 2.3000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.7302E+21
Elemental I (atoms)	0.0000E+00	7.1953E+17
Organic I (atoms)	0.0000E+00	2.4686E+17
Aerosols (kg)	0.0000E+00	6.8620E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 2.3000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.9420E+25
Elemental I (atoms)	0.0000E+00	5.1830E+21
Organic I (atoms)	0.0000E+00	1.9249E+21
Aerosols (kg)	0.0000E+00	4.9427E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 2.3000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.8772E+25
Elemental I (atoms)	0.0000E+00	4.3085E+21
Organic I (atoms)	0.0000E+00	1.2783E+21
Aerosols (kg)	0.0000E+00	4.1581E+00

Exclusion Area Boundary Doses:

Time (h) = 4.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	5.2935E+00	3.8274E+01	7.0864E+00
Accumulated dose (rem)	8.7181E+00	8.4146E+01	1.2660E+01

Low Population Zone Doses:

Time (h) = 4.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.6114E-01	1.1651E+00	2.1572E-01
Accumulated dose (rem)	3.8680E-01	4.3430E+00	5.8983E-01

Control Room Doses:

Time (h) = 4.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.0418E-01	5.4191E+00	3.5450E-01
Accumulated dose (rem)	1.4403E-01	1.2005E+01	6.7526E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 4.0000	Ci	kg	Atoms	Decay
Co-58	3.8633E+00	1.2150E-07	1.2615E+18	1.1427E+16
Co-60	4.6312E+00	4.0970E-06	4.1121E+19	1.3684E+16
Kr-85	8.2283E+05	2.0973E+00	1.4859E+25	3.3083E+20
Kr-85m	6.5982E+06	8.0177E-04	5.6804E+21	3.3922E+21



Kr-87	2.7759E+06	9.7999E-05	6.7835E+20	2.9002E+21
Kr-88	1.2851E+07	1.0249E-03	7.0135E+21	7.6843E+21
Rb-86	1.0688E+02	1.3135E-06	9.1977E+18	4.0061E+17
Sr-89	5.2374E+03	1.8027E-04	1.2198E+21	1.5497E+19
Sr-90	8.2567E+02	6.0530E-03	4.0502E+22	2.4397E+18
Sr-91	4.9736E+03	1.3720E-06	9.0797E+18	1.7645E+19
Sr-92	2.5338E+03	2.0158E-07	1.3195E+18	1.4377E+19
Y-90	2.9935E+01	5.5022E-08	3.6817E+17	3.1516E+16
Y-91	7.0459E+01	2.8731E-06	1.9013E+19	2.0109E+17
Y-92	1.3654E+03	1.4189E-07	9.2881E+17	7.2026E+17
Y-93	4.1015E+01	1.2294E-08	7.9606E+16	1.4392E+17
Zr-95	9.6489E+01	4.4915E-06	2.8472E+19	2.8542E+17
Zr-97	7.9759E+01	4.1722E-08	2.5903E+17	2.6110E+17
Nb-95	9.6660E+01	2.4719E-06	1.5670E+19	2.8561E+17
Mo-99	1.2149E+03	2.5331E-06	1.5409E+19	3.6849E+18
Tc-99m	1.1135E+03	2.1177E-07	1.2882E+18	3.3063E+18
Ru-103	1.0876E+03	3.3699E-05	1.9703E+20	3.2195E+18
Ru-105	4.0983E+02	6.0968E-08	3.4968E+17	1.7967E+18
Ru-106	4.7562E+02	1.4216E-04	8.0767E+20	1.4056E+18
Rh-105	7.0532E+02	8.3563E-07	4.7927E+18	2.1121E+18
Sb-127	1.1677E+03	4.3725E-06	2.0734E+19	3.5153E+18
Sb-129	2.3054E+03	4.0997E-07	1.9139E+18	1.0220E+19
Te-127	1.1898E+03	4.5084E-07	2.1378E+18	3.5211E+18
Te-127m	2.0475E+02	2.1707E-05	1.0293E+20	6.0496E+17
Te-129	2.9459E+03	1.4067E-07	6.5667E+17	1.1064E+19
Te-129m	8.4201E+02	2.7950E-05	1.3048E+20	2.4892E+18
Te-131m	2.4940E+03	3.1276E-06	1.4378E+19	7.8061E+18
Te-132	1.8627E+04	6.1355E-05	2.7991E+20	5.6266E+19
I-131	9.8982E+04	7.9840E-04	3.6703E+21	2.5831E+20
I-132	8.1463E+04	7.8920E-06	3.6005E+19	3.5363E+20
I-133	1.8125E+05	1.6000E-04	7.2448E+20	5.1261E+20
I-134	9.7132E+03	3.6411E-07	1.6364E+18	2.5361E+20
I-135	1.2959E+05	3.6900E-05	1.6460E+20	4.4541E+20
Xe-133	9.4035E+07	5.0237E-01	2.2747E+24	3.8109E+22
Xe-135	2.9295E+07	1.1472E-02	5.1173E+22	1.3068E+22
Cs-134	1.4173E+04	1.0955E-02	4.9231E+22	5.2905E+19
Cs-136	3.8346E+03	5.2321E-05	2.3168E+20	1.4400E+19
Cs-137	1.1242E+04	1.2925E-01	5.6815E+23	4.1960E+19
Ba-139	1.3111E+03	8.0158E-08	3.4728E+17	1.4355E+19
Ba-140	9.7788E+03	1.3357E-04	5.7457E+20	2.9057E+19
La-140	5.0614E+02	9.1061E-07	3.9170E+18	4.3020E+17
La-141	4.4424E+01	7.8552E-09	3.3550E+16	2.0516E+17
La-142	1.4559E+01	1.0170E-09	4.3131E+15	1.3806E+17
Ce-141	2.2614E+02	7.9366E-06	3.3897E+19	6.6921E+17
Ce-143	1.9441E+02	2.9275E-07	1.2329E+18	6.0532E+17
Ce-144	1.9459E+02	6.1011E-05	2.5515E+20	5.7512E+17
Pr-143	8.2513E+01	1.2253E-06	5.1603E+18	2.4217E+17
Nd-147	3.6069E+01	4.4585E-07	1.8265E+18	1.0727E+17
Np-239	2.5406E+03	1.0951E-05	2.7594E+19	7.7396E+18
Pu-238	6.9813E-01	4.0779E-05	1.0318E+20	2.0628E+15
Pu-239	6.5988E-02	1.0616E-03	2.6750E+21	1.9491E+14
Pu-240	1.2083E-01	5.3028E-04	1.3306E+21	3.5703E+14
Pu-241	2.6683E+01	2.5902E-04	6.4725E+20	7.8841E+16
Am-241	1.7535E-02	5.1091E-06	1.2767E+19	5.1779E+13
Cm-242	4.4541E+00	1.3439E-06	3.3443E+18	1.3167E+16
Cm-244	2.5911E-01	3.2028E-06	7.9047E+18	7.6562E+14

## Sprayed Drywell Transport Group Inventory:

Time (h) =	4.0000	Atmosphere	Sump
Noble gases (atoms)	1.7198E+25	0.0000E+00	
Elemental I (atoms)	5.7118E+20	5.4908E+22	
Organic I (atoms)	9.9405E+20	0.0000E+00	
Aerosols (kg)	1.4959E-01	5.2582E+01	
Dose Effective (Ci/cc)	I-131 (Thyroid)		4.9589E-05
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		5.9965E-05
Total I (Ci)			5.0100E+05

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) =	4.0000	
	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.3972E+22
Elemental I (atoms)	0.0000E+00	1.6288E+18
Organic I (atoms)	0.0000E+00	8.7442E+17
Aerosols (kg)	0.0000E+00	1.4648E-03

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) =	4.0000	
	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.3972E+22
Elemental I (atoms)	0.0000E+00	1.6288E+18
Organic I (atoms)	0.0000E+00	8.7442E+17
Aerosols (kg)	0.0000E+00	1.4648E-03

## Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) =	4.0000	
	Filtered	Transported
Noble gases (atoms)	0.0000E+00	6.9918E+21
Elemental I (atoms)	0.0000E+00	8.1351E+17
Organic I (atoms)	0.0000E+00	4.3750E+17
Aerosols (kg)	0.0000E+00	7.3146E-04

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) =	4.0000	
	Filtered	Transported
Noble gases (atoms)	0.0000E+00	6.8559E+25
Elemental I (atoms)	0.0000E+00	6.3107E+21
Organic I (atoms)	0.0000E+00	4.2126E+21
Aerosols (kg)	0.0000E+00	5.4858E+00

## Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) =	4.0000	
	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.7122E+25
Elemental I (atoms)	0.0000E+00	5.8907E+21
Organic I (atoms)	0.0000E+00	3.5253E+21
Aerosols (kg)	0.0000E+00	5.3425E+00

## Exclusion Area Boundary Doses:

Time (h) =	8.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		1.1215E+01	7.0652E+01	1.4232E+01
Accumulated dose (rem)		1.9933E+01	1.5480E+02	2.6892E+01

## Low Population Zone Doses:

Time (h) =	8.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		3.4139E-01	2.1507E+00	4.3325E-01
Accumulated dose (rem)		7.2819E-01	6.4937E+00	1.0231E+00

## Control Room Doses:

Time (h) =	8.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		2.8090E-01	9.2212E+00	6.9212E-01
Accumulated dose (rem)		4.2494E-01	2.1226E+01	1.3674E+00

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =	8.0000	Ci	kg	Atoms	Decay
Co-58		4.7503E+00	1.4939E-07	1.5511E+18	1.3931E+16
Co-60		5.7033E+00	5.0455E-06	5.0641E+19	1.6689E+16
Kr-85		8.2161E+05	2.0942E+00	1.4837E+25	7.6887E+20
Kr-85m		3.5482E+06	4.3115E-04	3.0546E+21	6.0115E+21
Kr-87		3.1324E+05	1.1058E-05	7.6546E+19	3.5015E+21
Kr-88		4.8340E+06	3.8551E-04	2.6382E+21	1.2053E+22
Rb-86		1.3081E+02	1.6077E-06	1.1258E+19	4.6972E+17
Sr-89		6.4355E+03	2.2152E-04	1.4989E+21	1.8891E+19
Sr-90		1.0169E+03	7.4547E-03	4.9882E+22	2.9753E+18
Sr-91		4.5749E+03	1.2621E-06	8.3519E+18	2.0439E+19
Sr-92		1.1218E+03	8.9248E-08	5.8420E+17	1.5400E+19
Y-90		7.8441E+01	1.4418E-07	9.6472E+17	6.1786E+16
Y-91		9.1007E+01	3.7109E-06	2.4558E+19	2.4795E+17
Y-92		1.7711E+03	1.8406E-07	1.2048E+18	1.6899E+18
Y-93		3.8388E+01	1.1506E-08	7.4506E+16	1.6716E+17
Zr-95		1.1862E+02	5.5216E-06	3.5002E+19	3.4796E+17
Zr-97		8.3368E+01	4.3610E-08	2.7075E+17	3.0878E+17
Nb-95		1.1904E+02	3.0443E-06	1.9298E+19	3.4831E+17
Mo-99		1.4347E+03	2.9914E-06	1.8197E+19	4.4566E+18
Tc-99m		1.3431E+03	2.5543E-07	1.5538E+18	4.0178E+18
Ru-103		1.3356E+03	4.1382E-05	2.4195E+20	3.9240E+18
Ru-105		2.7032E+02	4.0214E-08	2.3064E+17	1.9938E+18
Ru-106		5.8559E+02	1.7503E-04	9.9441E+20	1.7141E+18
Rh-105		8.3138E+02	9.8498E-07	5.6492E+18	2.5603E+18
Sb-127		1.3956E+03	5.2260E-06	2.4781E+19	4.2614E+18
Sb-129		1.4945E+03	2.6576E-07	1.2406E+18	1.1320E+19
Te-127		1.4520E+03	5.5018E-07	2.6089E+18	4.2870E+18
Te-127m		2.5217E+02	2.6734E-05	1.2677E+20	7.3779E+17
Te-129		2.3010E+03	1.0987E-07	5.1293E+17	1.2557E+19
Te-129m		1.0350E+03	3.4358E-05	1.6039E+20	3.0350E+18
Te-131m		2.8004E+03	3.5119E-06	1.6145E+19	9.3509E+18
Te-132		2.2142E+04	7.2932E-05	3.3273E+20	6.8136E+19
I-131		1.1249E+05	9.0737E-04	4.1712E+21	3.1819E+20
I-132		4.4138E+04	4.2760E-06	1.9508E+19	3.8731E+20
I-133		1.8284E+05	1.6140E-04	7.3082E+20	6.1595E+20
I-134		4.7372E+02	1.7758E-08	7.9806E+16	2.5538E+20
I-135		9.8191E+04	2.7960E-05	1.2472E+20	5.0980E+20
Xe-133		9.1854E+07	4.9072E-01	2.2219E+24	8.7624E+22

Xe-135	2.1589E+07	8.4539E-03	3.7711E+22	2.6518E+22
Cs-134	1.7453E+04	1.3490E-02	6.0624E+22	6.2099E+19
Cs-136	4.6813E+03	6.3872E-05	2.8283E+20	1.6876E+19
Cs-137	1.3846E+04	1.5918E-01	6.9972E+23	4.9254E+19
Ba-139	2.1603E+02	1.3207E-08	5.7219E+16	1.4717E+19
Ba-140	1.1935E+04	1.6302E-04	7.0125E+20	3.5372E+19
La-140	1.3802E+03	2.4831E-06	1.0681E+19	9.5708E+17
La-141	2.7020E+01	4.7779E-09	2.0406E+16	2.2576E+17
La-142	2.9685E+00	2.0737E-10	8.7944E+14	1.4240E+17
Ce-141	2.7766E+02	9.7449E-06	4.1620E+19	8.1569E+17
Ce-143	2.2014E+02	3.3150E-07	1.3960E+18	7.2623E+17
Ce-144	2.3956E+02	7.5110E-05	3.1411E+20	7.0133E+17
Pr-143	1.0271E+02	1.5253E-06	6.4233E+18	2.9598E+17
Nd-147	4.3957E+01	5.4336E-07	2.2260E+18	1.3055E+17
Np-239	2.9792E+03	1.2842E-05	3.2357E+19	9.3476E+18
Pu-238	8.5982E-01	5.0224E-05	1.2708E+20	2.5157E+15
Pu-239	8.1310E-02	1.3081E-03	3.2962E+21	2.3773E+14
Pu-240	1.4882E-01	6.5308E-04	1.6387E+21	4.3542E+14
Pu-241	3.2861E+01	3.1900E-04	7.9712E+20	9.6151E+16
Am-241	2.1620E-02	6.2993E-06	1.5741E+19	6.3161E+13
Cm-242	5.4818E+00	1.6540E-06	4.1159E+18	1.6055E+16
Cm-244	3.1911E-01	3.9444E-06	9.7352E+18	9.3372E+14

## Sprayed Drywell Transport Group Inventory:

Time (h) =	8.0000	Atmosphere	Sump	
Noble gases (atoms)	1.7102E+25	0.0000E+00		
Elemental I (atoms)	5.4477E+20	5.4908E+22		
Organic I (atoms)	9.4536E+20	0.0000E+00		
Aerosols (kg)	1.8418E-01	5.2582E+01		
Dose Effective (Ci/cc)	I-131 (Thyroid)		5.4285E-05	
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		6.3615E-05	
Total I (Ci)			4.3813E+05	

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.9092E+22
Elemental I (atoms)	0.0000E+00	2.1210E+18
Organic I (atoms)	0.0000E+00	1.7289E+18
Aerosols (kg)	0.0000E+00	1.6250E-03

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.9092E+22
Elemental I (atoms)	0.0000E+00	2.1210E+18
Organic I (atoms)	0.0000E+00	1.7289E+18
Aerosols (kg)	0.0000E+00	1.6250E-03

## Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.4573E+22
Elemental I (atoms)	0.0000E+00	1.0603E+18

Organic I (atoms)	0.0000E+00	8.6595E+17
Aerosols (kg)	0.0000E+00	8.1179E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 8.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.5954E+26
Elemental I (atoms)	0.0000E+00	9.2728E+21
Organic I (atoms)	0.0000E+00	9.3540E+21
Aerosols (kg)	0.0000E+00	6.4498E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 8.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.4811E+26
Elemental I (atoms)	0.0000E+00	8.8548E+21
Organic I (atoms)	0.0000E+00	8.6673E+21
Aerosols (kg)	0.0000E+00	6.3416E+00

Exclusion Area Boundary Doses:

Time (h) = 24.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.8289E+01	2.0469E+02	2.6021E+01
Accumulated dose (rem)	3.8222E+01	3.5949E+02	5.2913E+01

Low Population Zone Doses:

Time (h) = 24.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.5234E-01	2.0280E+00	4.2894E-01
Accumulated dose (rem)	1.0805E+00	8.5217E+00	1.4520E+00

Control Room Doses:

Time (h) = 24.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.7689E-01	1.1869E+01	7.3792E-01
Accumulated dose (rem)	7.0183E-01	3.3095E+01	2.1053E+00

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 24.0000	Ci	kg	Atoms	Decay
Co-58	4.6944E+00	1.4763E-07	1.5329E+18	2.3994E+16
Co-60	5.6718E+00	5.0176E-06	5.0361E+19	2.8809E+16
Kr-85	8.1720E+05	2.0829E+00	1.4757E+25	2.5150E+21
Kr-85m	2.9689E+05	3.6076E-05	2.5559E+20	8.8043E+21
Kr-87	5.0820E+01	1.7941E-09	1.2419E+16	3.5780E+21
Kr-88	9.6840E+04	7.7230E-06	5.2851E+19	1.4634E+22
Rb-86	1.2694E+02	1.5601E-06	1.0924E+19	7.4433E+17
Sr-89	6.3432E+03	2.1834E-04	1.4774E+21	3.2506E+19
Sr-90	1.0115E+03	7.4150E-03	4.9616E+22	5.1364E+18
Sr-91	1.4161E+03	3.9064E-07	2.5852E+18	2.6179E+19
Sr-92	1.8634E+01	1.4825E-09	9.7042E+15	1.5974E+19
Y-90	2.2719E+02	4.1758E-07	2.7941E+18	3.8361E+17
Y-91	9.8680E+01	4.0238E-06	2.6629E+19	4.5153E+17
Y-92	1.8128E+02	1.8839E-08	1.2332E+17	3.3422E+18
Y-93	1.2735E+01	3.8172E-09	2.4718E+16	2.1670E+17

Zr-95	1.1714E+02	5.4529E-06	3.4567E+19	5.9916E+17
Zr-97	4.3022E+01	2.2505E-08	1.3972E+17	4.3874E+17
Nb-95	1.1839E+02	3.0275E-06	1.9192E+19	6.0121E+17
Mo-99	1.2064E+03	2.5153E-06	1.5301E+19	7.2636E+18
Tc-99m	1.2090E+03	2.2992E-07	1.3986E+18	6.6353E+18
Ru-103	1.3130E+03	4.0682E-05	2.3785E+20	6.7459E+18
Ru-105	2.2120E+01	3.2906E-09	1.8873E+16	2.2051E+18
Ru-106	5.8176E+02	1.7389E-04	9.8791E+20	2.9579E+18
Rh-105	6.2951E+02	7.4582E-07	4.2775E+18	4.1168E+18
Sb-127	1.2312E+03	4.6104E-06	2.1862E+19	7.0566E+18
Sb-129	1.1409E+02	2.0289E-08	9.4715E+16	1.2463E+19
Te-127	1.3762E+03	5.2147E-07	2.4727E+18	7.2267E+18
Te-127m	2.5077E+02	2.6586E-05	1.2606E+20	1.2736E+18
Te-129	1.0397E+03	4.9646E-08	2.3176E+17	1.5139E+19
Te-129m	1.0171E+03	3.3762E-05	1.5761E+20	5.2220E+18
Te-131m	1.9247E+03	2.4138E-06	1.1096E+19	1.4327E+19
Te-132	1.9112E+04	6.2954E-05	2.8721E+20	1.1201E+20
I-131	1.0575E+05	8.5298E-04	3.9212E+21	5.5064E+20
I-132	2.2872E+04	2.2158E-06	1.0109E+19	4.4052E+20
I-133	1.0671E+05	9.4199E-05	4.2653E+20	9.1722E+20
I-134	1.5105E-03	5.6624E-14	2.5448E+11	2.5546E+20
I-135	1.8243E+04	5.1947E-06	2.3173E+19	6.1102E+20
Xe-133	8.3674E+07	4.4702E-01	2.0241E+24	2.7451E+23
Xe-135	6.3642E+06	2.4921E-03	1.1117E+22	5.3080E+22
Cs-134	1.7350E+04	1.3410E-02	6.0266E+22	9.9181E+19
Cs-136	4.4951E+03	6.1332E-05	2.7158E+20	2.6652E+19
Cs-137	1.3772E+04	1.5833E-01	6.9599E+23	7.8680E+19
Ba-139	6.8831E-02	4.2080E-12	1.8231E+13	1.4774E+19
Ba-140	1.1449E+04	1.5638E-04	6.7269E+20	6.0283E+19
La-140	3.8647E+03	6.9531E-06	2.9909E+19	6.5320E+18
La-141	1.5989E+00	2.8272E-10	1.2075E+15	2.4492E+17
La-142	2.2184E-03	1.5497E-13	6.5721E+11	1.4327E+17
Ce-141	2.7242E+02	9.5609E-06	4.0835E+19	1.4018E+18
Ce-143	1.5647E+02	2.3562E-07	9.9228E+17	1.1237E+18
Ce-144	2.3791E+02	7.4591E-05	3.1194E+20	1.2101E+18
Pr-143	1.0497E+02	1.5589E-06	6.5648E+18	5.1736E+17
Nd-147	4.1922E+01	5.1821E-07	2.1229E+18	2.2203E+17
Np-239	2.4354E+03	1.0498E-05	2.6452E+19	1.5097E+19
Pu-238	8.5534E-01	4.9963E-05	1.2642E+20	4.3431E+15
Pu-239	8.1021E-02	1.3035E-03	3.2845E+21	4.1069E+14
Pu-240	1.4803E-01	6.4963E-04	1.6301E+21	7.5170E+14
Pu-241	3.2685E+01	3.1729E-04	7.9284E+20	1.6599E+17
Am-241	2.1602E-02	6.2938E-06	1.5727E+19	1.0921E+14
Cm-242	5.4373E+00	1.6406E-06	4.0825E+18	2.7689E+16
Cm-244	3.1740E-01	3.9233E-06	9.6830E+18	1.6119E+15

## Sprayed Drywell Transport Group Inventory:

Time (h) =	24.0000	Atmosphere	Sump	
Noble gases (atoms)	1.6793E+25	0.0000E+00		
Elemental I (atoms)	4.7294E+20	5.4908E+22		
Organic I (atoms)	8.2071E+20	0.0000E+00		
Aerosols (kg)	1.8307E-01	5.2582E+01		
Dose Effective (Ci/cc)	I-131 (Thyroid)		4.6159E-05	
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		5.0784E-05	
Total I (Ci)			2.5357E+05	

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 24.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	8.8859E+22
Elemental I (atoms)	0.0000E+00	3.9088E+18
Organic I (atoms)	0.0000E+00	4.8313E+18
Aerosols (kg)	0.0000E+00	2.2726E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 24.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	8.8859E+22
Elemental I (atoms)	0.0000E+00	3.9088E+18
Organic I (atoms)	0.0000E+00	4.8313E+18
Aerosols (kg)	0.0000E+00	2.2726E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 24.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.4543E+22
Elemental I (atoms)	0.0000E+00	1.9568E+18
Organic I (atoms)	0.0000E+00	2.4216E+18
Aerosols (kg)	0.0000E+00	1.1365E-03

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 24.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.1917E+26
Elemental I (atoms)	0.0000E+00	2.0030E+22
Organic I (atoms)	0.0000E+00	2.8022E+22
Aerosols (kg)	0.0000E+00	1.0346E+01

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 24.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.0780E+26
Elemental I (atoms)	0.0000E+00	1.9614E+22
Organic I (atoms)	0.0000E+00	2.7339E+22
Aerosols (kg)	0.0000E+00	1.0239E+01

Exclusion Area Boundary Doses:

Time (h) = 48.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	5.4423E+00	1.2267E+02	1.0095E+01
Accumulated dose (rem)	4.3664E+01	4.8216E+02	6.3008E+01

Low Population Zone Doses:

Time (h) = 48.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.9857E-02	5.9038E-01	6.2248E-02
Accumulated dose (rem)	1.1204E+00	9.1121E+00	1.5143E+00

Control Room Doses:

Time (h) = 48.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.2830E-02	2.7253E+00	1.3594E-01
Accumulated dose (rem)	7.3466E-01	3.5820E+01	2.2412E+00

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 48.0000	Ci	kg	Atoms	Decay
Co-58	4.6304E+00	1.4562E-07	1.5120E+18	3.8898E+16
Co-60	5.6474E+00	4.9960E-06	5.0144E+19	4.6900E+16
Kr-85	8.1384E+05	2.0743E+00	1.4696E+25	5.1218E+21
Kr-85m	7.2147E+03	8.7668E-07	6.2112E+18	9.0534E+21
Kr-87	1.0544E-04	3.7225E-15	2.5767E+10	3.5780E+21
Kr-88	2.7569E+02	2.1986E-08	1.5046E+17	1.4687E+22
Rb-86	1.2183E+02	1.4973E-06	1.0485E+19	1.1419E+18
Sr-89	6.2321E+03	2.1451E-04	1.4515E+21	5.2604E+19
Sr-90	1.0074E+03	7.3853E-03	4.9417E+22	8.3632E+18
Sr-91	2.4483E+02	6.7541E-08	4.4697E+17	2.8312E+19
Sr-92	4.0054E-02	3.1866E-12	2.0859E+13	1.5983E+19
Y-90	4.0634E+02	7.4687E-07	4.9975E+18	1.3915E+18
Y-91	1.0042E+02	4.0948E-06	2.7098E+19	7.7101E+17
Y-92	2.1087E+00	2.1915E-10	1.4345E+15	3.4736E+18
Y-93	2.4433E+00	7.3233E-10	4.7421E+15	2.3663E+17
Zr-95	1.1543E+02	5.3729E-06	3.4059E+19	9.7087E+17
Zr-97	1.6013E+01	8.3766E-09	5.2005E+16	5.2610E+17
Nb-95	1.1786E+02	3.0141E-06	1.9107E+19	9.7865E+17
Mo-99	9.3391E+02	1.9472E-06	1.1845E+19	1.0666E+19
Tc-99m	9.5574E+02	1.8176E-07	1.1056E+18	9.9173E+18
Ru-103	1.2849E+03	3.9812E-05	2.3277E+20	1.0898E+19
Ru-105	5.1984E-01	7.7334E-11	4.4354E+14	2.2235E+18
Ru-106	5.7838E+02	1.7288E-04	9.8217E+20	4.8121E+18
Rh-105	3.9363E+02	4.6636E-07	2.6748E+18	5.7244E+18
Sb-127	1.0243E+03	3.8356E-06	1.8188E+19	1.0651E+19
Sb-129	2.4163E+00	4.2969E-10	2.0059E+15	1.2556E+19
Te-127	1.2160E+03	4.6075E-07	2.1848E+18	1.1237E+19
Te-127m	2.4948E+02	2.6449E-05	1.2542E+20	2.0732E+18
Te-129	8.6166E+02	4.1144E-08	1.9208E+17	1.7337E+19
Te-129m	9.9254E+02	3.2947E-05	1.5381E+20	8.4339E+18
Te-131m	1.1011E+03	1.3809E-06	6.3479E+18	1.9042E+19
Te-132	1.5389E+04	5.0690E-05	2.3126E+20	1.6694E+20
I-131	9.6725E+04	7.8020E-04	3.5866E+21	8.7405E+20
I-132	1.8368E+04	1.7795E-06	8.1185E+18	4.9741E+20
I-133	4.7769E+04	4.2169E-05	1.9094E+20	1.1516E+21
I-135	1.4669E+03	4.1769E-07	1.8632E+18	6.3230E+20
Xe-133	7.3035E+07	3.9018E-01	1.7667E+24	5.2459E+23
Xe-135	1.0202E+06	3.9950E-04	1.7821E+21	6.2412E+22
Cs-134	1.7266E+04	1.3345E-02	5.9973E+22	1.5451E+20
Cs-136	4.2466E+03	5.7942E-05	2.5657E+20	4.0620E+19
Cs-137	1.3717E+04	1.5770E-01	6.9320E+23	1.2262E+20
Ba-139	3.9303E-07	2.4029E-17	1.0410E+08	1.4774E+19
Ba-140	1.0800E+04	1.4752E-04	6.3456E+20	9.5832E+19
La-140	6.3280E+03	1.1385E-05	4.8972E+19	2.2861E+19
La-141	2.3108E-02	4.0860E-12	1.7451E+13	2.4611E+17
La-142	4.5500E-08	3.1785E-18	1.3480E+07	1.4327E+17
Ce-141	2.6563E+02	9.3225E-06	3.9817E+19	2.2618E+18
Ce-143	9.4145E+01	1.4177E-07	5.9702E+17	1.5158E+18
Ce-144	2.3639E+02	7.4116E-05	3.0996E+20	1.9681E+18



Pr-143	1.0544E+02	1.5658E-06	6.5942E+18	8.5410E+17
Nd-147	3.9203E+01	4.8459E-07	1.9852E+18	3.5165E+17
Np-239	1.8073E+03	7.7904E-06	1.9630E+19	2.1829E+19
Pu-238	8.5207E-01	4.9771E-05	1.2594E+20	7.0721E+15
Pu-239	8.0868E-02	1.3010E-03	3.2782E+21	6.6944E+14
Pu-240	1.4745E-01	6.4707E-04	1.6236E+21	1.2239E+15
Pu-241	3.2551E+01	3.1599E-04	7.8961E+20	2.7025E+17
Am-241	2.1659E-02	6.3106E-06	1.5769E+19	1.7834E+14
Cm-242	5.3929E+00	1.6272E-06	4.0492E+18	4.4999E+16
Cm-244	3.1612E-01	3.9074E-06	9.6439E+18	2.6245E+15

## Sprayed Drywell Transport Group Inventory:

Time (h) = 48.0000	Atmosphere	Sump	
Noble gases (atoms)	1.6465E+25	0.0000E+00	
Elemental I (atoms)	4.0887E+20	5.4908E+22	
Organic I (atoms)	7.0953E+20	0.0000E+00	
Aerosols (kg)	1.8221E-01	5.2582E+01	
Dose Effective (Ci/cc)	I-131 (Thyroid)		3.8968E-05
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		4.0994E-05
Total I (Ci)			1.6433E+05

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 48.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.3297E+23
Elemental I (atoms)	0.0000E+00	5.0756E+18
Organic I (atoms)	0.0000E+00	6.8560E+18
Aerosols (kg)	0.0000E+00	2.7571E-03

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 48.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.3297E+23
Elemental I (atoms)	0.0000E+00	5.0756E+18
Organic I (atoms)	0.0000E+00	6.8560E+18
Aerosols (kg)	0.0000E+00	2.7571E-03

## Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 48.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	6.6473E+22
Elemental I (atoms)	0.0000E+00	2.5368E+18
Organic I (atoms)	0.0000E+00	3.4282E+18
Aerosols (kg)	0.0000E+00	1.3774E-03

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 48.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.0485E+27
Elemental I (atoms)	0.0000E+00	3.4031E+22
Organic I (atoms)	0.0000E+00	5.2318E+22
Aerosols (kg)	0.0000E+00	1.6160E+01

## Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 48.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.0372E+27
Elemental I (atoms)	0.0000E+00	3.3616E+22
Organic I (atoms)	0.0000E+00	5.1636E+22
Aerosols (kg)	0.0000E+00	1.6053E+01

## Exclusion Area Boundary Doses:

Time (h) = 72.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.8116E+00	9.7569E+01	7.6730E+00
Accumulated dose (rem)	4.7476E+01	5.7973E+02	7.0681E+01

## Low Population Zone Doses:

Time (h) = 72.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.7914E-02	4.6956E-01	4.6498E-02
Accumulated dose (rem)	1.1483E+00	9.5816E+00	1.5608E+00

## Control Room Doses:

Time (h) = 72.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.9806E-02	1.9077E+00	9.5208E-02
Accumulated dose (rem)	7.5446E-01	3.7728E+01	2.3364E+00

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 72.0000	Ci	kg	Atoms	Decay
Co-58	4.5670E+00	1.4363E-07	1.4913E+18	5.3597E+16
Co-60	5.6229E+00	4.9744E-06	4.9927E+19	6.4913E+16
Kr-85	8.1046E+05	2.0657E+00	1.4635E+25	7.7179E+21
Kr-85m	1.7532E+02	2.1304E-08	1.5093E+17	9.0594E+21
Kr-87	2.1877E-10	7.7234E-21	5.3462E+04	3.5780E+21
Kr-88	7.8484E-01	6.2591E-11	4.2833E+14	1.4687E+22
Rb-86	1.1692E+02	1.4369E-06	1.0062E+19	1.5234E+18
Sr-89	6.1227E+03	2.1075E-04	1.4260E+21	7.2350E+19
Sr-90	1.0033E+03	7.3554E-03	4.9217E+22	1.1577E+19
Sr-91	4.2330E+01	1.1677E-08	7.7277E+16	2.8681E+19
Sr-92	8.6093E-05	6.8494E-15	4.4835E+10	1.5983E+19
Y-90	5.4300E+02	9.9804E-07	6.6782E+18	2.9013E+18
Y-91	9.9412E+01	4.0537E-06	2.6826E+19	1.0906E+18
Y-92	2.0116E-02	2.0906E-12	1.3685E+13	3.4751E+18
Y-93	4.6873E-01	1.4049E-10	9.0976E+14	2.4045E+17
Zr-95	1.1373E+02	5.2939E-06	3.3558E+19	1.3371E+18
Zr-97	5.9601E+00	3.1177E-09	1.9356E+16	5.5861E+17
Nb-95	1.1731E+02	3.0000E-06	1.9018E+19	1.3544E+18
Mo-99	7.2295E+02	1.5074E-06	9.1692E+18	1.3300E+19
Tc-99m	7.4109E+02	1.4094E-07	8.5733E+17	1.2479E+19
Ru-103	1.2574E+03	3.8961E-05	2.2779E+20	1.4961E+19
Ru-105	1.2217E-02	1.8174E-12	1.0424E+13	2.2239E+18
Ru-106	5.7499E+02	1.7187E-04	9.7642E+20	6.6555E+18
Rh-105	2.4498E+02	2.9024E-07	1.6646E+18	6.7264E+18
Sb-127	8.5214E+02	3.1909E-06	1.5131E+19	1.3642E+19
Sb-129	5.1172E-02	9.0998E-12	4.2481E+13	1.2558E+19
Te-127	1.0578E+03	4.0081E-07	1.9006E+18	1.4744E+19

Te-127m	2.4798E+02	2.6290E-05	1.2466E+20	2.8682E+18
Te-129	8.3746E+02	3.9989E-08	1.8668E+17	1.9380E+19
Te-129m	9.6841E+02	3.2146E-05	1.5007E+20	1.1568E+19
Te-131m	6.2991E+02	7.8995E-07	3.6314E+18	2.1738E+19
Te-132	1.2391E+04	4.0813E-05	1.8620E+20	2.1117E+20
I-131	8.8437E+04	7.1335E-04	3.2793E+21	1.1698E+21
I-132	1.4789E+04	1.4328E-06	6.5367E+18	5.4319E+20
I-133	2.1383E+04	1.8876E-05	8.5471E+19	1.2566E+21
I-135	1.1794E+02	3.3583E-08	1.4981E+17	6.3401E+20
Xe-133	6.3744E+07	3.4054E-01	1.5420E+24	7.4287E+23
Xe-135	1.6326E+05	6.3931E-05	2.8519E+20	6.3907E+22
Cs-134	1.7181E+04	1.3280E-02	5.9680E+22	2.0956E+20
Cs-136	4.0118E+03	5.4738E-05	2.4238E+20	5.3816E+19
Cs-137	1.3662E+04	1.5706E-01	6.9040E+23	1.6637E+20
Ba-140	1.0187E+04	1.3915E-04	5.9857E+20	1.2937E+20
La-140	7.7367E+03	1.3919E-05	5.9874E+19	4.5274E+19
La-141	3.3395E-04	5.9049E-14	2.5220E+11	2.4613E+17
Ce-141	2.5899E+02	9.0895E-06	3.8822E+19	3.1002E+18
Ce-143	5.6642E+01	8.5293E-08	3.5919E+17	1.7518E+18
Ce-144	2.3488E+02	7.3642E-05	3.0797E+20	2.7213E+18
Pr-143	1.0346E+02	1.5363E-06	6.4700E+18	1.1882E+18
Nd-147	3.6658E+01	4.5313E-07	1.8564E+18	4.7285E+17
Np-239	1.3411E+03	5.7810E-06	1.4567E+19	2.6824E+19
Pu-238	8.4878E-01	4.9579E-05	1.2545E+20	9.7905E+15
Pu-239	8.0669E-02	1.2978E-03	3.2702E+21	9.2762E+14
Pu-240	1.4686E-01	6.4450E-04	1.6172E+21	1.6943E+15
Pu-241	3.2418E+01	3.1470E-04	7.8637E+20	3.7409E+17
Am-241	2.1715E-02	6.3270E-06	1.5810E+19	2.4766E+14
Cm-242	5.3486E+00	1.6138E-06	4.0159E+18	6.2167E+16
Cm-244	3.1483E-01	3.8915E-06	9.6045E+18	3.6329E+15

## Sprayed Drywell Transport Group Inventory:

Time (h) = 72.0000	Atmosphere	Sump	
Noble gases (atoms)	1.6178E+25	0.0000E+00	
Elemental I (atoms)	3.6396E+20	5.4908E+22	
Organic I (atoms)	6.3159E+20	0.0000E+00	
Aerosols (kg)	1.8138E-01	5.2582E+01	
Dose Effective (Ci/cc) I-131 (Thyroid)			3.4232E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			3.5202E-05
Total I (Ci)			1.2473E+05

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 72.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.7627E+23
Elemental I (atoms)	0.0000E+00	6.1002E+18
Organic I (atoms)	0.0000E+00	8.6342E+18
Aerosols (kg)	0.0000E+00	3.2393E-03

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 72.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.7627E+23
Elemental I (atoms)	0.0000E+00	6.1002E+18
Organic I (atoms)	0.0000E+00	8.6342E+18

Aerosols (kg) 0.0000E+00 3.2393E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 72.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	8.7999E+22
Elemental I (atoms)	0.0000E+00	3.0463E+18
Organic I (atoms)	0.0000E+00	4.3122E+18
Aerosols (kg)	0.0000E+00	1.6171E-03

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 72.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.5681E+27
Elemental I (atoms)	0.0000E+00	4.6327E+22
Organic I (atoms)	0.0000E+00	7.3656E+22
Aerosols (kg)	0.0000E+00	2.1947E+01

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 72.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.5568E+27
Elemental I (atoms)	0.0000E+00	4.5913E+22
Organic I (atoms)	0.0000E+00	7.2976E+22
Aerosols (kg)	0.0000E+00	2.1841E+01

Exclusion Area Boundary Doses:

Time (h) = 96.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.1830E+00	7.9712E+01	6.4867E+00
Accumulated dose (rem)	5.0659E+01	6.5944E+02	7.7168E+01

Low Population Zone Doses:

Time (h) = 96.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.3311E-02	3.8362E-01	3.9210E-02
Accumulated dose (rem)	1.1716E+00	9.9652E+00	1.6000E+00

Control Room Doses:

Time (h) = 96.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.6559E-02	1.5586E+00	8.1062E-02
Accumulated dose (rem)	7.7102E-01	3.9287E+01	2.4175E+00

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 96.0000	Ci	kg	Atoms	Decay
Co-58	4.5046E+00	1.4166E-07	1.4709E+18	6.8096E+16
Co-60	5.5986E+00	4.9528E-06	4.9711E+19	8.2848E+16
Kr-85	8.0709E+05	2.0572E+00	1.4575E+25	1.0303E+22
Kr-85m	4.2603E+00	5.1768E-10	3.6677E+15	9.0596E+21
Kr-88	2.2343E-03	1.7818E-13	1.2194E+12	1.4687E+22
Rb-86	1.1221E+02	1.3790E-06	9.6567E+18	1.8896E+18
Sr-89	6.0152E+03	2.0705E-04	1.4010E+21	9.1749E+19

Sr-90	9.9928E+02	7.3257E-03	4.9018E+22	1.4778E+19
Sr-91	7.3184E+00	2.0189E-09	1.3360E+16	2.8745E+19
Sr-92	1.8505E-07	1.4722E-17	9.6369E+07	1.5983E+19
Y-90	6.4702E+02	1.1892E-06	7.9575E+18	4.7935E+18
Y-91	9.7949E+01	3.9940E-06	2.6432E+19	1.4061E+18
Y-92	1.8451E-04	1.9176E-14	1.2552E+11	3.4751E+18
Y-93	8.9925E-02	2.6953E-11	1.7453E+14	2.4119E+17
Zr-95	1.1206E+02	5.2160E-06	3.3065E+19	1.6980E+18
Zr-97	2.2183E+00	1.1604E-09	7.2043E+15	5.7071E+17
Nb-95	1.1674E+02	2.9855E-06	1.8925E+19	1.7283E+18
Mo-99	5.5965E+02	1.1669E-06	7.0980E+18	1.5338E+19
Tc-99m	5.7377E+02	1.0912E-07	6.6376E+17	1.4464E+19
Ru-103	1.2305E+03	3.8127E-05	2.2292E+20	1.8937E+19
Ru-105	2.8710E-04	4.2710E-14	2.4496E+11	2.2239E+18
Ru-106	5.7163E+02	1.7086E-04	9.7071E+20	8.4881E+18
Rh-105	1.5243E+02	1.8060E-07	1.0358E+18	7.3499E+18
Sb-127	7.0891E+02	2.6546E-06	1.2588E+19	1.6130E+19
Sb-129	1.0837E-03	1.9271E-13	8.9965E+11	1.2558E+19
Te-127	9.2164E+02	3.4923E-07	1.6560E+18	1.7796E+19
Te-127m	2.4631E+02	2.6113E-05	1.2382E+20	3.6582E+18
Te-129	8.1703E+02	3.9014E-08	1.8213E+17	2.1372E+19
Te-129m	9.4487E+02	3.1365E-05	1.4642E+20	1.4626E+19
Te-131m	3.6035E+02	4.5190E-07	2.0774E+18	2.3281E+19
Te-132	9.9764E+03	3.2861E-05	1.4992E+20	2.4678E+20
I-131	8.0841E+04	6.5207E-04	2.9976E+21	1.4402E+21
I-132	1.1908E+04	1.1536E-06	5.2631E+18	5.8004E+20
I-133	9.5720E+03	8.4498E-06	3.8260E+19	1.3035E+21
I-135	9.4827E+00	2.7002E-09	1.2045E+16	6.3415E+20
Xe-133	5.5632E+07	2.9721E-01	1.3457E+24	9.3337E+23
Xe-135	2.6105E+04	1.0222E-05	4.5600E+19	6.4146E+22
Cs-134	1.7097E+04	1.3215E-02	5.9388E+22	2.6435E+20
Cs-136	3.7899E+03	5.1710E-05	2.2897E+20	6.6282E+19
Cs-137	1.3606E+04	1.5643E-01	6.8761E+23	2.0995E+20
Ba-140	9.6094E+03	1.3126E-04	5.6462E+20	1.6100E+20
La-140	8.4627E+03	1.5225E-05	6.5492E+19	7.1036E+19
La-141	4.8261E-06	8.5336E-16	3.6447E+09	2.4613E+17
Ce-141	2.5252E+02	8.8624E-06	3.7851E+19	3.9177E+18
Ce-143	3.4078E+01	5.1316E-08	2.1611E+17	1.8937E+18
Ce-144	2.3338E+02	7.3170E-05	3.0600E+20	3.4697E+18
Pr-143	1.0012E+02	1.4867E-06	6.2611E+18	1.5137E+18
Nd-147	3.4279E+01	4.2372E-07	1.7359E+18	5.8618E+17
Np-239	9.9522E+02	4.2899E-06	1.0809E+19	3.0530E+19
Pu-238	8.4550E-01	4.9388E-05	1.2497E+20	1.2498E+16
Pu-239	8.0440E-02	1.2942E-03	3.2609E+21	1.1851E+15
Pu-240	1.4628E-01	6.4193E-04	1.6108E+21	2.1628E+15
Pu-241	3.2285E+01	3.1340E-04	7.8314E+20	4.7750E+17
Am-241	2.1771E-02	6.3431E-06	1.5850E+19	3.1715E+14
Cm-242	5.3047E+00	1.6006E-06	3.9830E+18	7.9194E+16
Cm-244	3.1355E-01	3.8756E-06	9.5653E+18	4.6372E+15

## Sprayed Drywell Transport Group Inventory:

Time (h) =	96.0000	Atmosphere	Sump	
Noble gases (atoms)	1.5920E+25	0.0000E+00		
Elemental I (atoms)	3.2830E+20	5.4908E+22		
Organic I (atoms)	5.6971E+20	0.0000E+00		
Aerosols (kg)	1.8056E-01	5.2582E+01		
Dose Effective (Ci/cc)	I-131 (Thyroid)			3.0670E-05

Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid) 3.1162E-05  
 Total I (Ci) 1.0233E+05

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.1885E+23
Elemental I (atoms)	0.0000E+00	7.0188E+18
Organic I (atoms)	0.0000E+00	1.0228E+19
Aerosols (kg)	0.0000E+00	3.7194E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.1885E+23
Elemental I (atoms)	0.0000E+00	7.0188E+18
Organic I (atoms)	0.0000E+00	1.0228E+19
Aerosols (kg)	0.0000E+00	3.7194E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.0917E+23
Elemental I (atoms)	0.0000E+00	3.5029E+18
Organic I (atoms)	0.0000E+00	5.1046E+18
Aerosols (kg)	0.0000E+00	1.8558E-03

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.0790E+27
Elemental I (atoms)	0.0000E+00	5.7350E+22
Organic I (atoms)	0.0000E+00	9.2784E+22
Aerosols (kg)	0.0000E+00	2.7708E+01

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.0678E+27
Elemental I (atoms)	0.0000E+00	5.6937E+22
Organic I (atoms)	0.0000E+00	9.2106E+22
Aerosols (kg)	0.0000E+00	2.7602E+01

Exclusion Area Boundary Doses:

Time (h) = 240.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.2073E+01	3.2594E+02	2.7093E+01
Accumulated dose (rem)	6.2732E+01	9.8538E+02	1.0426E+02

Low Population Zone Doses:

Time (h) = 240.0000	Whole Body	Thyroid	TEDE
---------------------	------------	---------	------

Delta dose (rem)	2.2371E-02	3.9687E-01	4.0660E-02
Accumulated dose (rem)	1.1940E+00	1.0362E+01	1.6406E+00

## Control Room Doses:

Time (h) = 240.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.5162E-02	2.5395E+00	1.4206E-01
Accumulated dose (rem)	7.9618E-01	4.1826E+01	2.5596E+00

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 240.0000	Ci	kg	Atoms	Decay
Co-58	4.1473E+00	1.3043E-07	1.3542E+18	1.5102E+17
Co-60	5.4546E+00	4.8254E-06	4.8432E+19	1.8884E+17
Kr-85	7.8720E+05	2.0064E+00	1.4215E+25	2.5591E+22
Kr-85m	8.7719E-10	1.0659E-19	7.5518E+05	9.0596E+21
Rb-86	8.7670E+01	1.0775E-06	7.5449E+18	3.7967E+18
Sr-89	5.4089E+03	1.8618E-04	1.2598E+21	2.0120E+20
Sr-90	9.7530E+02	7.1499E-03	4.7842E+22	3.3712E+19
Sr-91	1.9546E-04	5.3920E-14	3.5683E+11	2.8758E+19
Y-90	9.0737E+02	1.6678E-06	1.1159E+19	2.0287E+19
Y-91	8.9094E+01	3.6329E-06	2.4042E+19	3.1986E+18
Y-93	4.4832E-06	1.3438E-15	8.7014E+09	2.4136E+17
Zr-95	1.0252E+02	4.7723E-06	3.0252E+19	3.7543E+18
Zr-97	5.8974E-03	3.0849E-12	1.9152E+13	5.7787E+17
Nb-95	1.1297E+02	2.8889E-06	1.8313E+19	3.9312E+18
Mo-99	1.2043E+02	2.5110E-07	1.5275E+18	2.0822E+19
Tc-99m	1.2347E+02	2.3482E-08	1.4284E+17	1.9802E+19
Ru-103	1.0807E+03	3.3487E-05	1.9579E+20	4.1070E+19
Ru-106	5.5187E+02	1.6495E-04	9.3715E+20	1.9261E+19
Rh-105	8.8468E+00	1.0481E-08	6.0114E+16	8.3173E+18
Sb-127	2.3500E+02	8.7999E-07	4.1728E+18	2.4362E+19
Te-127	4.6140E+02	1.7483E-07	8.2902E+17	2.9866E+19
Te-127m	2.3434E+02	2.4843E-05	1.1780E+20	8.2711E+18
Te-129	7.0487E+02	3.3658E-08	1.5712E+17	3.2343E+19
Te-129m	8.1515E+02	2.7059E-05	1.2632E+20	3.1473E+19
Te-131m	1.2630E+01	1.5839E-08	7.2812E+16	2.5271E+19
Te-132	2.7181E+03	8.9532E-06	4.0847E+19	3.5384E+20
I-131	4.7083E+04	3.7978E-04	1.7459E+21	2.6380E+21
I-132	3.2444E+03	3.1431E-07	1.4340E+18	6.9086E+20
I-133	7.7014E+01	6.7985E-08	3.0783E+17	1.3413E+21
I-135	2.5619E-06	7.2950E-16	3.2542E+09	6.3416E+20
Xe-133	2.4581E+07	1.3132E-01	5.9462E+23	1.6625E+24
Xe-135	4.3443E-01	1.7012E-10	7.5886E+14	6.4192E+22
Cs-134	1.6602E+04	1.2832E-02	5.7666E+22	5.8749E+20
Cs-136	2.6938E+03	3.6755E-05	1.6275E+20	1.2786E+20
Cs-137	1.3280E+04	1.5268E-01	6.7112E+23	4.6777E+20
Ba-140	6.7693E+03	9.2466E-05	3.9774E+20	3.1647E+20
La-140	7.6424E+03	1.3750E-05	5.9144E+19	2.3130E+20
Ce-141	2.1694E+02	7.6138E-06	3.2519E+19	8.4110E+18
Ce-143	1.6163E+00	2.4338E-09	1.0250E+16	2.0979E+18
Ce-144	2.2456E+02	7.0405E-05	2.9444E+20	7.8606E+18
Pr-143	7.4515E+01	1.1066E-06	4.6601E+18	3.1882E+18
Nd-147	2.2916E+01	2.8327E-07	1.1605E+18	1.1274E+18
Np-239	1.6618E+02	7.1633E-07	1.8050E+18	3.9414E+19
Pu-238	8.2610E-01	4.8254E-05	1.2210E+20	2.8528E+16
Pu-239	7.8756E-02	1.2671E-03	3.1926E+21	2.7123E+15

Pu-240	1.4282E-01	6.2678E-04	1.5727E+21	4.9350E+15
Pu-241	3.1497E+01	3.0576E-04	7.6404E+20	1.0891E+18
Am-241	2.2086E-02	6.4351E-06	1.6080E+19	7.3771E+14
Cm-242	5.0488E+00	1.5234E-06	3.7908E+18	1.7846E+17
Cm-244	3.0595E-01	3.7817E-06	9.3336E+18	1.0578E+16

## Sprayed Drywell Transport Group Inventory:

Time (h) = 240.0000	Atmosphere	Sump	
Noble gases (atoms)	1.4810E+25	0.0000E+00	
Elemental I (atoms)	1.8866E+20	5.4908E+22	
Organic I (atoms)	3.2739E+20	0.0000E+00	
Aerosols (kg)	1.7587E-01	5.2582E+01	
Dose Effective (Ci/cc) I-131 (Thyroid)			1.7514E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			1.7553E-05
Total I (Ci)			5.0404E+04

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 240.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.6262E+23
Elemental I (atoms)	0.0000E+00	1.1024E+19
Organic I (atoms)	0.0000E+00	1.7178E+19
Aerosols (kg)	0.0000E+00	6.5555E-03

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 240.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.6262E+23
Elemental I (atoms)	0.0000E+00	1.1024E+19
Organic I (atoms)	0.0000E+00	1.7178E+19
Aerosols (kg)	0.0000E+00	6.5555E-03

## Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 240.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.3036E+23
Elemental I (atoms)	0.0000E+00	5.4940E+18
Organic I (atoms)	0.0000E+00	8.5598E+18
Aerosols (kg)	0.0000E+00	3.2657E-03

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 240.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.0043E+27
Elemental I (atoms)	0.0000E+00	1.0541E+23
Organic I (atoms)	0.0000E+00	1.7619E+23
Aerosols (kg)	0.0000E+00	6.1741E+01

## Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 240.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.9934E+27



Elemental I (atoms)	0.0000E+00	1.0500E+23
Organic I (atoms)	0.0000E+00	1.7551E+23
Aerosols (kg)	0.0000E+00	6.1638E+01

## Exclusion Area Boundary Doses:

Time (h) = 720.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	9.0521E+00	3.5945E+02	3.5572E+01
Accumulated dose (rem)	7.1784E+01	1.3448E+03	1.3983E+02

## Low Population Zone Doses:

Time (h) = 720.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.6773E-02	4.3769E-01	4.9065E-02
Accumulated dose (rem)	1.2108E+00	1.0800E+01	1.6897E+00

## Control Room Doses:

Time (h) = 720.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.8545E-02	2.7735E+00	2.2313E-01
Accumulated dose (rem)	8.1473E-01	4.4600E+01	2.7827E+00

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 720.0000	Ci	kg	Atoms	Decay
Co-58	3.1487E+00	9.9023E-08	1.0282E+18	3.8277E+17
Co-60	5.0008E+00	4.4240E-06	4.4403E+19	5.2284E+17
Kr-85	7.2436E+05	1.8463E+00	1.3081E+25	7.3881E+22
Rb-86	3.8513E+01	4.7333E-07	3.3145E+18	7.6171E+18
Sr-89	3.7957E+03	1.3065E-04	8.8405E+20	4.9239E+20
Sr-90	8.9946E+02	6.5939E-03	4.4122E+22	9.3607E+19
Y-90	9.0419E+02	1.6619E-06	1.1120E+19	7.9312E+19
Y-91	6.4917E+01	2.6471E-06	1.7518E+19	8.0808E+18
Zr-95	7.6231E+01	3.5484E-06	2.2494E+19	9.4268E+18
Zr-97	1.5350E-11	8.0295E-21	4.9850E+04	5.7789E+17
Nb-95	9.7599E+01	2.4959E-06	1.5822E+19	1.0675E+19
Mo-99	7.1919E-01	1.4995E-09	9.1215E+15	2.2316E+19
Tc-99m	7.3734E-01	1.4023E-10	8.5299E+14	2.1257E+19
Ru-103	7.0123E+02	2.1727E-05	1.2703E+20	9.7160E+19
Ru-106	4.9078E+02	1.4670E-04	8.3342E+20	5.2551E+19
Rh-105	6.6960E-04	7.9331E-13	4.5499E+12	8.3769E+18
Sb-127	5.9250E+00	2.2187E-08	1.0521E+17	2.8341E+19
Te-127	2.0129E+02	7.6273E-08	3.6167E+17	4.6881E+19
Te-127m	1.9177E+02	2.0331E-05	9.6405E+19	2.1868E+19
Te-129	4.3085E+02	2.0573E-08	9.6043E+16	5.9146E+19
Te-129m	4.9826E+02	1.6540E-05	7.7213E+19	7.2629E+19
Te-131m	1.7796E-04	2.2318E-13	1.0260E+12	2.5344E+19
Te-132	3.5639E+01	1.1739E-07	5.3556E+17	3.9340E+20
I-131	7.7528E+03	6.2535E-05	2.8748E+20	4.0320E+21
I-132	4.2539E+01	4.1211E-09	1.8801E+16	7.3182E+20
I-133	8.0377E-06	7.0954E-15	3.2127E+10	1.3416E+21
Xe-133	1.6149E+06	8.6272E-03	3.9063E+22	2.2018E+24
Cs-134	1.5051E+04	1.1633E-02	5.2280E+22	1.5985E+21
Cs-136	8.6336E+02	1.1780E-05	5.2162E+19	2.3070E+20
Cs-137	1.2248E+04	1.4081E-01	6.1895E+23	1.2833E+21
Ba-140	2.1056E+03	2.8762E-05	1.2372E+20	5.7179E+20
La-140	2.4459E+03	4.4004E-06	1.8929E+19	5.2399E+20

Ce-141	1.3077E+02	4.5895E-06	1.9602E+19	1.9294E+19
Ce-143	6.2417E-05	9.3989E-14	3.9582E+11	2.1081E+18
Ce-144	1.9749E+02	6.1920E-05	2.5895E+20	2.1333E+19
Pr-143	2.4815E+01	3.6851E-07	1.5519E+18	6.0810E+18
Nd-147	5.9873E+00	7.4010E-08	3.0320E+17	1.9337E+18
Np-239	4.2607E-01	1.8366E-09	4.6276E+15	4.1190E+19
Pu-238	7.6445E-01	4.4653E-05	1.1299E+20	7.9345E+16
Pu-239	7.2767E-02	1.1707E-03	2.9499E+21	7.5542E+15
Pu-240	1.3189E-01	5.7879E-04	1.4523E+21	1.3712E+16
Pu-241	2.9009E+01	2.8161E-04	7.0369E+20	3.0221E+18
Am-241	2.2944E-02	6.6850E-06	1.6705E+19	2.1785E+15
Cm-242	4.2817E+00	1.2919E-06	3.2149E+18	4.7604E+17
Cm-244	2.8193E-01	3.4849E-06	8.6010E+18	2.9359E+16

## Sprayed Drywell Transport Group Inventory:

Time (h) = 720.0000	Atmosphere	Sump	
Noble gases (atoms)	1.3120E+25	0.0000E+00	
Elemental I (atoms)	3.1036E+19	5.4908E+22	
Organic I (atoms)	5.3858E+19	0.0000E+00	
Aerosols (kg)	1.6163E-01	5.2582E+01	
Dose Effective (Ci/cc) I-131 (Thyroid)			2.8821E-06
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			2.8825E-06
Total I (Ci)			7.7953E+03

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.1971E+24
Elemental I (atoms)	0.0000E+00	1.5665E+19
Organic I (atoms)	0.0000E+00	2.5231E+19
Aerosols (kg)	0.0000E+00	1.5501E-02

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.1971E+24
Elemental I (atoms)	0.0000E+00	1.5665E+19
Organic I (atoms)	0.0000E+00	2.5231E+19
Aerosols (kg)	0.0000E+00	1.5501E-02

## Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.9551E+23
Elemental I (atoms)	0.0000E+00	7.8011E+18
Organic I (atoms)	0.0000E+00	1.2563E+19
Aerosols (kg)	0.0000E+00	7.7128E-03

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.3818E+28
Elemental I (atoms)	0.0000E+00	1.6110E+23

Organic I (atoms) 0.0000E+00 2.7282E+23  
 Aerosols (kg) 0.0000E+00 1.6908E+02

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.3808E+28
Elemental I (atoms)	0.0000E+00	1.6069E+23
Organic I (atoms)	0.0000E+00	2.7216E+23
Aerosols (kg)	0.0000E+00	1.6899E+02

930

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

Time (hr)	Sprayed Drywell I-131 (Curies)	MSIV Failed Control V I-131 (Curies)	Intact Control Volume I-131 (Curies)
0.000	4.4650E+03	0.0000E+00	0.0000E+00
0.033	2.6200E+05	0.0000E+00	0.0000E+00
0.167	1.2153E+06	3.6628E+01	3.6336E+01
0.500	5.2943E+05	1.0490E+02	1.0107E+02
0.667	8.4096E+05	1.4142E+02	1.3500E+02
1.000	8.8113E+05	2.1978E+02	2.0618E+02
1.160	8.8779E+05	2.5389E+02	2.3608E+02
1.410	8.9559E+05	3.0264E+02	2.7757E+02
1.660	9.0135E+05	3.4621E+02	3.1335E+02
1.910	9.0583E+05	3.8508E+02	3.4414E+02
2.000	9.0723E+05	3.9801E+02	3.5414E+02
2.200	1.1305E+05	3.8900E+02	3.4149E+02
2.300	7.8894E+04	3.7964E+02	3.3051E+02
2.600	1.6297E+05	3.5574E+02	3.0257E+02
2.900	1.6484E+05	3.3600E+02	2.7979E+02
3.200	1.4699E+05	3.1726E+02	2.5883E+02
3.500	1.2694E+05	2.9888E+02	2.3895E+02
3.800	1.0916E+05	2.8086E+02	2.2006E+02
4.000	9.8982E+04	2.6911E+02	2.0806E+02
4.300	1.0849E+05	2.5280E+02	1.9175E+02
4.600	1.1191E+05	2.3825E+02	1.7760E+02
4.900	1.1308E+05	2.2508E+02	1.6513E+02
5.200	1.1343E+05	2.1307E+02	1.5408E+02
5.500	1.1348E+05	2.0209E+02	1.4425E+02
5.800	1.1341E+05	1.9205E+02	1.3549E+02
6.100	1.1330E+05	1.8286E+02	1.2770E+02
6.400	1.1318E+05	1.7444E+02	1.2075E+02
6.700	1.1305E+05	1.6673E+02	1.1455E+02
7.000	1.1292E+05	1.5968E+02	1.0903E+02
7.300	1.1279E+05	1.5321E+02	1.0411E+02
7.600	1.1266E+05	1.4729E+02	9.9717E+01
7.900	1.1253E+05	1.4186E+02	9.5799E+01
8.000	1.1249E+05	1.4016E+02	9.4590E+01
8.300	1.1236E+05	1.3533E+02	9.1224E+01
8.600	1.1223E+05	1.3090E+02	8.8220E+01
8.900	1.1210E+05	1.2684E+02	8.5537E+01
9.200	1.1197E+05	1.2312E+02	8.3141E+01

9.500	1.1184E+05	1.1971E+02	8.1000E+01
9.800	1.1171E+05	1.1658E+02	7.9086E+01
10.100	1.1158E+05	1.1371E+02	7.7373E+01
10.400	1.1146E+05	1.1108E+02	7.5841E+01
24.000	1.0575E+05	8.0029E+01	6.0798E+01
48.000	9.6725E+04	7.3049E+01	5.5770E+01
72.000	8.8437E+04	6.6786E+01	5.0993E+01
96.000	8.0841E+04	6.1049E+01	4.6613E+01
240.000	4.7083E+04	3.5556E+01	2.7148E+01
720.000	7.7528E+03	5.8547E+00	4.4702E+00

Time (hr)	Intact Control Volume		
	I-131 (Curies)	I-131 (Curies)	I-131 (Curies)
0.000	0.0000E+00	0.0000E+00	0.0000E+00
0.033	0.0000E+00	0.0000E+00	0.0000E+00
0.167	3.1396E-01	1.8469E+01	4.3559E-02
0.500	3.4945E+00	5.4899E+01	5.6544E-01
0.667	5.4436E+00	7.4927E+01	9.4480E-01
1.000	1.0335E+01	1.1921E+02	2.0021E+00
1.160	1.2897E+01	1.3937E+02	2.6233E+00
1.410	1.6890E+01	1.6927E+02	3.6974E+00
1.660	2.0701E+01	1.9725E+02	4.8601E+00
1.910	2.4230E+01	2.2339E+02	6.0773E+00
2.000	2.5423E+01	2.3236E+02	6.5236E+00
2.200	2.6714E+01	2.3112E+02	7.0810E+00
2.300	2.7126E+01	2.2795E+02	7.3305E+00
2.600	2.7596E+01	2.2009E+02	7.9660E+00
2.900	2.7333E+01	2.1374E+02	8.4681E+00
3.200	2.6640E+01	2.0739E+02	8.8643E+00
3.500	2.5683E+01	2.0075E+02	9.1713E+00
3.800	2.4567E+01	1.9384E+02	9.4020E+00
4.000	2.3771E+01	1.8914E+02	9.5188E+00
4.300	2.2548E+01	1.8243E+02	9.6469E+00
4.600	2.1345E+01	1.7626E+02	9.7287E+00
4.900	2.0200E+01	1.7050E+02	9.7739E+00
5.200	1.9129E+01	1.6506E+02	9.7900E+00
5.500	1.8142E+01	1.5992E+02	9.7828E+00
5.800	1.7238E+01	1.5505E+02	9.7573E+00
6.100	1.6417E+01	1.5044E+02	9.7175E+00
6.400	1.5673E+01	1.4607E+02	9.6666E+00
6.700	1.5002E+01	1.4193E+02	9.6074E+00
7.000	1.4397E+01	1.3800E+02	9.5420E+00
7.300	1.3854E+01	1.3429E+02	9.4722E+00
7.600	1.3367E+01	1.3076E+02	9.3995E+00
7.900	1.2931E+01	1.2742E+02	9.3251E+00
8.000	1.2795E+01	1.2635E+02	9.3000E+00
8.300	1.2408E+01	1.2324E+02	9.2180E+00
8.600	1.2063E+01	1.2029E+02	9.1373E+00
8.900	1.1755E+01	1.1749E+02	9.0583E+00
9.200	1.1481E+01	1.1484E+02	8.9812E+00
9.500	1.1237E+01	1.1232E+02	8.9063E+00
9.800	1.1018E+01	1.0994E+02	8.8336E+00
10.100	1.0822E+01	1.0768E+02	8.7633E+00
10.400	1.0647E+01	1.0553E+02	8.6954E+00
24.000	8.8468E+00	6.8408E+01	7.2718E+00
48.000	8.0362E+00	5.9693E+01	6.4396E+00
72.000	7.1598E+00	5.4271E+01	5.6642E+00

96.000	6.2886E+00	4.9577E+01	4.8993E+00
240.000	3.4954E+00	2.8872E+01	2.6795E+00
720.000	5.1463E-01	4.7541E+00	3.8554E-01

Time (hr)	Environment I-131 (Curies)	Control Room I-131 (Curies)	Unsprayed Drywell I-131 (Curies)
0.000	0.0000E+00	0.0000E+00	1.6446E+00
0.033	0.0000E+00	0.0000E+00	5.6993E+03
0.167	1.6584E-01	4.5896E-04	1.2411E+05
0.500	2.6706E+00	5.9745E-03	2.6443E+05
0.667	4.8751E+00	9.9018E-03	3.3106E+05
1.000	1.1807E+01	9.0392E-03	4.5043E+05
1.160	1.6377E+01	8.9244E-03	4.8753E+05
1.410	2.5104E+01	9.0647E-03	5.2816E+05
1.660	3.5696E+01	9.5250E-03	5.5451E+05
1.910	4.8056E+01	1.0235E-02	5.7179E+05
2.000	5.2919E+01	1.0539E-02	5.7647E+05
2.200	5.9477E+01	1.0116E-02	4.5315E+05
2.300	6.2763E+01	9.9272E-03	3.8196E+05
2.600	7.2550E+01	9.4252E-03	2.5035E+05
2.900	8.2210E+01	9.0023E-03	1.8721E+05
3.200	9.1708E+01	8.6379E-03	1.4917E+05
3.500	1.0101E+02	8.3156E-03	1.2241E+05
3.800	1.1009E+02	8.0239E-03	1.0208E+05
4.000	1.1602E+02	7.8423E-03	9.1023E+04
4.300	1.2471E+02	7.5857E-03	8.1300E+04
4.600	1.3318E+02	7.3464E-03	7.7664E+04
4.900	1.4144E+02	7.1232E-03	7.6270E+04
5.200	1.4950E+02	6.9151E-03	7.5701E+04
5.500	1.5739E+02	6.7213E-03	7.5437E+04
5.800	1.6511E+02	6.5409E-03	7.5285E+04
6.100	1.7268E+02	6.3734E-03	7.5174E+04
6.400	1.8010E+02	6.2181E-03	7.5078E+04
6.700	1.8740E+02	6.0744E-03	7.4988E+04
7.000	1.9459E+02	5.9416E-03	7.4901E+04
7.300	2.0166E+02	5.8190E-03	7.4814E+04
7.600	2.0864E+02	5.7061E-03	7.4727E+04
7.900	2.1553E+02	5.6021E-03	7.4641E+04
8.000	2.1781E+02	5.5694E-03	7.4612E+04
8.300	2.2451E+02	4.9079E-03	7.4526E+04
8.600	2.3113E+02	4.3704E-03	7.4440E+04
8.900	2.3769E+02	3.9332E-03	7.4354E+04
9.200	2.4418E+02	3.5773E-03	7.4268E+04
9.500	2.5062E+02	3.2871E-03	7.4182E+04
9.800	2.5701E+02	3.0501E-03	7.4096E+04
10.100	2.6335E+02	2.8564E-03	7.4010E+04
10.400	2.6965E+02	2.6977E-03	7.3925E+04
24.000	5.3635E+02	1.8506E-03	7.0139E+04
48.000	7.4549E+02	5.3253E-04	6.4149E+04
72.000	9.2184E+02	4.4854E-04	5.8653E+04
96.000	1.0702E+03	3.7735E-04	5.3615E+04
240.000	1.6918E+03	1.2373E-04	3.1226E+04
720.000	2.3779E+03	1.9328E-05	5.1417E+03

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

Time (hr)	Exclusion Area Bounda		Low Population Zone		Control Room	
	Thyroid (rem)	TEDE (rem)	Thyroid (rem)	TEDE (rem)	Thyroid (rem)	TEDE (rem)
0.000	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.033	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.167	1.2124E-01	6.0306E-03	9.2709E-03	4.6116E-04	7.7934E-03	3.1794E-04
0.500	1.9464E+00	1.0285E-01	1.4884E-01	7.8653E-03	3.6921E-01	1.4995E-02
0.667	3.5519E+00	1.9975E-01	2.7162E-01	1.5275E-02	8.5420E-01	3.4812E-02
1.000	8.6285E+00	6.0396E-01	6.5982E-01	4.6185E-02	2.0091E+00	8.3229E-02
1.160	1.1979E+01	9.2944E-01	9.1601E-01	7.1075E-02	2.5367E+00	1.0623E-01
1.410	1.8374E+01	1.6440E+00	1.4051E+00	1.2572E-01	3.3603E+00	1.4412E-01
1.660	2.6127E+01	2.6326E+00	1.9979E+00	2.0131E-01	4.2118E+00	1.8646E-01
1.910	3.5156E+01	3.9098E+00	2.6884E+00	2.9899E-01	5.1173E+00	2.3527E-01
2.000	3.8703E+01	4.4415E+00	2.9596E+00	3.3965E-01	5.4605E+00	2.5475E-01
2.200	4.3483E+01	5.1878E+00	3.1051E+00	3.6236E-01	6.2184E+00	2.9894E-01
2.300	4.5873E+01	5.5739E+00	3.1779E+00	3.7412E-01	6.5859E+00	3.2075E-01
2.600	5.2971E+01	6.7707E+00	3.3940E+00	4.1055E-01	7.6481E+00	3.8530E-01
2.900	5.9949E+01	8.0100E+00	3.6064E+00	4.4827E-01	8.6571E+00	4.4885E-01
3.200	6.6783E+01	9.2738E+00	3.8144E+00	4.8675E-01	9.6207E+00	5.1161E-01
3.500	7.3449E+01	1.0547E+01	4.0173E+00	5.2552E-01	1.0544E+01	5.7364E-01
3.800	7.9931E+01	1.1819E+01	4.2147E+00	5.6422E-01	1.1432E+01	6.3489E-01
4.000	8.4146E+01	1.2660E+01	4.3430E+00	5.8983E-01	1.2005E+01	6.7526E-01
4.300	9.0309E+01	1.3908E+01	4.5306E+00	6.2782E-01	1.2839E+01	7.3500E-01
4.600	9.6290E+01	1.5134E+01	4.7126E+00	6.6513E-01	1.3643E+01	7.9367E-01
4.900	1.0210E+02	1.6333E+01	4.8895E+00	7.0165E-01	1.4420E+01	8.5118E-01
5.200	1.0775E+02	1.7504E+01	5.0616E+00	7.3729E-01	1.5172E+01	9.0744E-01
5.500	1.1326E+02	1.8644E+01	5.2293E+00	7.7199E-01	1.5899E+01	9.6239E-01
5.800	1.1863E+02	1.9752E+01	5.3928E+00	8.0572E-01	1.6604E+01	1.0160E+00
6.100	1.2388E+02	2.0827E+01	5.5525E+00	8.3845E-01	1.7288E+01	1.0682E+00
6.400	1.2901E+02	2.1870E+01	5.7087E+00	8.7018E-01	1.7953E+01	1.1190E+00
6.700	1.3404E+02	2.2879E+01	5.8618E+00	9.0091E-01	1.8600E+01	1.1685E+00
7.000	1.3897E+02	2.3857E+01	6.0118E+00	9.3067E-01	1.9230E+01	1.2166E+00
7.300	1.4381E+02	2.4803E+01	6.1592E+00	9.5947E-01	1.9845E+01	1.2633E+00
7.600	1.4857E+02	2.5718E+01	6.3041E+00	9.8733E-01	2.0446E+01	1.3087E+00
7.900	1.5325E+02	2.6604E+01	6.4467E+00	1.0143E+00	2.1033E+01	1.3529E+00
8.000	1.5480E+02	2.6892E+01	6.4937E+00	1.0231E+00	2.1226E+01	1.3674E+00
8.300	1.5933E+02	2.7738E+01	6.5386E+00	1.0377E+00	2.1767E+01	1.4076E+00
8.600	1.6381E+02	2.8557E+01	6.5830E+00	1.0518E+00	2.2245E+01	1.4426E+00
8.900	1.6822E+02	2.9349E+01	6.6267E+00	1.0654E+00	2.2672E+01	1.4736E+00
9.200	1.7258E+02	3.0116E+01	6.6699E+00	1.0786E+00	2.3057E+01	1.5012E+00
9.500	1.7689E+02	3.0860E+01	6.7126E+00	1.0913E+00	2.3408E+01	1.5261E+00
9.800	1.8116E+02	3.1581E+01	6.7549E+00	1.1036E+00	2.3731E+01	1.5489E+00
10.100	1.8539E+02	3.2280E+01	6.7967E+00	1.1156E+00	2.4031E+01	1.5698E+00
10.400	1.8957E+02	3.2958E+01	6.8382E+00	1.1271E+00	2.4313E+01	1.5893E+00
24.000	3.5949E+02	5.2913E+01	8.5217E+00	1.4520E+00	3.3095E+01	2.1053E+00
48.000	4.8216E+02	6.3008E+01	9.1121E+00	1.5143E+00	3.5820E+01	2.2412E+00
72.000	5.7973E+02	7.0681E+01	9.5816E+00	1.5608E+00	3.7728E+01	2.3364E+00
96.000	6.5944E+02	7.7168E+01	9.9652E+00	1.6000E+00	3.9287E+01	2.4175E+00
240.000	9.8538E+02	1.0426E+02	1.0362E+01	1.6406E+00	4.1826E+01	2.5596E+00
720.000	1.3448E+03	1.3983E+02	1.0800E+01	1.6897E+00	4.4600E+01	2.7827E+00

#####  
Worst Two-Hour Doses  
#####

Exclusion Area Boundary

Time (hr)	Whole Body (rem)	Thyroid (rem)	TEDE (rem)
1.6	6.1340E+00	5.1344E+01	8.5759E+00

**Attachment 13.4 - RADTRAD Output File "QDC39MS03\_spray.o0"**

```
#####
RADTRAD Version 3.03 (Spring 2001) run on 1/27/2020 at 15:08:14
#####

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

```
Plant file          = D:\Projects\RabaioliBrosius\Exelon_RAIs\QDC-0000-N-
1481\Framatone\QDC39MS03_spray.psf
Inventory file      = D:\Projects\RabaioliBrosius\Exelon_RAIs\QDC-0000-N-
1481\Framatone\DQLOCA_ATRIUM_DEF.nif
Release file       = c:\program files
(x86)\radtrad3.03\defaults\bwr_dba.rft
Dose Conversion file = c:\program files
(x86)\radtrad3.03\defaults\fgr11&12.inp
```

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

```
Radtrad 3.03 4/15/2001
Quad Cities MSIV Leakeg - Optima Fuel With 39 GWD/MTU, MSIV Leakage =
100/100/50/0 scfh, 40% Aerosol Settling Velocity, CREV Initiated @ 40
Minutes, CR Unfiltered Inleakage = 4,000 cfm for <0.6667 hrs and 400 cfm
>0.6667 hrs
Nuclide Inventory File:
D:\Projects\RabaioliBrosius\Exelon_RAIs\QDC-0000-N-
1481\Framatone\DQLOCA_ATRIUM_DEF.nif
Plant Power Level:
3.0161E+03
Compartments:
9
Compartment 1:
Sprayed Drywell
3
9.5000E+04
1
0
0
0
0
Compartment 2:
```



MSIV Failed Control Vol 1

3

2.0024E+02

0

0

0

0

0

Compartment 3:

Intact Control Volume 2

3

1.5293E+02

0

0

0

0

0

Compartment 4:

Intact Control Volume 3

3

4.9110E+01

0

0

0

0

0

Compartment 5:

Intact Control Volume 4

3

1.6375E+02

0

0

0

0

0

Compartment 6:

Intact Control Volume 5

3

4.9110E+01

0

0

0

0

0

Compartment 7:

Environment

2

0.0000E+00

0

0

0

0

0

Compartment 8:

Control Room

1

1.8400E+05

0  
0  
0  
0  
0

Compartment 9:  
Unsprayed Drywell

3  
6.3000E+04  
0  
0  
0  
0  
0

Pathways:

13

Pathway 1:

Drywell to MSIV Failed Control Vol 1

1  
2  
2

Pathway 2:

MSIV Failed Control Vol 1 to Environment

2  
7  
2

Pathway 3:

Drywell to Intact Control Volume 2

1  
3  
2

Pathway 4:

Intact Control Volume 2 to Intact Control Volume 3

3  
4  
2

Pathway 5:

Intact Control Volume 3 to Environment

4  
7  
2

Pathway 6:

Drywell to Intact Control Volume 4

1  
5  
2

Pathway 7:

Intact Control Volume 4 to Intact Control Volume 5

5  
6  
2

Pathway 8:

Intact Control Volume 5 to Environment

6  
7  
2

Pathway 9:

Filtered Intake to Control Room

7

8

2

Pathway 10:

Unfiltered Inleakage to Control Room

7

8

2

Pathway 11:

Control Room Exhaust to Environment

8

7

2

Pathway 12:

Sprayed Drywell to Unsprayed Drywell

1

9

2

Pathway 13:

Unsprayed Drywell to Sprayed Drywell

9

1

2

End of Plant Model File

Scenario Description Name:

Plant Model Filename:

Source Term:

1

1 1.0000E+00

c:\program files (x86)\radtrad3.03\defaults\fgr11&12.inp

c:\program files (x86)\radtrad3.03\defaults\bwr\_dba.rft

0.0000E+00

1

9.5000E-01 4.8500E-02 1.5000E-03 1.0000E+00

Overlying Pool:

0

0.0000E+00

0

0

0

0

Compartments:

9

Compartment 1:

1

1

1

0.0000E+00

10

0.0000E+00 0.0000E+00

1.6670E-01 1.5000E+01

1.0000E+00 1.5000E+01

2.0000E+00 1.5000E+01

2.2000E+00 1.5000E+01

2.2500E+00	1.5000E+01
2.3000E+00	1.5000E+01
2.3500E+00	1.5000E+01
4.0000E+00	1.5000E+01
7.2000E+02	0.0000E+00
1	
0.0000E+00	
10	
0.0000E+00	0.0000E+00
1.6670E-01	1.5000E+01
1.0000E+00	1.5000E+01
2.0000E+00	1.5000E+01
2.2000E+00	1.5000E+01
2.2500E+00	1.5000E+01
2.3000E+00	1.5000E+01
2.3500E+00	1.5000E+01
4.0000E+00	1.5000E+01
7.2000E+02	0.0000E+00
1	
0.0000E+00	
0	
0	
0	
0	
0	

Compartment 2:

0  
1  
0  
0  
0  
0  
0  
0  
0  
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

Compartment 5:

0

1  
0  
0  
0  
0  
0  
0  
0  
0

Compartment 6:

0  
1  
0  
0  
0  
0  
0  
0  
0  
0

Compartment 7:

0  
1  
0  
0  
0  
0  
0  
0  
0

Compartment 8:

0  
1  
0  
0  
0  
0  
0  
0  
0

Compartment 9:

0  
1  
0  
0  
0  
0  
0  
0  
0

Pathways:

13

Pathway 1:

0  
0  
0  
0  
0  
1

5  
 0.0000E+00 0.0000E+00 0.0000E+00 0.0000E+00 0.0000E+00  
 3.3300E-02 5.9500E-01 0.0000E+00 0.0000E+00 0.0000E+00  
 2.0000E+00 3.4900E-01 0.0000E+00 0.0000E+00 0.0000E+00  
 2.4000E+01 1.7500E-01 0.0000E+00 0.0000E+00 0.0000E+00  
 7.2000E+02 0.0000E+00 0.0000E+00 0.0000E+00 0.0000E+00

0  
 0  
 0  
 0  
 0  
 0

Pathway 2:

0  
 0  
 0  
 0  
 0  
 1

10

0.0000E+00 0.0000E+00 0.0000E+00 0.0000E+00 0.0000E+00  
 3.3300E-02 1.6670E+00 8.7820E+01 6.8400E+00 0.0000E+00  
 2.0000E+00 9.7900E-01 8.7820E+01 6.8400E+00 0.0000E+00  
 8.0000E+00 9.7900E-01 8.7820E+01 9.1100E+00 0.0000E+00  
 2.4000E+01 4.8900E-01 8.7820E+01 1.5690E+01 0.0000E+00  
 4.8000E+01 4.8900E-01 8.7820E+01 3.1540E+01 0.0000E+00  
 7.2000E+01 4.8900E-01 8.7820E+01 5.2530E+01 0.0000E+00  
 9.6000E+01 4.8900E-01 8.7820E+01 7.2070E+01 0.0000E+00  
 2.4000E+02 4.8900E-01 8.7820E+01 9.7260E+01 0.0000E+00  
 7.2000E+02 0.0000E+00 0.0000E+00 0.0000E+00 0.0000E+00

0  
 0  
 0  
 0  
 0  
 0

Pathway 3:

0  
 0  
 0  
 0  
 0  
 1

5

0.0000E+00 0.0000E+00 0.0000E+00 0.0000E+00 0.0000E+00  
 3.3300E-02 5.9500E-01 0.0000E+00 0.0000E+00 0.0000E+00  
 2.0000E+00 3.4900E-01 0.0000E+00 0.0000E+00 0.0000E+00  
 2.4000E+01 1.7500E-01 0.0000E+00 0.0000E+00 0.0000E+00  
 7.2000E+02 0.0000E+00 0.0000E+00 0.0000E+00 0.0000E+00

0  
 0  
 0  
 0  
 0  
 0

Pathway 4:

0

0  
0  
0  
0  
1  
10

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	1.6670E+00	7.6750E+01	4.1600E+00	0.0000E+00
2.0000E+00	9.7900E-01	7.6750E+01	4.1600E+00	0.0000E+00
8.0000E+00	9.7900E-01	7.6750E+01	5.5700E+00	0.0000E+00
2.4000E+01	4.8900E-01	7.6750E+01	9.7400E+00	0.0000E+00
4.8000E+01	4.8900E-01	7.6750E+01	2.0390E+01	0.0000E+00
7.2000E+01	4.8900E-01	7.6750E+01	3.6240E+01	0.0000E+00
9.6000E+01	4.8900E-01	7.6750E+01	5.4010E+01	0.0000E+00
2.4000E+02	4.8900E-01	7.6750E+01	9.3310E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

0  
0  
0  
0  
0  
0  
0  
Pathway 5:

0  
0  
0  
0  
0  
1  
10

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	1.6670E+00	8.0220E+01	1.4970E+01	0.0000E+00
2.0000E+00	9.7900E-01	8.0220E+01	1.4970E+01	0.0000E+00
8.0000E+00	9.7900E-01	8.0220E+01	1.9630E+01	0.0000E+00
2.4000E+01	4.8900E-01	8.0220E+01	3.2260E+01	0.0000E+00
4.8000E+01	4.8900E-01	8.0220E+01	5.7570E+01	0.0000E+00
7.2000E+01	4.8900E-01	8.0220E+01	8.0730E+01	0.0000E+00
9.6000E+01	4.8900E-01	8.0220E+01	9.2810E+01	0.0000E+00
2.4000E+02	4.8900E-01	8.0220E+01	9.7840E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

0  
0  
0  
0  
0  
0  
0  
Pathway 6:

0  
0  
0  
0  
0  
1  
5

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	2.9700E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	1.7500E-01	0.0000E+00	0.0000E+00	0.0000E+00

2.4000E+01	8.7000E-02	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

0  
0  
0  
0  
0  
0

Pathway 7:

0  
0  
0  
0  
0  
1  
10

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	8.3300E-01	8.9010E+01	4.7500E+00	0.0000E+00
2.0000E+00	4.8900E-01	8.9010E+01	4.7500E+00	0.0000E+00
8.0000E+00	4.8900E-01	8.9010E+01	6.3500E+00	0.0000E+00
2.4000E+01	2.4500E-01	8.9010E+01	1.1060E+01	0.0000E+00
4.8000E+01	2.4500E-01	8.9010E+01	2.2950E+01	0.0000E+00
7.2000E+01	2.4500E-01	8.9010E+01	4.0200E+01	0.0000E+00
9.6000E+01	2.4500E-01	8.9010E+01	5.8780E+01	0.0000E+00
2.4000E+02	2.4500E-01	8.9010E+01	9.4930E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

0  
0  
0  
0  
0

Pathway 8:

0  
0  
0  
0  
0  
1  
10

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	8.3300E-01	8.9030E+01	1.4970E+01	0.0000E+00
2.0000E+00	4.8900E-01	8.9030E+01	1.4970E+01	0.0000E+00
8.0000E+00	4.8900E-01	8.9030E+01	1.9630E+01	0.0000E+00
2.4000E+01	2.4500E-01	8.9030E+01	3.2260E+01	0.0000E+00
4.8000E+01	2.4500E-01	8.9030E+01	5.7570E+01	0.0000E+00
7.2000E+01	2.4500E-01	8.9030E+01	8.0730E+01	0.0000E+00
9.6000E+01	2.4500E-01	8.9030E+01	9.2810E+01	0.0000E+00
2.4000E+02	2.4500E-01	8.9030E+01	9.7840E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

0  
0  
0  
0  
0

Pathway 9:



0				
0				
0				
0				
0				
1				
8				
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
2.0000E+00	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
8.0000E+00	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
2.4000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
9.6000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

0  
0  
0  
0  
0  
0

Pathway 10:

0				
0				
0				
0				
0				
1				
8				
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	4.0000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
8.0000E+00	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
9.6000E+01	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

0  
0  
0  
0  
0  
0

Pathway 11:

0				
0				
0				
0				
0				
1				
8				
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	6.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
8.0000E+00	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00

9.6000E+01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0				
0				
0				
0				
0				
0				

Pathway 12:

0				
0				
0				
0				
0				
1				
2				
0.0000E+00	2.1000E-06	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0				
0				
0				
0				
0				
0				

Pathway 13:

0				
0				
0				
0				
0				
1				
2				
0.0000E+00	2.1000E-06	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0				
0				
0				
0				
0				
0				

Dose Locations:

3

Location 1:

Exclusion Area Boundary

7				
1				
2				
0.0000E+00	1.3600E-03			
7.2000E+02	0.0000E+00			
1				
2				
0.0000E+00	3.5000E-04			
7.2000E+02	0.0000E+00			
0				

Location 2:

Low Population Zone

7

1  
6  
0.0000E+00 1.0400E-04  
2.0000E+00 4.1400E-05  
8.0000E+00 2.6200E-05  
2.4000E+01 9.9600E-06  
9.6000E+01 2.5200E-06  
7.2000E+02 0.0000E+00

1  
4  
0.0000E+00 3.5000E-04  
8.0000E+00 1.8000E-04  
2.4000E+01 2.3000E-04  
7.2000E+02 0.0000E+00

0

Location 3:  
Control Room

8  
0  
1  
2  
0.0000E+00 3.5000E-04  
7.2000E+02 0.0000E+00

1  
4  
0.0000E+00 1.0000E+00  
2.4000E+01 6.0000E-01  
9.6000E+01 4.0000E-01  
7.2000E+02 0.0000E+00

Effective Volume Location:

1  
6  
0.0000E+00 1.0200E-03  
2.0000E+00 8.2300E-04  
8.0000E+00 3.5500E-04  
2.4000E+01 2.3200E-04  
9.6000E+01 1.3800E-04  
7.2000E+02 0.0000E+00

Simulation Parameters:

7  
0.0000E+00 1.0000E-01  
1.0000E+00 1.0000E-02  
2.0000E+00 5.0000E-01  
8.0000E+00 1.0000E+00  
2.4000E+01 2.0000E+00  
9.6000E+01 5.0000E+00  
7.2000E+02 0.0000E+00

Output Filename:

D:\Projects\RabaioliBrosius\Exelon\_RAIs\QDC-0000-N-1481\Framatone\QDC39MS03\_spray.o0

1  
1  
1  
0  
0

End of Scenario File

#####  
 RADTRAD Version 3.03 (Spring 2001) run on 1/27/2020 at 15:08:14  
 #####

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

Number of Nuclides = 60

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

Number of compartments = 9

Compartment information

Compartment number 1 (Source term fraction = 1.0000E+00  
 )

Name: Sprayed Drywell

Compartment volume = 9.5000E+04 (Cubic feet)

Compartment type is Normal

Removal devices within compartment:

Spray(s)

Pathways into and out of compartment 1

Inlet Pathway Number 13: Unsprayed Drywell to Sprayed Drywell

Exit Pathway Number 1: Drywell to MSIV Failed Control Vol 1

Exit Pathway Number 3: Drywell to Intact Control Volume 2

Exit Pathway Number 6: Drywell to Intact Control Volume 4

Exit Pathway Number 12: Sprayed Drywell to Unsprayed Drywell

Compartment number 2

Name: MSIV Failed Control Vol 1

Compartment volume = 2.0024E+02 (Cubic feet)

Compartment type is Normal

Pathways into and out of compartment 2

Inlet Pathway Number 1: Drywell to MSIV Failed Control Vol 1

Exit Pathway Number 2: MSIV Failed Control Vol 1 to Environment

Compartment number 3

Name: Intact Control Volume 2

Compartment volume = 1.5293E+02 (Cubic feet)

Compartment type is Normal

Pathways into and out of compartment 3

Inlet Pathway Number 3: Drywell to Intact Control Volume 2

Exit Pathway Number 4: Intact Control Volume 2 to Intact Control

Volume 3

Compartment number 4

Name: Intact Control Volume 3

Compartment volume = 4.9110E+01 (Cubic feet)

Compartment type is Normal

Pathways into and out of compartment 4

Inlet Pathway Number 4: Intact Control Volume 2 to Intact Control  
 Volume 3

Exit Pathway Number 5: Intact Control Volume 3 to Environment

Compartment number 5

Name: Intact Control Volume 4

Compartment volume = 1.6375E+02 (Cubic feet)

Compartment type is Normal

Pathways into and out of compartment 5

Inlet Pathway Number 6: Drywell to Intact Control Volume 4

Exit Pathway Number 7: Intact Control Volume 4 to Intact Control Volume 5

Compartment number 6

Name: Intact Control Volume 5

Compartment volume = 4.9110E+01 (Cubic feet)

Compartment type is Normal

Pathways into and out of compartment 6

Inlet Pathway Number 7: Intact Control Volume 4 to Intact Control Volume 5

Exit Pathway Number 8: Intact Control Volume 5 to Environment

Compartment number 7

Name: Environment

Compartment type is Environment

Pathways into and out of compartment 7

Inlet Pathway Number 2: MSIV Failed Control Vol 1 to Environment

Inlet Pathway Number 5: Intact Control Volume 3 to Environment

Inlet Pathway Number 8: Intact Control Volume 5 to Environment

Inlet Pathway Number 11: Control Room Exhaust to Environment

Exit Pathway Number 9: Filtered Intake to Control Room

Exit Pathway Number 10: Unfiltered Inleakage to Control Room

Compartment number 8

Name: Control Room

Compartment volume = 1.8400E+05 (Cubic feet)

Compartment type is Control Room

Pathways into and out of compartment 8

Inlet Pathway Number 9: Filtered Intake to Control Room

Inlet Pathway Number 10: Unfiltered Inleakage to Control Room

Exit Pathway Number 11: Control Room Exhaust to Environment

Compartment number 9

Name: Unsprayed Drywell

Compartment volume = 6.3000E+04 (Cubic feet)

Compartment type is Normal

Pathways into and out of compartment 9

Inlet Pathway Number 12: Sprayed Drywell to Unsprayed Drywell

Exit Pathway Number 13: Unsprayed Drywell to Sprayed Drywell

Total number of pathways = 13

#####  
 RADTRAD Version 3.03 (Spring 2001) run on 1/27/2020 at 15:08:14  
 #####

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

Radioactive Decay is enabled  
 Calculation of Daughters is enabled

Release Fractions and Timings

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

Inventory Power = 3016. MWt

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

Te-129	4	8.222E+03	4.176E+03	2.750E-15	5.090E-13	2.090E-11
Te-129m	4	1.664E+03	2.903E+06	3.337E-15	1.563E-10	6.484E-09
Te-131m	4	5.404E+03	1.080E+05	7.463E-14	3.669E-08	1.758E-09
Te-132	4	3.813E+04	2.815E+05	1.030E-14	6.280E-08	2.550E-09
I-131	2	2.666E+04	6.947E+05	1.820E-14	2.920E-07	8.890E-09
I-132	2	3.879E+04	8.280E+03	1.120E-13	1.740E-09	1.030E-10
I-133	2	5.504E+04	7.488E+04	2.940E-14	4.860E-08	1.580E-09
I-134	2	6.100E+04	3.156E+03	1.300E-13	2.880E-10	3.550E-11
I-135	2	5.238E+04	2.380E+04	8.294E-14	8.460E-09	3.320E-10
Xe-133	1	5.272E+04	4.532E+05	1.560E-15	0.000E+00	0.000E+00
Xe-135	1	1.787E+04	3.272E+04	1.190E-14	0.000E+00	0.000E+00
Cs-134	3	6.730E+03	6.507E+07	7.570E-14	1.110E-08	1.250E-08
Cs-136	3	1.837E+03	1.132E+06	1.060E-13	1.730E-09	1.980E-09
Cs-137	3	5.338E+03	9.467E+08	2.725E-14	7.930E-09	8.630E-09
Ba-139	6	4.841E+04	4.962E+03	2.170E-15	2.400E-12	4.640E-11
Ba-140	6	4.874E+04	1.101E+06	8.580E-15	2.560E-10	1.010E-09
La-140	9	5.205E+04	1.450E+05	1.170E-13	6.870E-11	1.310E-09
La-141	9	4.443E+04	1.415E+04	2.390E-15	9.400E-12	1.570E-10
La-142	9	4.343E+04	5.550E+03	1.440E-13	8.740E-12	6.840E-11
Ce-141	8	4.476E+04	2.808E+06	3.430E-15	2.550E-11	2.420E-09
Ce-143	8	4.178E+04	1.188E+05	1.290E-14	6.230E-12	9.160E-10
Ce-144	8	3.846E+04	2.456E+07	2.773E-15	2.920E-10	1.010E-07
Pr-143	9	4.045E+04	1.172E+06	2.100E-17	1.680E-18	2.190E-09
Nd-147	9	1.800E+04	9.487E+05	6.190E-15	1.820E-11	1.850E-09
Np-239	8	5.272E+05	2.035E+05	7.690E-15	7.620E-12	6.780E-10
Pu-238	8	1.379E+02	2.769E+09	4.880E-18	3.860E-10	7.790E-05
Pu-239	8	1.303E+01	7.594E+11	4.240E-18	3.750E-10	8.330E-05
Pu-240	8	2.387E+01	2.063E+11	4.750E-18	3.760E-10	8.330E-05
Pu-241	8	5.272E+03	4.544E+08	7.250E-20	9.150E-12	1.340E-06
Am-241	9	8.653E+00	1.364E+10	8.180E-16	1.600E-09	1.200E-04
Cm-242	9	2.202E+03	1.407E+07	5.690E-18	9.410E-10	4.670E-06
Cm-244	9	1.280E+02	5.715E+08	4.910E-18	1.010E-09	6.700E-05

Nuclide	Daughter	Fraction	Daughter	Fraction	Daughter	Fraction
Kr-85m	Kr-85	0.21	none	0.00	none	0.00
Kr-87	Rb-87	1.00	none	0.00	none	0.00
Kr-88	Rb-88	1.00	none	0.00	none	0.00
Sr-90	Y-90	1.00	none	0.00	none	0.00
Sr-91	Y-91m	0.58	Y-91	0.42	none	0.00
Sr-92	Y-92	1.00	none	0.00	none	0.00
Y-93	Zr-93	1.00	none	0.00	none	0.00
Zr-95	Nb-95m	0.01	Nb-95	0.99	none	0.00
Zr-97	Nb-97m	0.95	Nb-97	0.05	none	0.00
Mo-99	Tc-99m	0.88	Tc-99	0.12	none	0.00
Tc-99m	Tc-99	1.00	none	0.00	none	0.00
Ru-103	Rh-103m	1.00	none	0.00	none	0.00
Ru-105	Rh-105	1.00	none	0.00	none	0.00
Ru-106	Rh-106	1.00	none	0.00	none	0.00
Sb-127	Te-127m	0.18	Te-127	0.82	none	0.00
Sb-129	Te-129m	0.22	Te-129	0.77	none	0.00
Te-127m	Te-127	0.98	none	0.00	none	0.00
Te-129	I-129	1.00	none	0.00	none	0.00
Te-129m	Te-129	0.65	I-129	0.35	none	0.00
Te-131m	Te-131	0.22	I-131	0.78	none	0.00
Te-132	I-132	1.00	none	0.00	none	0.00
I-131	Xe-131m	0.01	none	0.00	none	0.00
I-133	Xe-133m	0.03	Xe-133	0.97	none	0.00

I-135	Xe-135m	0.15	Xe-135	0.85	none	0.00
Xe-135	Cs-135	1.00	none	0.00	none	0.00
Cs-137	Ba-137m	0.95	none	0.00	none	0.00
Ba-140	La-140	1.00	none	0.00	none	0.00
La-141	Ce-141	1.00	none	0.00	none	0.00
Ce-143	Pr-143	1.00	none	0.00	none	0.00
Ce-144	Pr-144m	0.02	Pr-144	0.98	none	0.00
Nd-147	Pm-147	1.00	none	0.00	none	0.00
Np-239	Pu-239	1.00	none	0.00	none	0.00
Pu-238	U-234	1.00	none	0.00	none	0.00
Pu-239	U-235	1.00	none	0.00	none	0.00
Pu-240	U-236	1.00	none	0.00	none	0.00
Pu-241	U-237	0.00	Am-241	1.00	none	0.00
Am-241	Np-237	1.00	none	0.00	none	0.00
Cm-242	Pu-238	1.00	none	0.00	none	0.00
Cm-244	Pu-240	1.00	none	0.00	none	0.00

## Iodine fractions

Aerosol	=	9.5000E-01
Elemental	=	4.8500E-02
Organic	=	1.5000E-03

## COMPARTMENT DATA

Compartment number 1: Sprayed Drywell

## Sprays: Aerosol Removal Data

Time (hr)	Removal Coef. (hr <sup>-1</sup> )
0.0000E+00	0.0000E+00
1.6670E-01	1.5000E+01
1.0000E+00	1.5000E+01
2.0000E+00	1.5000E+01
2.2000E+00	1.5000E+01
2.2500E+00	1.5000E+01
2.3000E+00	1.5000E+01
2.3500E+00	1.5000E+01
4.0000E+00	1.5000E+01
7.2000E+02	0.0000E+00

## Sprays: Elemental Removal Data

Time (hr)	Removal Coef. (hr <sup>-1</sup> )
0.0000E+00	0.0000E+00
1.6670E-01	1.5000E+01
1.0000E+00	1.5000E+01
2.0000E+00	1.5000E+01
2.2000E+00	1.5000E+01
2.2500E+00	1.5000E+01
2.3000E+00	1.5000E+01
2.3500E+00	1.5000E+01
4.0000E+00	1.5000E+01
7.2000E+02	0.0000E+00

Compartment number 2: MSIV Failed Control Vol 1

Compartment number 3: Intact Control Volume 2

Compartment number 4: Intact Control Volume 3



Compartment number 5: Intact Control Volume 4

Compartment number 6: Intact Control Volume 5

Compartment number 7: Environment

Compartment number 8: Control Room

Compartment number 9: Unsprayed Drywell

PATHWAY DATA

Pathway number 1: Drywell to MSIV Failed Control Vol 1

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	5.9500E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	3.4900E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	1.7500E-01	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 2: MSIV Failed Control Vol 1 to Environment

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	1.6670E+00	8.7820E+01	6.8400E+00	0.0000E+00
2.0000E+00	9.7900E-01	8.7820E+01	6.8400E+00	0.0000E+00
8.0000E+00	9.7900E-01	8.7820E+01	9.1100E+00	0.0000E+00
2.4000E+01	4.8900E-01	8.7820E+01	1.5690E+01	0.0000E+00
4.8000E+01	4.8900E-01	8.7820E+01	3.1540E+01	0.0000E+00
7.2000E+01	4.8900E-01	8.7820E+01	5.2530E+01	0.0000E+00
9.6000E+01	4.8900E-01	8.7820E+01	7.2070E+01	0.0000E+00
2.4000E+02	4.8900E-01	8.7820E+01	9.7260E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 3: Drywell to Intact Control Volume 2

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	5.9500E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	3.4900E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	1.7500E-01	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 4: Intact Control Volume 2 to Intact Control Volume 3

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	1.6670E+00	7.6750E+01	4.1600E+00	0.0000E+00
2.0000E+00	9.7900E-01	7.6750E+01	4.1600E+00	0.0000E+00
8.0000E+00	9.7900E-01	7.6750E+01	5.5700E+00	0.0000E+00
2.4000E+01	4.8900E-01	7.6750E+01	9.7400E+00	0.0000E+00
4.8000E+01	4.8900E-01	7.6750E+01	2.0390E+01	0.0000E+00
7.2000E+01	4.8900E-01	7.6750E+01	3.6240E+01	0.0000E+00
9.6000E+01	4.8900E-01	7.6750E+01	5.4010E+01	0.0000E+00
2.4000E+02	4.8900E-01	7.6750E+01	9.3310E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 5: Intact Control Volume 3 to Environment

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	1.6670E+00	8.0220E+01	1.4970E+01	0.0000E+00
2.0000E+00	9.7900E-01	8.0220E+01	1.4970E+01	0.0000E+00
8.0000E+00	9.7900E-01	8.0220E+01	1.9630E+01	0.0000E+00
2.4000E+01	4.8900E-01	8.0220E+01	3.2260E+01	0.0000E+00
4.8000E+01	4.8900E-01	8.0220E+01	5.7570E+01	0.0000E+00
7.2000E+01	4.8900E-01	8.0220E+01	8.0730E+01	0.0000E+00
9.6000E+01	4.8900E-01	8.0220E+01	9.2810E+01	0.0000E+00
2.4000E+02	4.8900E-01	8.0220E+01	9.7840E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 6: Drywell to Intact Control Volume 4

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	2.9700E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	1.7500E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	8.7000E-02	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 7: Intact Control Volume 4 to Intact Control Volume 5

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	8.3300E-01	8.9010E+01	4.7500E+00	0.0000E+00
2.0000E+00	4.8900E-01	8.9010E+01	4.7500E+00	0.0000E+00
8.0000E+00	4.8900E-01	8.9010E+01	6.3500E+00	0.0000E+00
2.4000E+01	2.4500E-01	8.9010E+01	1.1060E+01	0.0000E+00
4.8000E+01	2.4500E-01	8.9010E+01	2.2950E+01	0.0000E+00
7.2000E+01	2.4500E-01	8.9010E+01	4.0200E+01	0.0000E+00
9.6000E+01	2.4500E-01	8.9010E+01	5.8780E+01	0.0000E+00

2.4000E+02	2.4500E-01	8.9010E+01	9.4930E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 8: Intact Control Volume 5 to Environment

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	8.3300E-01	8.9030E+01	1.4970E+01	0.0000E+00
2.0000E+00	4.8900E-01	8.9030E+01	1.4970E+01	0.0000E+00
8.0000E+00	4.8900E-01	8.9030E+01	1.9630E+01	0.0000E+00
2.4000E+01	2.4500E-01	8.9030E+01	3.2260E+01	0.0000E+00
4.8000E+01	2.4500E-01	8.9030E+01	5.7570E+01	0.0000E+00
7.2000E+01	2.4500E-01	8.9030E+01	8.0730E+01	0.0000E+00
9.6000E+01	2.4500E-01	8.9030E+01	9.2810E+01	0.0000E+00
2.4000E+02	2.4500E-01	8.9030E+01	9.7840E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 9: Filtered Intake to Control Room

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
2.0000E+00	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
8.0000E+00	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
2.4000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
9.6000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 10: Unfiltered Inleakage to Control Room

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	4.0000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
8.0000E+00	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
9.6000E+01	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 11: Control Room Exhaust to Environment

Pathway Filter: Removal Data

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

3.3300E-02	6.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
8.0000E+00	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
9.6000E+01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 12: Sprayed Drywell to Unsprayed Drywell

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	2.1000E-06	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 13: Unsprayed Drywell to Sprayed Drywell

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	2.1000E-06	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

LOCATION DATA

Location Exclusion Area Boundary is in compartment 7

Location X/Q Data

Time (hr)	X/Q (s * m <sup>-3</sup> )
0.0000E+00	1.3600E-03
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 Low Population Zone is in compartment 7

Location X/Q Data

Time (hr)	X/Q (s * m <sup>-3</sup> )
0.0000E+00	1.0400E-04
2.0000E+00	4.1400E-05
8.0000E+00	2.6200E-05
2.4000E+01	9.9600E-06
9.6000E+01	2.5200E-06
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
8.0000E+00	1.8000E-04
2.4000E+01	2.3000E-04
7.2000E+02	0.0000E+00

Location Control Room is in compartment 8

## Location X/Q Data

Time (hr)	X/Q ( $s * m^{-3}$ )
0.0000E+00	1.0200E-03
2.0000E+00	8.2300E-04
8.0000E+00	3.5500E-04
2.4000E+01	2.3200E-04
9.6000E+01	1.3800E-04
7.2000E+02	0.0000E+00

## Location Breathing Rate Data

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

## Location Occupancy Factor Data

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

## USER SPECIFIED TIME STEP DATA - SUPPLEMENTAL TIME STEPS

Time	Time step
0.0000E+00	1.0000E-01
1.0000E+00	1.0000E-02
2.0000E+00	5.0000E-01
8.0000E+00	1.0000E+00
2.4000E+01	2.0000E+00
9.6000E+01	5.0000E+00
7.2000E+02	0.0000E+00

#####  
 RADTRAD Version 3.03 (Spring 2001) run on 1/27/2020 at 15:08:14  
 #####

```

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

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

Exclusion Area Boundary Doses:

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

Low Population Zone Doses:

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

Control Room Doses:

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

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =	0.0333	Ci	kg	Atoms	Decay
------------	--------	----	----	-------	-------

Sprayed Drywell Transport Group Inventory:

Time (h) =	0.0333	Atmosphere	Sump	
Noble gases (atoms)		9.5697E+22	0.0000E+00	
Elemental I (atoms)		6.3392E+20	0.0000E+00	
Organic I (atoms)		1.9606E+19	0.0000E+00	
Aerosols (kg)		6.7157E-01	0.0000E+00	
Dose Effective (Ci/cc)		I-131 (Thyroid)		1.4040E-04
Dose Effective (Ci/cc)		I-131 (ICRP2 Thyroid)		1.7955E-04
Total I (Ci)				2.3268E+06

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

		Pathway	
Time (h) =	0.0333	Filtered	Transported

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

Drywell to Intact Control Volume 2 Transport Group Inventory:

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

Drywell to Intact Control Volume 4 Transport Group Inventory:

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

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 0.0333	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.1133E+12
Elemental I (atoms)	0.0000E+00	1.4010E+10
Organic I (atoms)	0.0000E+00	4.3329E+08
Aerosols (kg)	0.0000E+00	1.4831E-11

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 0.0333	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.6916E+01
Elemental I (atoms)	0.0000E+00	3.1102E-01
Organic I (atoms)	0.0000E+00	9.6190E-03
Aerosols (kg)	0.0000E+00	3.2924E-22

Exclusion Area Boundary Doses:

Time (h) = 0.1667	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.2094E-03	1.2810E-01	6.3717E-03
Accumulated dose (rem)	1.2094E-03	1.2810E-01	6.3717E-03

Low Population Zone Doses:

Time (h) = 0.1667	Whole Body	Thyroid	TEDE
Delta dose (rem)	9.2486E-05	9.7956E-03	4.8724E-04
Accumulated dose (rem)	9.2486E-05	9.7956E-03	4.8724E-04

Control Room Doses:

Time (h) = 0.1667	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.9580E-06	8.2000E-03	3.3453E-04

Accumulated dose (rem) 3.9580E-06 8.2000E-03 3.3453E-04

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =	Ci	kg	Atoms	Decay
0.1667				
Kr-85	2.2836E+04	5.8205E-02	4.1237E+23	3.4417E+17
Kr-85m	3.3138E+05	4.0267E-05	2.8529E+20	5.0438E+18
Kr-87	6.2251E+05	2.1977E-05	1.5212E+20	9.7154E+18
Kr-88	9.0902E+05	7.2494E-05	4.9610E+20	1.3915E+19
Rb-86	2.5663E+03	3.1540E-05	2.2086E+20	3.8682E+16
I-131	1.3394E+06	1.0804E-02	4.9666E+22	2.0191E+19
I-132	1.8846E+06	1.8258E-04	8.3299E+20	2.8834E+19
I-133	2.7516E+06	2.4290E-03	1.0998E+22	4.1559E+19
I-134	2.6883E+06	1.0077E-04	4.5288E+20	4.2628E+19
I-135	2.5880E+06	7.3693E-04	3.2873E+21	3.9266E+19
Xe-133	2.6503E+06	1.4159E-02	6.4111E+22	3.9937E+19
Xe-135	9.1520E+05	3.5838E-04	1.5987E+21	1.3616E+19
Cs-134	3.3837E+05	2.6153E-01	1.1753E+24	5.0998E+18
Cs-136	9.2310E+04	1.2595E-03	5.5771E+21	1.3915E+18
Cs-137	2.6836E+05	3.0853E+00	1.3562E+25	4.0446E+18

Sprayed Drywell Transport Group Inventory:

Time (h) =	Atmosphere	Sump	
0.1667			
Noble gases (atoms)	4.7902E+23	0.0000E+00	
Elemental I (atoms)	3.1640E+21	0.0000E+00	
Organic I (atoms)	9.7857E+19	0.0000E+00	
Aerosols (kg)	3.3616E+00	0.0000E+00	
Dose Effective (Ci/cc) I-131 (Thyroid)			7.0118E-04
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			8.9366E-04
Total I (Ci)			1.1252E+07

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

Time (h) =	Pathway	
	Filtered	Transported
0.1667		
Noble gases (atoms)	0.0000E+00	1.4406E+19
Elemental I (atoms)	0.0000E+00	9.5341E+16
Organic I (atoms)	0.0000E+00	2.9487E+15
Aerosols (kg)	0.0000E+00	1.0109E-04

Drywell to Intact Control Volume 2 Transport Group Inventory:

Time (h) =	Pathway	
	Filtered	Transported
0.1667		
Noble gases (atoms)	0.0000E+00	1.4406E+19
Elemental I (atoms)	0.0000E+00	9.5341E+16
Organic I (atoms)	0.0000E+00	2.9487E+15
Aerosols (kg)	0.0000E+00	1.0109E-04

Drywell to Intact Control Volume 4 Transport Group Inventory:

Time (h) =	Pathway	
	Filtered	Transported
0.1667		
Noble gases (atoms)	0.0000E+00	7.1907E+18
Elemental I (atoms)	0.0000E+00	4.7590E+16
Organic I (atoms)	0.0000E+00	1.4719E+15
Aerosols (kg)	0.0000E+00	5.0462E-05



## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 0.1667	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.2957E+13
Elemental I (atoms)	0.0000E+00	3.5051E+11
Organic I (atoms)	0.0000E+00	1.0840E+10
Aerosols (kg)	0.0000E+00	3.7163E-10

## Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 0.1667	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.8853E+03
Elemental I (atoms)	0.0000E+00	3.8942E+01
Organic I (atoms)	0.0000E+00	1.2044E+00
Aerosols (kg)	0.0000E+00	4.1301E-20

## Exclusion Area Boundary Doses:

Time (h) = 0.5000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.6896E-02	1.9789E+00	1.0585E-01
Accumulated dose (rem)	2.8106E-02	2.1070E+00	1.1222E-01

## Low Population Zone Doses:

Time (h) = 0.5000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.0568E-03	1.5132E-01	8.0944E-03
Accumulated dose (rem)	2.1493E-03	1.6112E-01	8.5817E-03

## Control Room Doses:

Time (h) = 0.5000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.3585E-04	3.9096E-01	1.5881E-02
Accumulated dose (rem)	2.3981E-04	3.9916E-01	1.6215E-02

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 0.5000	Ci	kg	Atoms	Decay
Kr-85	6.8483E+04	1.7455E-01	1.2367E+24	2.6550E+18
Kr-85m	9.4383E+05	1.1469E-04	8.1255E+20	3.7608E+19
Kr-87	1.5567E+06	5.4958E-05	3.8042E+20	6.6575E+19
Kr-88	2.5131E+06	2.0042E-04	1.3715E+21	1.0175E+20
Rb-86	1.0362E+03	1.2735E-05	8.9173E+19	9.1914E+16
I-131	5.4573E+05	4.4020E-03	2.0236E+22	4.8130E+19
I-132	7.6381E+05	7.3997E-05	3.3759E+20	6.8414E+19
I-133	1.1099E+06	9.7976E-04	4.4363E+21	9.8692E+19
I-134	8.4243E+05	3.1579E-05	1.4192E+20	9.2551E+19
I-135	1.0193E+06	2.9024E-04	1.2947E+21	9.2425E+19
Xe-133	7.9393E+06	4.2415E-02	1.9205E+23	3.0796E+20
Xe-135	2.7406E+06	1.0732E-03	4.7873E+21	1.0616E+20
Cs-134	1.3669E+05	1.0565E-01	4.7479E+23	1.2120E+19
Cs-136	3.7263E+04	5.0843E-04	2.2513E+21	3.3060E+18
Cs-137	1.0841E+05	1.2463E+00	5.4786E+24	9.6124E+18

## Sprayed Drywell Transport Group Inventory:

Time (h) =	0.5000	Atmosphere	Sump
Noble gases (atoms)	1.4361E+24	0.0000E+00	
Elemental I (atoms)	1.2704E+21	8.1376E+21	
Organic I (atoms)	2.9149E+20	0.0000E+00	
Aerosols (kg)	1.3579E+00	8.6605E+00	
Dose Effective (Ci/cc)	I-131 (Thyroid)		2.8452E-04
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		3.6025E-04
Total I (Ci)			4.2811E+06

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.3436E+20
Elemental I (atoms)	0.0000E+00	2.9921E+17
Organic I (atoms)	0.0000E+00	2.7386E+16
Aerosols (kg)	0.0000E+00	3.1806E-04

Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.3436E+20
Elemental I (atoms)	0.0000E+00	2.9921E+17
Organic I (atoms)	0.0000E+00	2.7386E+16
Aerosols (kg)	0.0000E+00	3.1806E-04

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	6.7065E+19
Elemental I (atoms)	0.0000E+00	1.4935E+17
Organic I (atoms)	0.0000E+00	1.3670E+16
Aerosols (kg)	0.0000E+00	1.5876E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.7631E+14
Elemental I (atoms)	0.0000E+00	1.0700E+12
Organic I (atoms)	0.0000E+00	9.7090E+10
Aerosols (kg)	0.0000E+00	1.1374E-09

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.5878E+05
Elemental I (atoms)	0.0000E+00	5.4739E+02
Organic I (atoms)	0.0000E+00	3.2332E+01
Aerosols (kg)	0.0000E+00	5.8313E-19

Exclusion Area Boundary Doses:

Time (h) =	0.6667	Whole Body	Thyroid	TEDE
------------	--------	------------	---------	------

Delta dose (rem)	3.6296E-02	1.7224E+00	1.0648E-01
Accumulated dose (rem)	6.4401E-02	3.8294E+00	2.1870E-01

## Low Population Zone Doses:

Time (h) =	0.6667	Whole Body	Thyroid	TEDE
Delta dose (rem)		2.7755E-03	1.3172E-01	8.1427E-03
Accumulated dose (rem)		4.9248E-03	2.9284E-01	1.6724E-02

## Control Room Doses:

Time (h) =	0.6667	Whole Body	Thyroid	TEDE
Delta dose (rem)		4.1593E-04	5.2366E-01	2.1402E-02
Accumulated dose (rem)		6.5574E-04	9.2282E-01	3.7617E-02

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =	Ci	kg	Atoms	Decay
Co-58	4.7021E+01	1.4787E-06	1.5354E+19	9.4786E+14
Co-60	5.6293E+01	4.9800E-05	4.9983E+20	1.1347E+15
Kr-85	2.1310E+05	5.4316E-01	3.8482E+24	6.6161E+18
Kr-85m	2.8621E+06	3.4779E-04	2.4640E+21	9.1447E+19
Kr-87	4.4233E+06	1.5616E-04	1.0809E+21	1.5234E+20
Kr-88	7.5083E+06	5.9878E-04	4.0977E+21	2.4397E+20
Rb-86	1.3402E+03	1.6471E-05	1.1534E+20	1.2105E+17
Sr-89	6.3779E+04	2.1953E-03	1.4855E+22	1.2857E+18
Sr-90	1.0036E+04	7.3572E-02	4.9229E+23	2.0230E+17
Sr-91	7.7096E+04	2.1268E-05	1.4075E+20	1.5632E+18
Sr-92	7.2240E+04	5.7473E-06	3.7621E+19	1.4864E+18
Y-90	1.1412E+02	2.0976E-07	1.4035E+18	2.1171E+15
Y-91	8.2547E+02	3.3660E-05	2.2275E+20	1.6613E+16
Y-92	2.2412E+03	2.3292E-07	1.5246E+18	2.1130E+16
Y-93	6.2666E+02	1.8783E-07	1.2163E+18	1.2701E+16
Zr-95	1.1746E+03	5.4674E-05	3.4658E+20	2.3677E+16
Zr-97	1.1115E+03	5.8141E-07	3.6096E+18	2.2478E+16
Nb-95	1.1749E+03	3.0046E-05	1.9047E+20	2.3682E+16
Mo-99	1.5293E+04	3.1886E-05	1.9396E+20	3.0852E+17
Tc-99m	1.3659E+04	2.5977E-06	1.5802E+19	2.7403E+17
Ru-103	1.3252E+04	4.1061E-04	2.4007E+21	2.6714E+17
Ru-105	8.3819E+03	1.2469E-06	7.1516E+18	1.7108E+17
Ru-106	5.7825E+03	1.7284E-03	9.8195E+21	1.1656E+17
Rh-105	8.7114E+03	1.0321E-05	5.9194E+19	1.7546E+17
Sb-127	1.4552E+04	5.4492E-05	2.5839E+20	2.9351E+17
Sb-129	4.7837E+04	8.5068E-06	3.9712E+19	9.7675E+17
Te-127	1.4519E+04	5.5016E-06	2.6088E+19	2.9177E+17
Te-127m	2.4886E+03	2.6383E-04	1.2510E+21	5.0162E+16
Te-129	4.9260E+04	2.3522E-06	1.0981E+19	9.7448E+17
Te-129m	1.0240E+04	3.3992E-04	1.5869E+21	2.0641E+17
Te-131m	3.2740E+04	4.1059E-05	1.8875E+20	6.6118E+17
Te-132	2.3319E+05	7.6811E-04	3.5043E+21	4.7039E+18
I-131	8.7069E+05	7.0231E-03	3.2285E+22	6.6791E+19
I-132	1.2343E+06	1.1958E-04	5.4556E+20	9.5028E+19
I-133	1.7618E+06	1.5552E-03	7.0420E+21	1.3655E+20
I-134	1.1786E+06	4.4182E-05	1.9856E+20	1.1952E+20
I-135	1.5988E+06	4.5526E-04	2.0308E+21	1.2698E+20
Xe-133	2.4706E+07	1.3199E-01	5.9763E+23	7.6730E+20
Xe-135	8.6828E+06	3.4001E-03	1.5167E+22	2.6753E+20

Cs-134	1.7684E+05	1.3668E-01	6.1425E+23	1.5965E+19
Cs-136	4.8191E+04	6.5753E-04	2.9116E+21	4.3539E+18
Cs-137	1.4025E+05	1.6124E+00	7.0878E+24	1.2661E+19
Ba-139	8.5189E+04	5.2081E-06	2.2564E+19	1.7882E+18
Ba-140	1.1976E+05	1.6358E-03	7.0366E+21	2.4145E+18
La-140	1.4796E+03	2.6620E-06	1.1451E+19	2.6351E+16
La-141	9.7204E+02	1.7188E-07	7.3410E+17	1.9873E+16
La-142	7.9201E+02	5.5327E-08	2.3464E+17	1.6553E+16
Ce-141	2.7535E+03	9.6635E-05	4.1273E+20	5.5503E+16
Ce-143	2.5344E+03	3.8163E-06	1.6072E+19	5.1172E+16
Ce-144	2.3660E+03	7.4181E-04	3.1023E+21	4.7693E+16
Pr-143	9.9576E+02	1.4787E-05	6.2274E+19	2.0065E+16
Nd-147	4.4226E+02	5.4668E-06	2.2396E+19	8.9167E+15
Np-239	3.2168E+04	1.3866E-04	3.4939E+20	6.4906E+17
Pu-238	8.4853E+00	4.9564E-04	1.2541E+21	1.7104E+14
Pu-239	8.0171E-01	1.2898E-02	3.2500E+22	1.6160E+13
Pu-240	1.4687E+00	6.4453E-03	1.6173E+22	2.9604E+13
Pu-241	3.2432E+02	3.1484E-03	7.8672E+21	6.5375E+15
Am-241	2.1297E-01	6.2051E-05	1.5505E+20	4.2928E+12
Cm-242	5.4170E+01	1.6344E-05	4.0673E+19	1.0919E+15
Cm-244	3.1495E+00	3.8929E-05	9.6080E+19	6.3485E+13

## Sprayed Drywell Transport Group Inventory:

Time (h) =	0.6667	Atmosphere	Sump	
Noble gases (atoms)	4.4686E+24	0.0000E+00		
Elemental I (atoms)	2.0231E+21	1.2654E+22		
Organic I (atoms)	4.5211E+20	0.0000E+00		
Aerosols (kg)	1.8638E+00	1.2952E+01		
Dose Effective (Ci/cc)	I-131 (Thyroid)		4.5305E-04	
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		5.7218E-04	
Total I (Ci)			6.6443E+06	

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

		Pathway	
Time (h) =	0.6667	Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.1932E+20	
Elemental I (atoms)	0.0000E+00	4.1236E+17	
Organic I (atoms)	0.0000E+00	5.0704E+16	
Aerosols (kg)	0.0000E+00	4.2557E-04	

## Drywell to Intact Control Volume 2 Transport Group Inventory:

		Pathway	
Time (h) =	0.6667	Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.1932E+20	
Elemental I (atoms)	0.0000E+00	4.1236E+17	
Organic I (atoms)	0.0000E+00	5.0704E+16	
Aerosols (kg)	0.0000E+00	4.2557E-04	

## Drywell to Intact Control Volume 4 Transport Group Inventory:

		Pathway	
Time (h) =	0.6667	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.5939E+20	
Elemental I (atoms)	0.0000E+00	2.0584E+17	
Organic I (atoms)	0.0000E+00	2.5309E+16	

Aerosols (kg) 0.0000E+00 2.1243E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 0.6667	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.1291E+15
Elemental I (atoms)	0.0000E+00	1.4694E+12
Organic I (atoms)	0.0000E+00	1.7939E+11
Aerosols (kg)	0.0000E+00	1.5168E-09

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 0.6667	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.0773E+05
Elemental I (atoms)	0.0000E+00	9.6466E+02
Organic I (atoms)	0.0000E+00	7.7240E+01
Aerosols (kg)	0.0000E+00	1.0240E-18

Exclusion Area Boundary Doses:

Time (h) = 1.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.1163E-01	5.4001E+00	4.5119E-01
Accumulated dose (rem)	2.7603E-01	9.2295E+00	6.6989E-01

Low Population Zone Doses:

Time (h) = 1.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.6184E-02	4.1295E-01	3.4503E-02
Accumulated dose (rem)	2.1108E-02	7.0579E-01	5.1227E-02

Control Room Doses:

Time (h) = 1.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.6578E-03	1.2429E+00	5.2159E-02
Accumulated dose (rem)	2.3136E-03	2.1658E+00	8.9776E-02

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 1.0000	Ci	kg	Atoms	Decay
Co-58	5.1188E+01	1.6098E-06	1.6714E+19	3.2008E+15
Co-60	6.1289E+01	5.4219E-05	5.4419E+20	3.8321E+15
Kr-85	5.0218E+05	1.2800E+00	9.0685E+24	2.4291E+19
Kr-85m	6.4058E+06	7.7839E-04	5.5148E+21	3.2212E+20
Kr-87	8.6921E+06	3.0686E-04	2.1241E+21	4.8424E+20
Kr-88	1.6311E+07	1.3008E-03	8.9019E+21	8.3920E+20
Rb-86	1.3665E+03	1.6794E-05	1.1760E+20	1.8161E+17
Sr-89	6.9427E+04	2.3897E-03	1.6170E+22	4.3415E+18
Sr-90	1.0927E+04	8.0102E-02	5.3599E+23	6.8318E+17
Sr-91	8.1922E+04	2.2599E-05	1.4956E+20	5.2126E+18
Sr-92	7.2225E+04	5.7461E-06	3.7613E+19	4.8036E+18
Y-90	1.2779E+02	2.3488E-07	1.5716E+18	7.2218E+15
Y-91	8.9913E+02	3.6663E-05	2.4263E+20	5.6111E+16
Y-92	2.7414E+03	2.8490E-07	1.8649E+18	7.9806E+16
Y-93	6.6686E+02	1.9988E-07	1.2943E+18	4.2387E+16
Zr-95	1.2786E+03	5.9518E-05	3.7729E+20	7.9954E+16

Zr-97	1.1937E+03	6.2442E-07	3.8766E+18	7.5372E+16
Nb-95	1.2792E+03	3.2713E-05	2.0737E+20	7.9978E+16
Mo-99	1.6592E+04	3.4595E-05	2.1044E+20	1.0400E+18
Tc-99m	1.4866E+04	2.8271E-06	1.7197E+19	9.2494E+17
Ru-103	1.4425E+04	4.4694E-04	2.6132E+21	9.0206E+17
Ru-105	8.6631E+03	1.2888E-06	7.3916E+18	5.6239E+17
Ru-106	6.2956E+03	1.8818E-03	1.0691E+22	3.9364E+17
Rh-105	9.4808E+03	1.1233E-05	6.4423E+19	5.9246E+17
Sb-127	1.5804E+04	5.9180E-05	2.8062E+20	9.8993E+17
Sb-129	4.9371E+04	8.7795E-06	4.0986E+19	3.2084E+18
Te-127	1.5805E+04	5.9888E-06	2.8398E+19	9.8503E+17
Te-127m	2.7094E+03	2.8724E-04	1.3621E+21	1.6940E+17
Te-129	5.2538E+04	2.5087E-06	1.1711E+19	3.2535E+18
Te-129m	1.1149E+04	3.7009E-04	1.7277E+21	6.9708E+17
Te-131m	3.5373E+04	4.4360E-05	2.0393E+20	2.2239E+18
Te-132	2.5314E+05	8.3381E-04	3.8040E+21	1.5861E+19
I-131	9.0500E+05	7.2999E-03	3.3558E+22	1.0675E+20
I-132	1.2778E+06	1.2379E-04	5.6477E+20	1.5199E+20
I-133	1.8129E+06	1.6003E-03	7.2461E+21	2.1699E+20
I-134	9.4225E+05	3.5321E-05	1.5874E+20	1.6707E+20
I-135	1.6064E+06	4.5741E-04	2.0404E+21	1.9912E+20
Xe-133	5.8174E+07	3.1079E-01	1.4072E+24	2.8158E+21
Xe-135	2.0601E+07	8.0669E-03	3.5985E+22	9.9382E+20
Cs-134	1.8040E+05	1.3943E-01	6.2662E+23	2.3957E+19
Cs-136	4.9126E+04	6.7029E-04	2.9681E+21	6.5311E+18
Cs-137	1.4308E+05	1.6449E+00	7.2307E+24	1.9000E+19
Ba-139	7.8437E+04	4.7954E-06	2.0776E+19	5.5445E+18
Ba-140	1.3029E+05	1.7797E-03	7.6554E+21	8.1507E+18
La-140	1.6776E+03	3.0181E-06	1.2983E+19	9.0345E+16
La-141	9.9789E+02	1.7645E-07	7.5363E+17	6.5099E+16
La-142	7.4231E+02	5.1855E-08	2.1991E+17	5.1782E+16
Ce-141	2.9977E+03	1.0521E-04	4.4934E+20	1.8744E+17
Ce-143	2.7401E+03	4.1261E-06	1.7376E+19	1.7218E+17
Ce-144	2.5759E+03	8.0763E-04	3.3775E+21	1.6106E+17
Pr-143	1.0843E+03	1.6102E-05	6.7808E+19	6.7763E+16
Nd-147	4.8109E+02	5.9469E-06	2.4362E+19	3.0099E+16
Np-239	3.4880E+04	1.5035E-04	3.7885E+20	2.1873E+18
Pu-238	9.2384E+00	5.3964E-04	1.3655E+21	5.7763E+14
Pu-239	8.7291E-01	1.4044E-02	3.5386E+22	5.4576E+13
Pu-240	1.5990E+00	7.0174E-03	1.7608E+22	9.9979E+13
Pu-241	3.5311E+02	3.4278E-03	8.5654E+21	2.2078E+16
Am-241	2.3188E-01	6.7562E-05	1.6882E+20	1.4498E+13
Cm-242	5.8975E+01	1.7794E-05	4.4280E+19	3.6876E+15
Cm-244	3.4290E+00	4.2384E-05	1.0461E+20	2.1440E+14

## Sprayed Drywell Transport Group Inventory:

Time (h) =	1.0000	Atmosphere	Sump	
Noble gases (atoms)	1.0528E+25	0.0000E+00		
Elemental I (atoms)	2.0788E+21	2.3023E+22		
Organic I (atoms)	7.7039E+20	0.0000E+00		
Aerosols (kg)	1.9087E+00	2.2452E+01		
Dose Effective (Ci/cc)	I-131 (Thyroid)		4.6906E-04	
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		5.8933E-04	
Total I (Ci)			6.5443E+06	

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 1.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.2586E+21
Elemental I (atoms)	0.0000E+00	6.7212E+17
Organic I (atoms)	0.0000E+00	1.2738E+17
Aerosols (kg)	0.0000E+00	6.6358E-04

Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 1.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.2586E+21
Elemental I (atoms)	0.0000E+00	6.7212E+17
Organic I (atoms)	0.0000E+00	1.2738E+17
Aerosols (kg)	0.0000E+00	6.6358E-04

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 1.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	6.2825E+20
Elemental I (atoms)	0.0000E+00	3.3550E+17
Organic I (atoms)	0.0000E+00	6.3581E+16
Aerosols (kg)	0.0000E+00	3.3123E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 1.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.4443E+15
Elemental I (atoms)	0.0000E+00	2.3862E+12
Organic I (atoms)	0.0000E+00	4.5000E+11
Aerosols (kg)	0.0000E+00	2.3569E-09

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 1.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.1162E+06
Elemental I (atoms)	0.0000E+00	2.2394E+03
Organic I (atoms)	0.0000E+00	2.7807E+02
Aerosols (kg)	0.0000E+00	2.3166E-18

Exclusion Area Boundary Doses:

Time (h) = 2.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.1604E+00	3.1937E+01	4.6709E+00
Accumulated dose (rem)	3.4364E+00	4.1166E+01	5.3408E+00

Low Population Zone Doses:

Time (h) = 2.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.4168E-01	2.4422E+00	3.5718E-01
Accumulated dose (rem)	2.6278E-01	3.1480E+00	4.0841E-01

Control Room Doses:

Time (h) =	2.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		2.9229E-02	3.6948E+00	1.8777E-01
Accumulated dose (rem)		3.1543E-02	5.8606E+00	2.7754E-01

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =	Ci	kg	Atoms	Decay
Co-58	5.1195E+01	1.6100E-06	1.6717E+19	1.0021E+16
Co-60	6.1322E+01	5.4249E-05	5.4449E+20	1.2000E+16
Kr-85	1.3690E+06	3.4893E+00	2.4721E+25	1.4950E+20
Kr-85m	1.4959E+07	1.8177E-03	1.2879E+22	1.7842E+21
Kr-87	1.3738E+07	4.8502E-04	3.3573E+21	2.0853E+21
Kr-88	3.4836E+07	2.7781E-03	1.9012E+22	4.3801E+21
Rb-86	1.3646E+03	1.6770E-05	1.1743E+20	3.6351E+17
Sr-89	6.9426E+04	2.3897E-03	1.6170E+22	1.3591E+19
Sr-90	1.0933E+04	8.0147E-02	5.3628E+23	2.1393E+18
Sr-91	7.6200E+04	2.1021E-05	1.3911E+20	1.5741E+19
Sr-92	5.5956E+04	4.4517E-06	2.9140E+19	1.3297E+19
Y-90	1.2121E+02	2.2280E-07	1.4908E+18	2.3267E+16
Y-91	8.9831E+02	3.6630E-05	2.4241E+20	1.7577E+17
Y-92	1.6534E+03	1.7183E-07	1.1247E+18	3.0818E+17
Y-93	6.2297E+02	1.8672E-07	1.2091E+18	1.2828E+17
Zr-95	1.2787E+03	5.9524E-05	3.7733E+20	2.5032E+17
Zr-97	1.1464E+03	5.9966E-07	3.7229E+18	2.3123E+17
Nb-95	1.2799E+03	3.2731E-05	2.0748E+20	2.5045E+17
Mo-99	1.6428E+04	3.4252E-05	2.0835E+20	3.2397E+18
Tc-99m	1.4837E+04	2.8217E-06	1.7165E+19	2.9027E+18
Ru-103	1.4422E+04	4.4686E-04	2.6127E+21	2.8237E+18
Ru-105	7.4151E+03	1.1031E-06	6.3267E+18	1.6313E+18
Ru-106	6.2986E+03	1.8827E-03	1.0696E+22	1.2326E+18
Rh-105	9.4577E+03	1.1205E-05	6.4265E+19	1.8542E+18
Sb-127	1.5695E+04	5.8771E-05	2.7868E+20	3.0883E+18
Sb-129	4.2075E+04	7.4822E-06	3.4929E+19	9.2873E+18
Te-127	1.5797E+04	5.9858E-06	2.8384E+19	3.0895E+18
Te-127m	2.7110E+03	2.8741E-04	1.3628E+21	5.3049E+17
Te-129	4.7922E+04	2.2883E-06	1.0682E+19	9.9355E+18
Te-129m	1.1154E+04	3.7027E-04	1.7285E+21	2.1829E+18
Te-131m	3.4584E+04	4.3371E-05	1.9938E+20	6.8840E+18
Te-132	2.5104E+05	8.2691E-04	3.7726E+21	4.9448E+19
I-131	9.2234E+05	7.4397E-03	3.4201E+22	2.2848E+20
I-132	1.3148E+06	1.2738E-04	5.8113E+20	3.2591E+20
I-133	1.7924E+06	1.5823E-03	7.1644E+21	4.5716E+20
I-134	4.3685E+05	1.6376E-05	7.3595E+19	2.5467E+20
I-135	1.4786E+06	4.2103E-04	1.8782E+21	4.0451E+20
Xe-133	1.5817E+08	8.4501E-01	3.8261E+24	1.7299E+22
Xe-135	5.6620E+07	2.2171E-02	9.8903E+22	6.1649E+21
Cs-134	1.8042E+05	1.3945E-01	6.2668E+23	4.7989E+19
Cs-136	4.9024E+04	6.6890E-04	2.9619E+21	1.3068E+19
Cs-137	1.4310E+05	1.6452E+00	7.2316E+24	3.8061E+19
Ba-139	4.7464E+04	2.9017E-06	1.2572E+19	1.3760E+19
Ba-140	1.3007E+05	1.7766E-03	7.6423E+21	2.5495E+19
La-140	1.5513E+03	2.7910E-06	1.2005E+19	2.9516E+17
La-141	8.3700E+02	1.4800E-07	6.3212E+17	1.8702E+17
La-142	4.7376E+02	3.3095E-08	1.4036E+17	1.3146E+17
Ce-141	2.9988E+03	1.0525E-04	4.4951E+20	5.8691E+17
Ce-143	2.6846E+03	4.0426E-06	1.7024E+19	5.3354E+17
Ce-144	2.5771E+03	8.0799E-04	3.3790E+21	5.0433E+17



Pr-143	1.0847E+03	1.6108E-05	6.7833E+19	2.1223E+17
Nd-147	4.8009E+02	5.9345E-06	2.4312E+19	9.4130E+16
Np-239	3.4474E+04	1.4860E-04	3.7444E+20	6.8074E+18
Pu-238	9.2437E+00	5.3994E-04	1.3662E+21	1.8088E+15
Pu-239	8.7350E-01	1.4053E-02	3.5410E+22	1.7092E+14
Pu-240	1.5999E+00	7.0212E-03	1.7618E+22	3.1308E+14
Pu-241	3.5330E+02	3.4297E-03	8.5701E+21	6.9136E+16
Am-241	2.3204E-01	6.7606E-05	1.6893E+20	4.5402E+13
Cm-242	5.8997E+01	1.7801E-05	4.4297E+19	1.1546E+16
Cm-244	3.4309E+00	4.2407E-05	1.0467E+20	6.7137E+14

## Sprayed Drywell Transport Group Inventory:

Time (h) =	2.0000	Atmosphere	Sump	
Noble gases (atoms)	2.8682E+25	0.0000E+00		
Elemental I (atoms)	2.0495E+21	5.3987E+22		
Organic I (atoms)	1.7048E+21	0.0000E+00		
Aerosols (kg)	1.9088E+00	5.1086E+01		
Dose Effective (Ci/cc)	I-131 (Thyroid)		4.7276E-04	
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		5.8708E-04	
Total I (Ci)			5.9450E+06	

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	8.6273E+21
Elemental I (atoms)	0.0000E+00	1.4479E+18
Organic I (atoms)	0.0000E+00	5.9342E+17
Aerosols (kg)	0.0000E+00	1.3809E-03

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	8.6273E+21
Elemental I (atoms)	0.0000E+00	1.4479E+18
Organic I (atoms)	0.0000E+00	5.9342E+17
Aerosols (kg)	0.0000E+00	1.3809E-03

## Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.3064E+21
Elemental I (atoms)	0.0000E+00	7.2272E+17
Organic I (atoms)	0.0000E+00	2.9621E+17
Aerosols (kg)	0.0000E+00	6.8930E-04

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.0451E+16
Elemental I (atoms)	0.0000E+00	5.1241E+12
Organic I (atoms)	0.0000E+00	2.0949E+12
Aerosols (kg)	0.0000E+00	4.8887E-09

## Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 2.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.2982E+07
Elemental I (atoms)	0.0000E+00	9.6517E+03
Organic I (atoms)	0.0000E+00	2.5941E+03
Aerosols (kg)	0.0000E+00	9.5686E-18

## Exclusion Area Boundary Doses:

Time (h) = 2.2000	Whole Body	Thyroid	TEDE
Delta dose (rem)	7.1132E-01	5.1080E+00	9.5418E-01
Accumulated dose (rem)	4.1477E+00	4.6274E+01	6.2949E+00

## Low Population Zone Doses:

Time (h) = 2.2000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.1653E-02	1.5549E-01	2.9046E-02
Accumulated dose (rem)	2.8444E-01	3.3035E+00	4.3746E-01

## Control Room Doses:

Time (h) = 2.2000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.3197E-02	8.0924E-01	4.9540E-02
Accumulated dose (rem)	4.4740E-02	6.6698E+00	3.2709E-01

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 2.2000	Ci	kg	Atoms	Decay
Co-58	2.5483E+00	8.0141E-08	8.3210E+17	1.0207E+16
Co-60	3.0526E+00	2.7005E-06	2.7105E+19	1.2223E+16
Kr-85	1.3688E+06	3.4889E+00	2.4719E+25	1.8596E+20
Kr-85m	1.4502E+07	1.7622E-03	1.2485E+22	2.1766E+21
Kr-87	1.2318E+07	4.3488E-04	3.0102E+21	2.4320E+21
Kr-88	3.3172E+07	2.6455E-03	1.8104E+22	5.2858E+21
Rb-86	6.7908E+01	8.3458E-07	5.8441E+18	3.6847E+17
Sr-89	3.4557E+03	1.1895E-04	8.0485E+20	1.3844E+19
Sr-90	5.4423E+02	3.9897E-03	2.6696E+22	2.1791E+18
Sr-91	3.7383E+03	1.0313E-06	6.8246E+18	1.6017E+19
Sr-92	2.6466E+03	2.1056E-07	1.3783E+18	1.3496E+19
Y-90	7.1993E+00	1.3232E-08	8.8542E+16	2.3715E+16
Y-91	4.4870E+01	1.8296E-06	1.2108E+19	1.7904E+17
Y-92	1.8444E+02	1.9168E-08	1.2547E+17	3.1482E+17
Y-93	3.0589E+01	9.1685E-09	5.9370E+16	1.3053E+17
Zr-95	6.3651E+01	2.9629E-06	1.8782E+19	2.5496E+17
Zr-97	5.6600E+01	2.9608E-08	1.8382E+17	2.3539E+17
Nb-95	6.3713E+01	1.6294E-06	1.0329E+19	2.5510E+17
Mo-99	8.1607E+02	1.7015E-06	1.0350E+19	3.2993E+18
Tc-99m	7.3826E+02	1.4040E-07	8.5405E+17	2.9563E+18
Ru-103	7.1783E+02	2.2242E-05	1.3004E+20	2.8761E+18
Ru-105	3.5778E+02	5.3225E-08	3.0527E+17	1.6580E+18
Ru-106	3.1354E+02	9.3718E-05	5.3244E+20	1.2555E+18
Rh-105	4.7039E+02	5.5730E-07	3.1963E+18	1.8886E+18
Sb-127	7.8013E+02	2.9212E-06	1.3852E+19	3.1453E+18
Sb-129	2.0284E+03	3.6071E-07	1.6839E+18	9.4385E+18
Te-127	7.8622E+02	2.9791E-07	1.4127E+18	3.1467E+18

Te-127m	1.3495E+02	1.4307E-05	6.7843E+19	5.4035E+17
Te-129	2.3429E+03	1.1187E-07	5.2226E+17	1.0104E+19
Te-129m	5.5526E+02	1.8432E-05	8.6045E+19	2.2234E+18
Te-131m	1.7137E+03	2.1491E-06	9.8794E+18	7.0095E+18
Te-132	1.2475E+04	4.1091E-05	1.8747E+20	5.0360E+19
I-131	7.9891E+04	6.4442E-04	2.9624E+21	2.3265E+20
I-132	1.0824E+05	1.0486E-05	4.7839E+19	3.3174E+20
I-133	1.5433E+05	1.3624E-04	6.1688E+20	4.6525E+20
I-134	3.2328E+04	1.2118E-06	5.4461E+18	2.5654E+20
I-135	1.2550E+05	3.5737E-05	1.5942E+20	4.1115E+20
Xe-133	1.5798E+08	8.4399E-01	3.8215E+24	2.1510E+22
Xe-135	5.5760E+07	2.1835E-02	9.7401E+22	7.6617E+21
Cs-134	8.9813E+03	6.9416E-03	3.1196E+22	4.8645E+19
Cs-136	2.4394E+03	3.3284E-05	1.4738E+20	1.3246E+19
Cs-137	7.1235E+03	8.1897E-02	3.5999E+23	3.8581E+19
Ba-139	2.1367E+03	1.3063E-07	5.6595E+17	1.3926E+19
Ba-140	6.4718E+03	8.8403E-05	3.8027E+20	2.5967E+19
La-140	9.9224E+01	1.7852E-07	7.6789E+17	3.0094E+17
La-141	4.0222E+01	7.1123E-09	3.0377E+16	1.9003E+17
La-142	2.1556E+01	1.5058E-09	6.3861E+15	1.3313E+17
Ce-141	1.4926E+02	5.2385E-06	2.2374E+19	5.9781E+17
Ce-143	1.3308E+02	2.0040E-07	8.4393E+17	5.4329E+17
Ce-144	1.2829E+02	4.0221E-05	1.6821E+20	5.1370E+17
Pr-143	5.4029E+01	8.0234E-07	3.3789E+18	2.1617E+17
Nd-147	2.3887E+01	2.9527E-07	1.2096E+18	9.5874E+16
Np-239	1.7120E+03	7.3794E-06	1.8594E+19	6.9326E+18
Pu-238	4.6016E-01	2.6879E-05	6.8012E+19	1.8424E+15
Pu-239	4.3485E-02	6.9960E-04	1.7628E+21	1.7409E+14
Pu-240	7.9644E-02	3.4952E-04	8.7703E+20	3.1889E+14
Pu-241	1.7587E+01	1.7073E-04	4.2662E+20	7.0420E+16
Am-241	1.1552E-02	3.3657E-06	8.4102E+18	4.6246E+13
Cm-242	2.9368E+00	8.8610E-07	2.2051E+18	1.1761E+16
Cm-244	1.7079E-01	2.1111E-06	5.2103E+18	6.8385E+14

## Sprayed Drywell Transport Group Inventory:

Time (h) =	2.2000	Atmosphere	Sump	
Noble gases (atoms)	2.8671E+25	0.0000E+00		
Elemental I (atoms)	1.0167E+20	5.5833E+22		
Organic I (atoms)	1.6988E+21	0.0000E+00		
Aerosols (kg)	9.5020E-02	5.2805E+01		
Dose Effective (Ci/cc)	I-131 (Thyroid)		4.0850E-05	
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		5.0570E-05	
Total I (Ci)			5.0029E+05	

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

		Pathway	
Time (h) =	2.2000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	9.8915E+21	
Elemental I (atoms)	0.0000E+00	1.4750E+18	
Organic I (atoms)	0.0000E+00	6.6851E+17	
Aerosols (kg)	0.0000E+00	1.4062E-03	

## Drywell to Intact Control Volume 2 Transport Group Inventory:

		Pathway	
Time (h) =	2.2000	Filtered	Transported

Noble gases (atoms)	0.0000E+00	9.8915E+21
Elemental I (atoms)	0.0000E+00	1.4750E+18
Organic I (atoms)	0.0000E+00	6.6851E+17
Aerosols (kg)	0.0000E+00	1.4062E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 2.2000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.9403E+21
Elemental I (atoms)	0.0000E+00	7.3632E+17
Organic I (atoms)	0.0000E+00	3.3386E+17
Aerosols (kg)	0.0000E+00	7.0197E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 2.2000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.8059E+16
Elemental I (atoms)	0.0000E+00	5.2873E+12
Organic I (atoms)	0.0000E+00	2.5467E+12
Aerosols (kg)	0.0000E+00	5.0407E-09

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 2.2000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.6675E+07
Elemental I (atoms)	0.0000E+00	1.1715E+04
Organic I (atoms)	0.0000E+00	3.5122E+03
Aerosols (kg)	0.0000E+00	1.1573E-17

Exclusion Area Boundary Doses:

Time (h) = 2.2500	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.8609E-01	1.2803E+00	2.4669E-01
Accumulated dose (rem)	4.3338E+00	4.7555E+01	6.5416E+00

Low Population Zone Doses:

Time (h) = 2.2500	Whole Body	Thyroid	TEDE
Delta dose (rem)	5.6648E-03	3.8973E-02	7.5095E-03
Accumulated dose (rem)	2.9010E-01	3.3425E+00	4.4497E-01

Control Room Doses:

Time (h) = 2.2500	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.3755E-03	1.9708E-01	1.2262E-02
Accumulated dose (rem)	4.8115E-02	6.8669E+00	3.3935E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 2.2500	Ci	kg	Atoms	Decay
Co-58	1.2037E+00	3.7854E-08	3.9304E+17	1.0215E+16
Co-60	1.4419E+00	1.2756E-06	1.2803E+19	1.2232E+16
Kr-85	1.3688E+06	3.4888E+00	2.4718E+25	1.9508E+20
Kr-85m	1.4390E+07	1.7485E-03	1.2388E+22	2.2728E+21

Kr-87	1.1987E+07	4.2317E-04	2.9292E+21	2.5129E+21
Kr-88	3.2769E+07	2.6133E-03	1.7884E+22	5.5053E+21
Rb-86	3.2074E+01	3.9419E-07	2.7603E+18	3.6868E+17
Sr-89	1.6322E+03	5.6183E-05	3.8016E+20	1.3855E+19
Sr-90	2.5707E+02	1.8846E-03	1.2610E+22	2.1808E+18
Sr-91	1.7594E+03	4.8535E-07	3.2119E+18	1.6029E+19
Sr-92	1.2342E+03	9.8195E-08	6.4276E+17	1.3505E+19
Y-90	3.5380E+00	6.5029E-09	4.3512E+16	2.3738E+16
Y-91	2.1212E+01	8.6496E-07	5.7241E+18	1.7918E+17
Y-92	9.8433E+01	1.0230E-08	6.6961E+16	3.1540E+17
Y-93	1.4399E+01	4.3159E-09	2.7948E+16	1.3063E+17
Zr-95	3.0065E+01	1.3995E-06	8.8715E+18	2.5516E+17
Zr-97	2.6680E+01	1.3957E-08	8.6648E+16	2.3557E+17
Nb-95	3.0095E+01	7.6963E-07	4.8788E+18	2.5530E+17
Mo-99	3.8527E+02	8.0329E-07	4.8864E+18	3.3019E+18
Tc-99m	3.4867E+02	6.6309E-08	4.0336E+17	2.9586E+18
Ru-103	3.3906E+02	1.0506E-05	6.1423E+19	2.8784E+18
Ru-105	1.6768E+02	2.4946E-08	1.4307E+17	1.6591E+18
Ru-106	1.4810E+02	4.4268E-05	2.5150E+20	1.2565E+18
Rh-105	2.2214E+02	2.6318E-07	1.5094E+18	1.8901E+18
Sb-127	3.6836E+02	1.3793E-06	6.5406E+18	3.1477E+18
Sb-129	9.5046E+02	1.6902E-07	7.8903E+17	9.4449E+18
Te-127	3.7135E+02	1.4071E-07	6.6723E+17	3.1492E+18
Te-127m	6.3746E+01	6.7581E-06	3.2046E+19	5.4077E+17
Te-129	1.1011E+03	5.2579E-08	2.4546E+17	1.0112E+19
Te-129m	2.6228E+02	8.7061E-06	4.0643E+19	2.2252E+18
Te-131m	8.0853E+02	1.0139E-06	4.6612E+18	7.0149E+18
Te-132	5.8900E+03	1.9401E-05	8.8512E+19	5.0399E+19
I-131	5.6611E+04	4.5663E-04	2.0992E+21	2.3303E+20
I-132	7.5652E+04	7.3291E-06	3.3437E+19	3.3224E+20
I-133	1.0920E+05	9.6395E-05	4.3647E+20	4.6598E+20
I-134	2.2023E+04	8.2556E-07	3.7102E+18	2.5669E+20
I-135	8.8483E+04	2.5196E-05	1.1239E+20	4.1174E+20
Xe-133	1.5793E+08	8.4373E-01	3.8204E+24	2.2562E+22
Xe-135	5.5546E+07	2.1751E-02	9.7028E+22	8.0323E+21
Cs-134	4.2423E+03	3.2789E-03	1.4736E+22	4.8673E+19
Cs-136	1.1521E+03	1.5720E-05	6.9608E+19	1.3254E+19
Cs-137	3.3648E+03	3.8684E-02	1.7004E+23	3.8603E+19
Ba-139	9.8421E+02	6.0171E-08	2.6069E+17	1.3933E+19
Ba-140	3.0567E+03	4.1753E-05	1.7960E+20	2.5988E+19
La-140	4.9459E+01	8.8983E-08	3.8276E+17	3.0125E+17
La-141	1.8832E+01	3.3300E-09	1.4222E+16	1.9015E+17
La-142	9.9557E+00	6.9547E-10	2.9495E+15	1.3320E+17
Ce-141	7.0503E+01	2.4743E-06	1.0568E+19	5.9828E+17
Ce-143	6.2795E+01	9.4559E-08	3.9822E+17	5.4370E+17
Ce-144	6.0596E+01	1.8999E-05	7.9453E+19	5.1411E+17
Pr-143	2.5525E+01	3.7905E-07	1.5963E+18	2.1634E+17
Nd-147	1.1282E+01	1.3945E-07	5.7129E+17	9.5950E+16
Np-239	8.0815E+02	3.4835E-06	8.7775E+18	6.9380E+18
Pu-238	2.1736E-01	1.2696E-05	3.2126E+19	1.8439E+15
Pu-239	2.0540E-02	3.3046E-04	8.3267E+20	1.7423E+14
Pu-240	3.7620E-02	1.6510E-04	4.1427E+20	3.1915E+14
Pu-241	8.3075E+00	8.0645E-05	2.0152E+20	7.0476E+16
Am-241	5.4565E-03	1.5898E-06	3.9726E+18	4.6282E+13
Cm-242	1.3872E+00	4.1855E-07	1.0416E+18	1.1770E+16
Cm-244	8.0674E-02	9.9717E-07	2.4611E+18	6.8438E+14

## Sprayed Drywell Transport Group Inventory:

Time (h) =	2.2500	Atmosphere	Sump
Noble gases (atoms)	2.8669E+25	0.0000E+00	
Elemental I (atoms)	4.7984E+19	5.5887E+22	
Organic I (atoms)	1.6973E+21	0.0000E+00	
Aerosols (kg)	4.4883E-02	5.2855E+01	
Dose Effective (Ci/cc)	I-131 (Thyroid)		2.8929E-05
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		3.5784E-05
Total I (Ci)			3.5197E+05

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) =	2.2500	
	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.0208E+22
Elemental I (atoms)	0.0000E+00	1.4758E+18
Organic I (atoms)	0.0000E+00	6.8723E+17
Aerosols (kg)	0.0000E+00	1.4069E-03

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) =	2.2500	
	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.0208E+22
Elemental I (atoms)	0.0000E+00	1.4758E+18
Organic I (atoms)	0.0000E+00	6.8723E+17
Aerosols (kg)	0.0000E+00	1.4069E-03

## Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) =	2.2500	
	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.0988E+21
Elemental I (atoms)	0.0000E+00	7.3671E+17
Organic I (atoms)	0.0000E+00	3.4325E+17
Aerosols (kg)	0.0000E+00	7.0234E-04

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) =	2.2500	
	Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.9960E+16
Elemental I (atoms)	0.0000E+00	5.2921E+12
Organic I (atoms)	0.0000E+00	2.6593E+12
Aerosols (kg)	0.0000E+00	5.0451E-09

## Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) =	2.2500	
	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.0573E+07
Elemental I (atoms)	0.0000E+00	1.2234E+04
Organic I (atoms)	0.0000E+00	3.7694E+03
Aerosols (kg)	0.0000E+00	1.2078E-17

## Exclusion Area Boundary Doses:

Time (h) =	2.3000	Whole Body	Thyroid	TEDE
Delta dose (rem)		1.8960E-01	1.2787E+00	2.5000E-01
Accumulated dose (rem)		4.5234E+00	4.8833E+01	6.7916E+00

## Low Population Zone Doses:

Time (h) =	2.3000	Whole Body	Thyroid	TEDE
Delta dose (rem)		5.7717E-03	3.8924E-02	7.6101E-03
Accumulated dose (rem)		2.9587E-01	3.3814E+00	4.5258E-01

## Control Room Doses:

Time (h) =	2.3000	Whole Body	Thyroid	TEDE
Delta dose (rem)		3.4190E-03	1.9517E-01	1.2232E-02
Accumulated dose (rem)		5.1534E-02	7.0621E+00	3.5158E-01

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =	2.3000	Ci	kg	Atoms	Decay
Co-58		5.6855E-01	1.7880E-08	1.8565E+17	1.0219E+16
Co-60		6.8109E-01	6.0253E-07	6.0476E+18	1.2237E+16
Kr-85		1.3688E+06	3.4887E+00	2.4717E+25	2.0419E+20
Kr-85m		1.4278E+07	1.7350E-03	1.2292E+22	2.3683E+21
Kr-87		1.1664E+07	4.1178E-04	2.8504E+21	2.5917E+21
Kr-88		3.2371E+07	2.5816E-03	1.7666E+22	5.7222E+21
Rb-86		1.5149E+01	1.8618E-07	1.3037E+18	3.6878E+17
Sr-89		7.7098E+02	2.6538E-05	1.7957E+20	1.3860E+19
Sr-90		1.2143E+02	8.9018E-04	5.9564E+21	2.1816E+18
Sr-91		8.2802E+02	2.2842E-07	1.5116E+18	1.6034E+19
Sr-92		5.7559E+02	4.5793E-08	2.9975E+17	1.3509E+19
Y-90		1.7360E+00	3.1909E-09	2.1351E+16	2.3749E+16
Y-91		1.0028E+01	4.0891E-07	2.7060E+18	1.7925E+17
Y-92		5.1714E+01	5.3743E-09	3.5179E+16	3.1571E+17
Y-93		6.7783E+00	2.0317E-09	1.3156E+16	1.3067E+17
Zr-95		1.4201E+01	6.6104E-07	4.1904E+18	2.5526E+17
Zr-97		1.2577E+01	6.5789E-09	4.0845E+16	2.3565E+17
Nb-95		1.4215E+01	3.6354E-07	2.3045E+18	2.5540E+17
Mo-99		1.8189E+02	3.7924E-07	2.3069E+18	3.3031E+18
Tc-99m		1.6467E+02	3.1317E-08	1.9050E+17	2.9597E+18
Ru-103		1.6015E+02	4.9622E-06	2.9012E+19	2.8794E+18
Ru-105		7.8591E+01	1.1692E-08	6.7055E+16	1.6596E+18
Ru-106		6.9956E+01	2.0910E-05	1.1880E+20	1.2570E+18
Rh-105		1.0490E+02	1.2428E-07	7.1281E+17	1.8908E+18
Sb-127		1.7393E+02	6.5129E-07	3.0883E+18	3.1489E+18
Sb-129		4.4537E+02	7.9199E-08	3.6973E+17	9.4479E+18
Te-127		1.7540E+02	6.6461E-08	3.1515E+17	3.1504E+18
Te-127m		3.0111E+01	3.1922E-06	1.5137E+19	5.4097E+17
Te-129		5.1751E+02	2.4711E-08	1.1536E+17	1.0115E+19
Te-129m		1.2389E+02	4.1123E-06	1.9198E+19	2.2260E+18
Te-131m		3.8147E+02	4.7839E-07	2.1992E+18	7.0175E+18
Te-132		2.7809E+03	9.1601E-06	4.1790E+19	5.0418E+19
I-131		4.5612E+04	3.6792E-04	1.6913E+21	2.3333E+20
I-132		6.0095E+04	5.8220E-06	2.6561E+19	3.3265E+20
I-133		8.7851E+04	7.7552E-05	3.5115E+20	4.6657E+20
I-134		1.7060E+04	6.3950E-07	2.8740E+18	2.5680E+20
I-135		7.0932E+04	2.0198E-05	9.0100E+19	4.1222E+20
Xe-133		1.5788E+08	8.4348E-01	3.8192E+24	2.3613E+22

Xe-135	5.5334E+07	2.1668E-02	9.6657E+22	8.4015E+21
Cs-134	2.0039E+03	1.5488E-03	6.9605E+21	4.8686E+19
Cs-136	5.4415E+02	7.4245E-06	3.2876E+19	1.3258E+19
Cs-137	1.5894E+03	1.8273E-02	8.0321E+22	3.8614E+19
Ba-139	4.5335E+02	2.7716E-08	1.2008E+17	1.3936E+19
Ba-140	1.4437E+03	1.9720E-05	8.4825E+19	2.5997E+19
La-140	2.4584E+01	4.4230E-08	1.9026E+17	3.0141E+17
La-141	8.8174E+00	1.5591E-09	6.6591E+15	1.9021E+17
La-142	4.5981E+00	3.2121E-10	1.3622E+15	1.3323E+17
Ce-141	3.3301E+01	1.1687E-06	4.9917E+18	5.9850E+17
Ce-143	2.9630E+01	4.4618E-08	1.8790E+17	5.4390E+17
Ce-144	2.8623E+01	8.9740E-06	3.7530E+19	5.1430E+17
Pr-143	1.2059E+01	1.7907E-07	7.5413E+17	2.1642E+17
Nd-147	5.3282E+00	6.5862E-08	2.6982E+17	9.5985E+16
Np-239	3.8150E+02	1.6445E-06	4.1436E+18	6.9405E+18
Pu-238	1.0267E-01	5.9971E-06	1.5175E+19	1.8446E+15
Pu-239	9.7023E-03	1.5610E-04	3.9332E+20	1.7429E+14
Pu-240	1.7770E-02	7.7985E-05	1.9568E+20	3.1926E+14
Pu-241	3.9241E+00	3.8093E-05	9.5188E+19	7.0502E+16
Am-241	2.5774E-03	7.5096E-07	1.8765E+18	4.6299E+13
Cm-242	6.5524E-01	1.9770E-07	4.9198E+17	1.1774E+16
Cm-244	3.8106E-02	4.7102E-07	1.1625E+18	6.8464E+14

## Sprayed Drywell Transport Group Inventory:

Time (h) =	2.3000	Atmosphere	Sump	
Noble gases (atoms)	2.8666E+25	0.0000E+00		
Elemental I (atoms)	2.2646E+19	5.5912E+22		
Organic I (atoms)	1.6958E+21	0.0000E+00		
Aerosols (kg)	2.1201E-02	5.2878E+01		
Dose Effective (Ci/cc)	I-131 (Thyroid)		2.3294E-05	
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		2.8792E-05	
Total I (Ci)			2.8155E+05	

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.0523E+22
Elemental I (atoms)	0.0000E+00	1.4761E+18
Organic I (atoms)	0.0000E+00	7.0594E+17
Aerosols (kg)	0.0000E+00	1.4073E-03

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.0523E+22
Elemental I (atoms)	0.0000E+00	1.4761E+18
Organic I (atoms)	0.0000E+00	7.0594E+17
Aerosols (kg)	0.0000E+00	1.4073E-03

## Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.2572E+21
Elemental I (atoms)	0.0000E+00	7.3690E+17



Organic I (atoms)	0.0000E+00	3.5263E+17
Aerosols (kg)	0.0000E+00	7.0251E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 2.3000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.1861E+16
Elemental I (atoms)	0.0000E+00	5.2943E+12
Organic I (atoms)	0.0000E+00	2.7719E+12
Aerosols (kg)	0.0000E+00	5.0472E-09

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 2.3000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.4660E+07
Elemental I (atoms)	0.0000E+00	1.2754E+04
Organic I (atoms)	0.0000E+00	4.0376E+03
Aerosols (kg)	0.0000E+00	1.2584E-17

Exclusion Area Boundary Doses:

Time (h) = 2.3500	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.9300E-01	1.2763E+00	2.5315E-01
Accumulated dose (rem)	4.7164E+00	5.0110E+01	7.0448E+00

Low Population Zone Doses:

Time (h) = 2.3500	Whole Body	Thyroid	TEDE
Delta dose (rem)	5.8751E-03	3.8854E-02	7.7063E-03
Accumulated dose (rem)	3.0175E-01	3.4203E+00	4.6028E-01

Control Room Doses:

Time (h) = 2.3500	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.4644E-03	1.9333E-01	1.2206E-02
Accumulated dose (rem)	5.4999E-02	7.2554E+00	3.6379E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 2.3500	Ci	kg	Atoms	Decay
Co-58	2.6855E-01	8.4456E-09	8.7690E+16	1.0221E+16
Co-60	3.2172E-01	2.8461E-07	2.8566E+18	1.2239E+16
Kr-85	1.3687E+06	3.4887E+00	2.4717E+25	2.1331E+20
Kr-85m	1.4168E+07	1.7216E-03	1.2197E+22	2.4630E+21
Kr-87	1.1350E+07	4.0070E-04	2.7737E+21	2.6683E+21
Kr-88	3.1977E+07	2.5502E-03	1.7452E+22	5.9365E+21
Rb-86	7.1552E+00	8.7937E-08	6.1577E+17	3.6883E+17
Sr-89	3.6416E+02	1.2535E-05	8.4816E+19	1.3862E+19
Sr-90	5.7356E+01	4.2048E-04	2.8135E+21	2.1820E+18
Sr-91	3.8970E+02	1.0750E-07	7.1142E+17	1.6037E+19
Sr-92	2.6843E+02	2.1356E-08	1.3979E+17	1.3510E+19
Y-90	8.5063E-01	1.5635E-09	1.0462E+16	2.3754E+16
Y-91	4.7407E+00	1.9331E-07	1.2793E+18	1.7928E+17
Y-92	2.6834E+01	2.7887E-09	1.8254E+16	3.1587E+17
Y-93	3.1908E+00	9.5638E-10	6.1929E+15	1.3069E+17

Zr-95	6.7077E+00	3.1224E-07	1.9793E+18	2.5530E+17
Zr-97	5.9285E+00	3.1012E-09	1.9254E+16	2.3569E+17
Nb-95	6.7147E+00	1.7172E-07	1.0885E+18	2.5544E+17
Mo-99	8.5871E+01	1.7904E-07	1.0891E+18	3.3037E+18
Tc-99m	7.7772E+01	1.4791E-08	8.9970E+16	2.9602E+18
Ru-103	7.5644E+01	2.3438E-06	1.3704E+19	2.8800E+18
Ru-105	3.6834E+01	5.4796E-09	3.1427E+16	1.6599E+18
Ru-106	3.3044E+01	9.8769E-06	5.6113E+19	1.2572E+18
Rh-105	4.9539E+01	5.8691E-08	3.3662E+17	1.8911E+18
Sb-127	8.2125E+01	3.0753E-07	1.4582E+18	3.1494E+18
Sb-129	2.0869E+02	3.7111E-08	1.7325E+17	9.4493E+18
Te-127	8.2845E+01	3.1391E-08	1.4885E+17	3.1509E+18
Te-127m	1.4223E+01	1.5078E-06	7.1500E+18	5.4107E+17
Te-129	2.4321E+02	1.1613E-08	5.4214E+16	1.0117E+19
Te-129m	5.8517E+01	1.9425E-06	9.0680E+18	2.2264E+18
Te-131m	1.7998E+02	2.2571E-07	1.0376E+18	7.0187E+18
Te-132	1.3130E+03	4.3249E-06	1.9731E+19	5.0426E+19
I-131	4.0414E+04	3.2599E-04	1.4986E+21	2.3360E+20
I-132	5.2479E+04	5.0841E-06	2.3195E+19	3.3300E+20
I-133	7.7724E+04	6.8612E-05	3.1067E+20	4.6709E+20
I-134	1.4532E+04	5.4475E-07	2.4482E+18	2.5690E+20
I-135	6.2531E+04	1.7806E-05	7.9428E+19	4.1263E+20
Xe-133	1.5784E+08	8.4322E-01	3.8180E+24	2.4665E+22
Xe-135	5.5122E+07	2.1585E-02	9.6287E+22	8.7694E+21
Cs-134	9.4653E+02	7.3157E-04	3.2878E+21	4.8692E+19
Cs-136	2.5700E+02	3.5066E-06	1.5527E+19	1.3259E+19
Cs-137	7.5075E+02	8.6311E-03	3.7940E+22	3.8619E+19
Ba-139	2.0883E+02	1.2767E-08	5.5312E+16	1.3938E+19
Ba-140	6.8184E+02	9.3136E-06	4.0063E+19	2.6002E+19
La-140	1.2189E+01	2.1930E-08	9.4333E+16	3.0149E+17
La-141	4.1284E+00	7.2999E-10	3.1178E+15	1.9024E+17
La-142	2.1236E+00	1.4835E-10	6.2914E+14	1.3324E+17
Ce-141	1.5729E+01	5.5204E-07	2.3578E+18	5.9861E+17
Ce-143	1.3981E+01	2.1054E-08	8.8662E+16	5.4400E+17
Ce-144	1.3520E+01	4.2389E-06	1.7727E+19	5.1439E+17
Pr-143	5.6968E+00	8.4599E-08	3.5627E+17	2.1646E+17
Nd-147	2.5164E+00	3.1106E-08	1.2743E+17	9.6002E+16
Np-239	1.8009E+02	7.7629E-07	1.9560E+18	6.9417E+18
Pu-238	4.8496E-02	2.8328E-06	7.1678E+18	1.8449E+15
Pu-239	4.5830E-03	7.3733E-05	1.8579E+20	1.7432E+14
Pu-240	8.3938E-03	3.6836E-05	9.2430E+19	3.1932E+14
Pu-241	1.8536E+00	1.7993E-05	4.4962E+19	7.0514E+16
Am-241	1.2175E-03	3.5472E-07	8.8639E+17	4.6307E+13
Cm-242	3.0950E-01	9.3384E-08	2.3239E+17	1.1777E+16
Cm-244	1.8000E-02	2.2249E-07	5.4912E+17	6.8476E+14

## Sprayed Drywell Transport Group Inventory:

Time (h) =	2.3500	Atmosphere	Sump	
Noble gases (atoms)	2.8663E+25	0.0000E+00		
Elemental I (atoms)	1.0688E+19	5.5924E+22		
Organic I (atoms)	1.6943E+21	0.0000E+00		
Aerosols (kg)	1.0014E-02	5.2890E+01		
Dose Effective (Ci/cc)	I-131 (Thyroid)		2.0627E-05	
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		2.5475E-05	
Total I (Ci)			2.4768E+05	

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 2.3500	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.0839E+22
Elemental I (atoms)	0.0000E+00	1.4763E+18
Organic I (atoms)	0.0000E+00	7.2462E+17
Aerosols (kg)	0.0000E+00	1.4074E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 2.3500	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.0839E+22
Elemental I (atoms)	0.0000E+00	1.4763E+18
Organic I (atoms)	0.0000E+00	7.2462E+17
Aerosols (kg)	0.0000E+00	1.4074E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 2.3500	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.4156E+21
Elemental I (atoms)	0.0000E+00	7.3698E+17
Organic I (atoms)	0.0000E+00	3.6200E+17
Aerosols (kg)	0.0000E+00	7.0259E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 2.3500	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.3762E+16
Elemental I (atoms)	0.0000E+00	5.2953E+12
Organic I (atoms)	0.0000E+00	2.8843E+12
Aerosols (kg)	0.0000E+00	5.0482E-09

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 2.3500	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.8938E+07
Elemental I (atoms)	0.0000E+00	1.3273E+04
Organic I (atoms)	0.0000E+00	4.3168E+03
Aerosols (kg)	0.0000E+00	1.3090E-17

Exclusion Area Boundary Doses:

Time (h) = 4.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	7.6091E+00	3.9191E+01	9.3885E+00
Accumulated dose (rem)	1.2326E+01	8.9301E+01	1.6433E+01

Low Population Zone Doses:

Time (h) = 4.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.3163E-01	1.1930E+00	2.8580E-01
Accumulated dose (rem)	5.3338E-01	4.6133E+00	7.4608E-01

Control Room Doses:

Time (h) =	4.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		1.4382E-01	5.5832E+00	3.9801E-01
Accumulated dose (rem)		1.9882E-01	1.2839E+01	7.6180E-01

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =	Ci	kg	Atoms	Decay
Co-58	4.7806E-12	1.5034E-19	1.5610E+06	1.0222E+16
Co-60	5.7308E-12	5.0697E-18	5.0884E+07	1.2240E+16
Kr-85	1.3675E+06	3.4855E+00	2.4694E+25	5.1398E+20
Kr-85m	1.0966E+07	1.3325E-03	9.4406E+21	5.2099E+21
Kr-87	4.6134E+06	1.6287E-04	1.1274E+21	4.3129E+21
Kr-88	2.1358E+07	1.7033E-03	1.1656E+22	1.1719E+22
Rb-86	1.2713E-10	1.5625E-18	1.0941E+07	3.6886E+17
Sr-89	6.4809E-09	2.2308E-16	1.5094E+09	1.3864E+19
Sr-90	1.0217E-09	7.4902E-15	5.0119E+10	2.1822E+18
Sr-91	6.1545E-09	1.6978E-18	1.1236E+07	1.6039E+19
Sr-92	3.1354E-09	2.4945E-19	1.6328E+06	1.3511E+19
Y-90	3.2990E-11	6.0637E-20	4.0574E+05	2.3758E+16
Y-91	8.6616E-11	3.5319E-18	2.3373E+07	1.7930E+17
Y-92	1.4212E-09	1.4769E-19	9.6678E+05	3.1598E+17
Y-93	5.0754E-11	1.5213E-20	9.8507E+04	1.3071E+17
Zr-95	1.1940E-10	5.5579E-18	3.5232E+07	2.5533E+17
Zr-97	9.8697E-11	5.1629E-20	3.2053E+05	2.3572E+17
Nb-95	1.1961E-10	3.0589E-18	1.9390E+07	2.5547E+17
Mo-99	1.5034E-09	3.1346E-18	1.9067E+07	3.3040E+18
Tc-99m	1.3778E-09	2.6203E-19	1.5939E+06	2.9605E+18
Ru-103	1.3459E-09	4.1701E-17	2.4381E+08	2.8803E+18
Ru-105	5.0714E-10	7.5445E-20	4.3270E+05	1.6600E+18
Ru-106	5.8855E-10	1.7592E-16	9.9945E+08	1.2573E+18
Rh-105	8.7279E-10	1.0340E-18	5.9306E+06	1.8913E+18
Sb-127	1.4449E-09	5.4107E-18	2.5657E+07	3.1498E+18
Sb-129	2.8528E-09	5.0731E-19	2.3683E+06	9.4501E+18
Te-127	1.4723E-09	5.5788E-19	2.6454E+06	3.1513E+18
Te-127m	2.5336E-10	2.6860E-17	1.2737E+08	5.4112E+17
Te-129	3.6429E-09	1.7395E-19	8.1206E+05	1.0118E+19
Te-129m	1.0419E-09	3.4587E-17	1.6146E+08	2.2266E+18
Te-131m	3.0862E-09	3.8703E-18	1.7792E+07	7.0194E+18
Te-132	2.3050E-08	7.5923E-17	3.4638E+08	5.0432E+19
I-131	3.5525E+04	2.8655E-04	1.3173E+21	2.4146E+20
I-132	2.8231E+04	2.7350E-06	1.2478E+19	3.4106E+20
I-133	6.5051E+04	5.7424E-05	2.6001E+20	4.8183E+20
I-134	3.4860E+03	1.3068E-07	5.8728E+17	2.5849E+20
I-135	4.6508E+04	1.3243E-05	5.9075E+19	4.2383E+20
Xe-133	1.5627E+08	8.3484E-01	3.7801E+24	5.9180E+22
Xe-135	4.8566E+07	1.9018E-02	8.4835E+22	2.0148E+22
Cs-134	1.6860E-08	1.3031E-14	5.8563E+10	4.8696E+19
Cs-136	4.5615E-09	6.2238E-17	2.7559E+08	1.3261E+19
Cs-137	1.3373E-08	1.5375E-13	6.7584E+11	3.8622E+19
Ba-139	1.6224E-09	9.9190E-20	4.2974E+05	1.3938E+19
Ba-140	1.2101E-08	1.6529E-16	7.1099E+08	2.6005E+19
La-140	5.5079E-10	9.9093E-19	4.2625E+06	3.0154E+17
La-141	5.4972E-11	9.7203E-21	4.1516E+04	1.9026E+17
Ce-141	2.7988E-10	9.8226E-18	4.1952E+07	5.9867E+17
Ce-143	2.4057E-10	3.6226E-19	1.5256E+06	5.4405E+17
Ce-144	2.4080E-10	7.5497E-17	3.1573E+08	5.1444E+17

Pr-143	1.0198E-10	1.5145E-18	6.3779E+06	2.1649E+17
Nd-147	4.4633E-11	5.5171E-19	2.2602E+06	9.6012E+16
Np-239	3.1438E-09	1.3551E-17	3.4146E+07	6.9425E+18
Pu-238	8.6389E-13	5.0462E-17	1.2768E+08	1.8451E+15
Pu-239	8.1656E-14	1.3137E-15	3.3102E+09	1.7434E+14
Pu-240	1.4952E-13	6.5618E-16	1.6465E+09	3.1935E+14
Pu-241	3.3018E-11	3.2052E-16	8.0093E+08	7.0522E+16
Am-241	2.1697E-14	6.3218E-18	1.5797E+07	4.6312E+13
Cm-242	5.5117E-12	1.6630E-18	4.1384E+06	1.1778E+16
Cm-244	3.2064E-13	3.9632E-18	9.7816E+06	6.8483E+14

## Sprayed Drywell Transport Group Inventory:

Time (h) =	4.0000	Atmosphere	Sump	
Noble gases (atoms)	2.8582E+25	0.0000E+00		
Elemental I (atoms)	1.8552E+08	5.5934E+22		
Organic I (atoms)	1.6494E+21	0.0000E+00		
Aerosols (kg)	1.7836E-13	5.2899E+01		
Dose Effective (Ci/cc)	I-131 (Thyroid)		1.7795E-05	
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		2.1508E-05	
Total I (Ci)			1.7880E+05	

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.1250E+22
Elemental I (atoms)	0.0000E+00	1.4765E+18
Organic I (atoms)	0.0000E+00	1.3329E+18
Aerosols (kg)	0.0000E+00	1.4076E-03

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.1250E+22
Elemental I (atoms)	0.0000E+00	1.4765E+18
Organic I (atoms)	0.0000E+00	1.3329E+18
Aerosols (kg)	0.0000E+00	1.4076E-03

## Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.0636E+22
Elemental I (atoms)	0.0000E+00	7.3706E+17
Organic I (atoms)	0.0000E+00	6.6700E+17
Aerosols (kg)	0.0000E+00	7.0266E-04

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.0640E+17
Elemental I (atoms)	0.0000E+00	5.2962E+12
Organic I (atoms)	0.0000E+00	6.5443E+12
Aerosols (kg)	0.0000E+00	5.0490E-09

## Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 4.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.0644E+08
Elemental I (atoms)	0.0000E+00	3.0192E+04
Organic I (atoms)	0.0000E+00	1.9618E+04
Aerosols (kg)	0.0000E+00	2.9788E-17

## Exclusion Area Boundary Doses:

Time (h) = 8.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.7828E+01	7.1094E+01	2.0667E+01
Accumulated dose (rem)	3.0153E+01	1.6039E+02	3.7100E+01

## Low Population Zone Doses:

Time (h) = 8.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	5.4270E-01	2.1642E+00	6.2911E-01
Accumulated dose (rem)	1.0761E+00	6.7775E+00	1.3752E+00

## Control Room Doses:

Time (h) = 8.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	4.3769E-01	9.5058E+00	8.4284E-01
Accumulated dose (rem)	6.3651E-01	2.2344E+01	1.6046E+00

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 8.0000	Ci	kg	Atoms	Decay
Kr-85	1.3645E+06	3.4779E+00	2.4640E+25	1.2418E+21
Kr-85m	5.8926E+06	7.1603E-04	5.0730E+21	9.5618E+21
Kr-87	5.2021E+05	1.8365E-05	1.2712E+20	5.3121E+21
Kr-88	8.0280E+06	6.4023E-04	4.3813E+21	1.8977E+22
Sr-90	2.8999E-15	2.1259E-20	1.4225E+05	2.1822E+18
I-131	3.4941E+04	2.8184E-04	1.2956E+21	2.6023E+20
I-132	8.4379E+03	8.1745E-07	3.7294E+18	3.4980E+20
I-133	5.6807E+04	5.0147E-05	2.2706E+20	5.1424E+20
I-134	1.4718E+02	5.5172E-09	2.4795E+16	2.5905E+20
I-135	3.0507E+04	8.6869E-06	3.8751E+19	4.4405E+20
Xe-133	1.5253E+08	8.1486E-01	3.6896E+24	1.4144E+23
Xe-135	3.5728E+07	1.3991E-02	6.2410E+22	4.2429E+22
Cs-134	6.4793E-14	5.0078E-20	2.2506E+05	4.8696E+19
Cs-137	5.1401E-14	5.9094E-19	2.5976E+06	3.8622E+19

## Sprayed Drywell Transport Group Inventory:

Time (h) = 8.0000	Atmosphere	Sump	
Noble gases (atoms)	2.8402E+25	0.0000E+00	
Elemental I (atoms)	6.4331E+02	5.5934E+22	
Organic I (atoms)	1.5652E+21	0.0000E+00	
Aerosols (kg)	6.7443E-19	5.2899E+01	
Dose Effective (Ci/cc)	I-131 (Thyroid)		1.6851E-05
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		1.9691E-05
Total I (Ci)			1.3084E+05

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
8.0000		
Noble gases (atoms)	0.0000E+00	4.6370E+22
Elemental I (atoms)	0.0000E+00	1.4765E+18
Organic I (atoms)	0.0000E+00	2.7491E+18
Aerosols (kg)	0.0000E+00	1.4076E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
8.0000		
Noble gases (atoms)	0.0000E+00	4.6370E+22
Elemental I (atoms)	0.0000E+00	1.4765E+18
Organic I (atoms)	0.0000E+00	2.7491E+18
Aerosols (kg)	0.0000E+00	1.4076E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
8.0000		
Noble gases (atoms)	0.0000E+00	2.3232E+22
Elemental I (atoms)	0.0000E+00	7.3706E+17
Organic I (atoms)	0.0000E+00	1.3771E+18
Aerosols (kg)	0.0000E+00	7.0266E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
8.0000		
Noble gases (atoms)	0.0000E+00	2.5756E+17
Elemental I (atoms)	0.0000E+00	5.2962E+12
Organic I (atoms)	0.0000E+00	1.5066E+13
Aerosols (kg)	0.0000E+00	5.0490E-09

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
8.0000		
Noble gases (atoms)	0.0000E+00	1.7589E+09
Elemental I (atoms)	0.0000E+00	6.9727E+04
Organic I (atoms)	0.0000E+00	1.0337E+05
Aerosols (kg)	0.0000E+00	7.0260E-17

Exclusion Area Boundary Doses:

Time (h) =	Whole Body	Thyroid	TEDE
24.0000			
Delta dose (rem)	2.9969E+01	1.9528E+02	3.6269E+01
Accumulated dose (rem)	6.0123E+01	3.5567E+02	7.3369E+01

Low Population Zone Doses:

Time (h) =	Whole Body	Thyroid	TEDE
24.0000			
Delta dose (rem)	5.7735E-01	1.9347E+00	6.3977E-01
Accumulated dose (rem)	1.6534E+00	8.7122E+00	2.0150E+00

Control Room Doses:

Time (h) = 24.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	4.5330E-01	1.1445E+01	8.4151E-01
Accumulated dose (rem)	1.0898E+00	3.3790E+01	2.4461E+00

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 24.0000	Ci	kg	Atoms	Decay
Kr-85	1.3524E+06	3.4470E+00	2.4422E+25	4.1363E+21
Kr-85m	4.9132E+05	5.9703E-05	4.2299E+20	1.4195E+22
Kr-87	8.4103E+01	2.9691E-09	2.0552E+16	5.4391E+21
Kr-88	1.6026E+05	1.2781E-05	8.7464E+19	2.3261E+22
Sr-90	2.8997E-15	2.1258E-20	1.4224E+05	2.1822E+18
I-131	3.2700E+04	2.6376E-04	1.2125E+21	3.3227E+20
I-132	6.7341E+01	6.5240E-09	2.9764E+16	3.5349E+20
I-133	3.3038E+04	2.9164E-05	1.3205E+20	6.0768E+20
I-134	4.6767E-04	1.7531E-14	7.8786E+10	2.5907E+20
I-135	5.6481E+03	1.6083E-06	7.1744E+18	4.7545E+20
Xe-133	1.3844E+08	7.3961E-01	3.3489E+24	4.5119E+23
Xe-135	1.0462E+07	4.0969E-03	1.8276E+22	8.6265E+22
Cs-134	6.4753E-14	5.0047E-20	2.2492E+05	4.8696E+19
Cs-137	5.1399E-14	5.9092E-19	2.5975E+06	3.8622E+19

## Sprayed Drywell Transport Group Inventory:

Time (h) = 24.0000	Atmosphere	Sump	
Noble gases (atoms)	2.7790E+25	0.0000E+00	
Elemental I (atoms)	5.6145E+02	5.5934E+22	
Organic I (atoms)	1.3518E+21	0.0000E+00	
Aerosols (kg)	6.7396E-19	5.2899E+01	
Dose Effective (Ci/cc)	I-131 (Thyroid)		1.4261E-05
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		1.5614E-05
Total I (Ci)			7.1453E+04

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 24.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.4545E+23
Elemental I (atoms)	0.0000E+00	1.4765E+18
Organic I (atoms)	0.0000E+00	7.8720E+18
Aerosols (kg)	0.0000E+00	1.4076E-03

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 24.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.4545E+23
Elemental I (atoms)	0.0000E+00	1.4765E+18
Organic I (atoms)	0.0000E+00	7.8720E+18
Aerosols (kg)	0.0000E+00	1.4076E-03

## Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 24.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	7.2915E+22
Elemental I (atoms)	0.0000E+00	7.3706E+17
Organic I (atoms)	0.0000E+00	3.9459E+18



Aerosols (kg) 0.0000E+00 7.0266E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 24.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	8.5375E+17
Elemental I (atoms)	0.0000E+00	5.2962E+12
Organic I (atoms)	0.0000E+00	4.5891E+13
Aerosols (kg)	0.0000E+00	5.0490E-09

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 24.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.9451E+10
Elemental I (atoms)	0.0000E+00	2.1379E+05
Organic I (atoms)	0.0000E+00	1.0169E+06
Aerosols (kg)	0.0000E+00	2.3207E-16

Exclusion Area Boundary Doses:

Time (h) = 48.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	8.9060E+00	1.2008E+02	1.2594E+01
Accumulated dose (rem)	6.9029E+01	4.7575E+02	8.5963E+01

Low Population Zone Doses:

Time (h) = 48.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	6.5223E-02	5.7790E-01	8.2973E-02
Accumulated dose (rem)	1.7187E+00	9.2901E+00	2.0979E+00

Control Room Doses:

Time (h) = 48.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	5.4135E-02	2.6515E+00	1.3564E-01
Accumulated dose (rem)	1.1439E+00	3.6441E+01	2.5818E+00

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 48.0000	Ci	kg	Atoms	Decay
Kr-85	1.3432E+06	3.4237E+00	2.4256E+25	8.4444E+21
Kr-85m	1.1908E+04	1.4470E-06	1.0252E+19	1.4607E+22
Kr-87	1.7403E-04	6.1441E-15	4.2529E+10	5.4391E+21
Kr-88	4.5503E+02	3.6289E-08	2.4833E+17	2.3348E+22
Sr-90	2.8996E-15	2.1257E-20	1.4224E+05	2.1822E+18
I-131	2.9801E+04	2.4038E-04	1.1050E+21	4.3208E+20
I-132	4.8331E-02	4.6822E-12	2.1361E+13	3.5352E+20
I-133	1.4750E+04	1.3021E-05	5.8957E+19	6.8017E+20
I-135	4.5293E+02	1.2897E-07	5.7532E+17	4.8203E+20
Xe-133	1.2050E+08	6.4378E-01	2.9150E+24	8.6437E+23
Xe-135	1.6681E+06	6.5321E-04	2.9139E+21	1.0158E+23
Cs-134	6.4694E-14	5.0002E-20	2.2472E+05	4.8696E+19
Cs-137	5.1397E-14	5.9089E-19	2.5974E+06	3.8622E+19

Sprayed Drywell Transport Group Inventory:

Time (h) = 48.0000	Atmosphere	Sump
--------------------	------------	------

Noble gases (atoms)	2.7174E+25	0.0000E+00
Elemental I (atoms)	4.8718E+02	5.5934E+22
Organic I (atoms)	1.1646E+21	0.0000E+00
Aerosols (kg)	6.7349E-19	5.2899E+01
Dose Effective (Ci/cc) I-131 (Thyroid)		1.1995E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)		1.2558E-05
Total I (Ci)		4.5004E+04

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 48.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.1836E+23
Elemental I (atoms)	0.0000E+00	1.4765E+18
Organic I (atoms)	0.0000E+00	1.1201E+19
Aerosols (kg)	0.0000E+00	1.4076E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 48.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.1836E+23
Elemental I (atoms)	0.0000E+00	1.4765E+18
Organic I (atoms)	0.0000E+00	1.1201E+19
Aerosols (kg)	0.0000E+00	1.4076E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 48.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.0916E+23
Elemental I (atoms)	0.0000E+00	7.3706E+17
Organic I (atoms)	0.0000E+00	5.6009E+18
Aerosols (kg)	0.0000E+00	7.0266E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 48.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.7286E+18
Elemental I (atoms)	0.0000E+00	5.2962E+12
Organic I (atoms)	0.0000E+00	8.5838E+13
Aerosols (kg)	0.0000E+00	5.0490E-09

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 48.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	8.0693E+10
Elemental I (atoms)	0.0000E+00	4.0211E+05
Organic I (atoms)	0.0000E+00	3.8058E+06
Aerosols (kg)	0.0000E+00	4.7462E-16

Exclusion Area Boundary Doses:

Time (h) = 72.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	6.2293E+00	1.0321E+02	9.3840E+00

Accumulated dose (rem) 7.5258E+01 5.7896E+02 9.5347E+01

Low Population Zone Doses:

Time (h) = 72.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	4.5620E-02	4.9671E-01	6.0803E-02
Accumulated dose (rem)	1.7643E+00	9.7868E+00	2.1587E+00

Control Room Doses:

Time (h) = 72.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.2606E-02	2.0079E+00	9.3981E-02
Accumulated dose (rem)	1.1766E+00	3.8449E+01	2.6758E+00

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 72.0000	Ci	kg	Atoms	Decay
Kr-85	1.3341E+06	3.4005E+00	2.4092E+25	1.2723E+22
Kr-85m	2.8860E+02	3.5069E-08	2.4846E+17	1.4617E+22
Kr-87	3.6013E-10	1.2714E-20	8.8005E+04	5.4391E+21
Kr-88	1.2920E+00	1.0303E-10	7.0509E+14	2.3348E+22
Sr-90	2.8994E-15	2.1256E-20	1.4223E+05	2.1822E+18
I-131	2.7159E+04	2.1907E-04	1.0071E+21	5.2305E+20
I-132	3.4687E-05	3.3604E-15	1.5331E+10	3.5352E+20
I-133	6.5852E+03	5.8132E-06	2.6322E+19	7.1253E+20
I-135	3.6321E+01	1.0342E-08	4.6136E+16	4.8256E+20
Xe-133	1.0489E+08	5.6037E-01	2.5373E+24	1.2240E+24
Xe-135	2.6588E+05	1.0412E-04	4.6444E+20	1.0402E+23
Cs-134	6.4635E-14	4.9956E-20	2.2451E+05	4.8696E+19
Cs-137	5.1393E-14	5.9085E-19	2.5972E+06	3.8622E+19

Sprayed Drywell Transport Group Inventory:

Time (h) = 72.0000	Atmosphere	Sump
Noble gases (atoms)	2.6630E+25	0.0000E+00
Elemental I (atoms)	4.3530E+02	5.5934E+22
Organic I (atoms)	1.0334E+21	0.0000E+00
Aerosols (kg)	6.7311E-19	5.2899E+01
Dose Effective (Ci/cc) I-131 (Thyroid)		1.0504E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)		1.0751E-05
Total I (Ci)		3.3780E+04

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

Time (h) = 72.0000	Pathway	
	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.8972E+23
Elemental I (atoms)	0.0000E+00	1.4765E+18
Organic I (atoms)	0.0000E+00	1.4115E+19
Aerosols (kg)	0.0000E+00	1.4076E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

Time (h) = 72.0000	Pathway	
	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.8972E+23
Elemental I (atoms)	0.0000E+00	1.4765E+18
Organic I (atoms)	0.0000E+00	1.4115E+19

Aerosols (kg) 0.0000E+00 1.4076E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 72.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.4464E+23
Elemental I (atoms)	0.0000E+00	7.3706E+17
Organic I (atoms)	0.0000E+00	7.0496E+18
Aerosols (kg)	0.0000E+00	7.0266E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 72.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.5850E+18
Elemental I (atoms)	0.0000E+00	5.2962E+12
Organic I (atoms)	0.0000E+00	1.2081E+14
Aerosols (kg)	0.0000E+00	5.0490E-09

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 72.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.8230E+11
Elemental I (atoms)	0.0000E+00	5.6812E+05
Organic I (atoms)	0.0000E+00	7.9527E+06
Aerosols (kg)	0.0000E+00	7.1701E-16

Exclusion Area Boundary Doses:

Time (h) = 96.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	5.1943E+00	9.1329E+01	7.9802E+00
Accumulated dose (rem)	8.0452E+01	6.7029E+02	1.0333E+02

Low Population Zone Doses:

Time (h) = 96.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.8041E-02	4.3953E-01	5.1448E-02
Accumulated dose (rem)	1.8023E+00	1.0226E+01	2.2102E+00

Control Room Doses:

Time (h) = 96.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.7202E-02	1.7768E+00	8.1401E-02
Accumulated dose (rem)	1.2038E+00	4.0226E+01	2.7572E+00

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 96.0000	Ci	kg	Atoms	Decay
Kr-85	1.3251E+06	3.3774E+00	2.3929E+25	1.6973E+22
Kr-85m	6.9945E+00	8.4993E-10	6.0216E+15	1.4617E+22
Kr-88	3.6682E-03	2.9254E-13	2.0019E+12	2.3348E+22
Sr-90	2.8992E-15	2.1254E-20	1.4222E+05	2.1822E+18
I-131	2.4751E+04	1.9964E-04	9.1777E+20	6.0595E+20
I-132	2.4896E-08	2.4119E-18	1.1003E+07	3.5352E+20
I-133	2.9400E+03	2.5953E-06	1.1752E+19	7.2698E+20

I-135	2.9126E+00	8.2936E-10	3.6996E+15	4.8260E+20
Xe-133	9.1300E+07	4.8776E-01	2.2085E+24	1.5371E+24
Xe-135	4.2373E+04	1.6592E-05	7.4016E+19	1.0440E+23
Cs-134	6.4575E-14	4.9910E-20	2.2430E+05	4.8696E+19
Cs-137	5.1390E-14	5.9081E-19	2.5971E+06	3.8622E+19

## Sprayed Drywell Transport Group Inventory:

Time (h) = 96.0000	Atmosphere	Sump	
Noble gases (atoms)	2.6137E+25	0.0000E+00	
Elemental I (atoms)	3.9417E+02	5.5934E+22	
Organic I (atoms)	9.2953E+20	0.0000E+00	
Aerosols (kg)	6.7278E-19	5.2899E+01	
Dose Effective (Ci/cc)	I-131 (Thyroid)		9.3826E-06
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		9.4929E-06
Total I (Ci)			2.7694E+04

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.5972E+23
Elemental I (atoms)	0.0000E+00	1.4765E+18
Organic I (atoms)	0.0000E+00	1.6719E+19
Aerosols (kg)	0.0000E+00	1.4076E-03

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.5972E+23
Elemental I (atoms)	0.0000E+00	1.4765E+18
Organic I (atoms)	0.0000E+00	1.6719E+19
Aerosols (kg)	0.0000E+00	1.4076E-03

## Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.7944E+23
Elemental I (atoms)	0.0000E+00	7.3706E+17
Organic I (atoms)	0.0000E+00	8.3443E+18
Aerosols (kg)	0.0000E+00	7.0266E-04

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.4249E+18
Elemental I (atoms)	0.0000E+00	5.2962E+12
Organic I (atoms)	0.0000E+00	1.5206E+14
Aerosols (kg)	0.0000E+00	5.0490E-09

## Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.2306E+11

Elemental I (atoms)	0.0000E+00	7.1750E+05
Organic I (atoms)	0.0000E+00	1.3191E+07
Aerosols (kg)	0.0000E+00	9.5928E-16

## Exclusion Area Boundary Doses:

Time (h) = 240.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.9543E+01	3.9157E+02	3.1469E+01
Accumulated dose (rem)	9.9996E+01	1.0619E+03	1.3480E+02

## Low Population Zone Doses:

Time (h) = 240.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.6213E-02	4.7679E-01	5.0734E-02
Accumulated dose (rem)	1.8385E+00	1.0703E+01	2.2609E+00

## Control Room Doses:

Time (h) = 240.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	4.1001E-02	3.0482E+00	1.3384E-01
Accumulated dose (rem)	1.2448E+00	4.3274E+01	2.8910E+00

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 240.0000	Ci	kg	Atoms	Decay
Kr-85	1.2721E+06	3.2424E+00	2.2972E+25	4.1874E+22
Kr-85m	1.4175E-09	1.7225E-19	1.2204E+06	1.4617E+22
Sr-90	2.8981E-15	2.1246E-20	1.4216E+05	2.1822E+18
I-131	1.4180E+04	1.1438E-04	5.2581E+20	9.6990E+20
I-133	2.3283E+01	2.0553E-08	9.3064E+16	7.3854E+20
I-135	7.7451E-07	2.2054E-16	9.8380E+08	4.8261E+20
Xe-133	3.9705E+07	2.1212E-01	9.6047E+23	2.7254E+24
Xe-135	6.9359E-01	2.7160E-10	1.2116E+15	1.0448E+23
Cs-134	6.4220E-14	4.9636E-20	2.2307E+05	4.8696E+19
Cs-137	5.1371E-14	5.9059E-19	2.5961E+06	3.8622E+19

## Sprayed Drywell Transport Group Inventory:

Time (h) = 240.0000	Atmosphere	Sump
Noble gases (atoms)	2.3932E+25	0.0000E+00
Elemental I (atoms)	2.3204E+02	5.5934E+22
Organic I (atoms)	5.2590E+20	0.0000E+00
Aerosols (kg)	6.7126E-19	5.2899E+01
Dose Effective (Ci/cc)	I-131 (Thyroid)	5.2727E-06
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)	5.2735E-06
Total I (Ci)		1.4203E+04

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 240.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	7.5682E+23
Elemental I (atoms)	0.0000E+00	1.4765E+18
Organic I (atoms)	0.0000E+00	2.7978E+19
Aerosols (kg)	0.0000E+00	1.4076E-03

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 240.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	7.5682E+23
Elemental I (atoms)	0.0000E+00	1.4765E+18
Organic I (atoms)	0.0000E+00	2.7978E+19
Aerosols (kg)	0.0000E+00	1.4076E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 240.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.7685E+23
Elemental I (atoms)	0.0000E+00	7.3706E+17
Organic I (atoms)	0.0000E+00	1.3942E+19
Aerosols (kg)	0.0000E+00	7.0266E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 240.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	8.1902E+18
Elemental I (atoms)	0.0000E+00	5.2962E+12
Organic I (atoms)	0.0000E+00	2.8717E+14
Aerosols (kg)	0.0000E+00	5.0490E-09

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 240.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.9425E+12
Elemental I (atoms)	0.0000E+00	1.3773E+06
Organic I (atoms)	0.0000E+00	5.7540E+07
Aerosols (kg)	0.0000E+00	2.4108E-15

Exclusion Area Boundary Doses:

Time (h) = 720.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.4194E+01	4.4088E+02	2.7617E+01
Accumulated dose (rem)	1.1419E+02	1.5027E+03	1.6241E+02

Low Population Zone Doses:

Time (h) = 720.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.6300E-02	5.3684E-01	4.2645E-02
Accumulated dose (rem)	1.8648E+00	1.1240E+01	2.3036E+00

Control Room Doses:

Time (h) = 720.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.9438E-02	3.4013E+00	1.3299E-01
Accumulated dose (rem)	1.2742E+00	4.6675E+01	3.0240E+00

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 720.0000	Ci	kg	Atoms	Decay
Kr-85	1.1103E+06	2.8300E+00	2.0050E+25	1.1791E+23
Sr-90	2.8943E-15	2.1218E-20	1.4198E+05	2.1822E+18

I-131	2.2147E+03	1.7864E-05	8.2122E+19	1.3819E+21
I-133	2.3049E-06	2.0347E-15	9.2129E+09	7.3863E+20
Xe-133	2.4742E+06	1.3218E-02	5.9852E+22	3.5829E+24
Cs-134	6.3049E-14	4.8730E-20	2.1900E+05	4.8696E+19
Cs-137	5.1306E-14	5.8984E-19	2.5928E+06	3.8622E+19

## Sprayed Drywell Transport Group Inventory:

Time (h) = 720.0000	Atmosphere	Sump	
Noble gases (atoms)	2.0110E+25	0.0000E+00	
Elemental I (atoms)	4.1363E+01	5.5934E+22	
Organic I (atoms)	8.2122E+19	0.0000E+00	
Aerosols (kg)	6.6819E-19	5.2899E+01	
Dose Effective (Ci/cc) I-131 (Thyroid)			8.2328E-07
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			8.2328E-07
Total I (Ci)			2.2147E+03

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.9136E+24
Elemental I (atoms)	0.0000E+00	1.4765E+18
Organic I (atoms)	0.0000E+00	4.0679E+19
Aerosols (kg)	0.0000E+00	1.4076E-03

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.9136E+24
Elemental I (atoms)	0.0000E+00	1.4765E+18
Organic I (atoms)	0.0000E+00	4.0679E+19
Aerosols (kg)	0.0000E+00	1.4076E-03

## Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	9.5191E+23
Elemental I (atoms)	0.0000E+00	7.3706E+17
Organic I (atoms)	0.0000E+00	2.0256E+19
Aerosols (kg)	0.0000E+00	7.0266E-04

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.2071E+19
Elemental I (atoms)	0.0000E+00	5.2962E+12
Organic I (atoms)	0.0000E+00	4.3957E+14
Aerosols (kg)	0.0000E+00	5.0490E-09

## Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.6023E+13



Elemental I (atoms)	0.0000E+00	2.1747E+06
Organic I (atoms)	0.0000E+00	1.9019E+08
Aerosols (kg)	0.0000E+00	7.2318E-15

932

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

Time (hr)	Sprayed Drywell	MSIV Failed Control V	Intact Control Volume
	I-131 (Curies)	I-131 (Curies)	I-131 (Curies)
0.000	4.4667E+03	0.0000E+00	0.0000E+00
0.033	2.6770E+05	0.0000E+00	0.0000E+00
0.167	1.3394E+06	3.9255E+01	3.8946E+01
0.500	5.4573E+05	1.1276E+02	1.0861E+02
0.667	8.7069E+05	1.5003E+02	1.4313E+02
1.000	9.0500E+05	2.3031E+02	2.1586E+02
1.160	9.0795E+05	2.6487E+02	2.4605E+02
1.410	9.1226E+05	3.1392E+02	2.8760E+02
1.660	9.1654E+05	3.5755E+02	3.2323E+02
1.910	9.2081E+05	3.9641E+02	3.5382E+02
2.000	9.2234E+05	4.0933E+02	3.6376E+02
2.200	7.9891E+04	3.9913E+02	3.4985E+02
2.250	5.6611E+04	3.9398E+02	3.4386E+02
2.300	4.5612E+04	3.8873E+02	3.3781E+02
2.350	4.0414E+04	3.8347E+02	3.3180E+02
2.700	3.5741E+04	3.4831E+02	2.9234E+02
3.000	3.5673E+04	3.2089E+02	2.6248E+02
3.300	3.5628E+04	2.9580E+02	2.3589E+02
3.600	3.5584E+04	2.7285E+02	2.1222E+02
3.900	3.5540E+04	2.5185E+02	1.9114E+02
4.000	3.5525E+04	2.4526E+02	1.8464E+02
4.300	3.5481E+04	2.2661E+02	1.6659E+02
4.600	3.5437E+04	2.0954E+02	1.5052E+02
4.900	3.5393E+04	1.9393E+02	1.3620E+02
5.200	3.5349E+04	1.7964E+02	1.2346E+02
5.500	3.5305E+04	1.6657E+02	1.1211E+02
5.800	3.5261E+04	1.5461E+02	1.0201E+02
6.100	3.5217E+04	1.4366E+02	9.3009E+01
6.400	3.5174E+04	1.3365E+02	8.4996E+01
6.700	3.5130E+04	1.2448E+02	7.7859E+01
7.000	3.5086E+04	1.1610E+02	7.1504E+01
7.300	3.5043E+04	1.0842E+02	6.5843E+01
7.600	3.4999E+04	1.0140E+02	6.0801E+01
7.900	3.4956E+04	9.4973E+01	5.6309E+01
8.000	3.4941E+04	9.2954E+01	5.4924E+01
8.300	3.4898E+04	8.7243E+01	5.1074E+01
8.600	3.4854E+04	8.2015E+01	4.7644E+01
8.900	3.4811E+04	7.7230E+01	4.4588E+01
9.200	3.4768E+04	7.2850E+01	4.1865E+01
9.500	3.4725E+04	6.8840E+01	3.9437E+01
9.800	3.4682E+04	6.5169E+01	3.7274E+01
10.100	3.4638E+04	6.1809E+01	3.5346E+01
10.400	3.4595E+04	5.8732E+01	3.3626E+01
24.000	3.2700E+04	2.5194E+01	1.8863E+01
48.000	2.9801E+04	2.2535E+01	1.7193E+01

72.000	2.7159E+04	2.0525E+01	1.5669E+01
96.000	2.4751E+04	1.8705E+01	1.4280E+01
240.000	1.4180E+04	1.0717E+01	8.1809E+00
720.000	2.2147E+03	1.6737E+00	1.2777E+00

Time (hr)	Intact Control Volume I-131 (Curies)	Intact Control Volume I-131 (Curies)	Intact Control Volume I-131 (Curies)
0.000	0.0000E+00	0.0000E+00	0.0000E+00
0.033	0.0000E+00	0.0000E+00	0.0000E+00
0.167	3.3207E-01	1.9791E+01	4.6053E-02
0.500	3.7826E+00	5.9029E+01	6.1227E-01
0.667	5.8493E+00	7.9551E+01	1.0175E+00
1.000	1.0964E+01	1.2505E+02	2.1355E+00
1.160	1.3626E+01	1.4557E+02	2.7901E+00
1.410	1.7760E+01	1.7583E+02	3.9215E+00
1.660	2.1700E+01	2.0404E+02	5.1482E+00
1.910	2.5356E+01	2.3035E+02	6.4375E+00
2.000	2.6595E+01	2.3938E+02	6.9120E+00
2.200	2.7941E+01	2.3761E+02	7.5069E+00
2.250	2.8176E+01	2.3582E+02	7.6434E+00
2.300	2.8370E+01	2.3395E+02	7.7745E+00
2.350	2.8525E+01	2.3206E+02	7.9003E+00
2.700	2.8732E+01	2.1906E+02	8.6439E+00
3.000	2.8049E+01	2.0853E+02	9.1171E+00
3.300	2.6910E+01	1.9856E+02	9.4677E+00
3.600	2.5525E+01	1.8912E+02	9.7181E+00
3.900	2.4033E+01	1.8018E+02	9.8870E+00
4.000	2.3528E+01	1.7731E+02	9.9280E+00
4.300	2.2026E+01	1.6900E+02	1.0012E+01
4.600	2.0577E+01	1.6113E+02	1.0047E+01
4.900	1.9208E+01	1.5368E+02	1.0042E+01
5.200	1.7935E+01	1.4662E+02	1.0006E+01
5.500	1.6762E+01	1.3994E+02	9.9454E+00
5.800	1.5690E+01	1.3362E+02	9.8661E+00
6.100	1.4717E+01	1.2763E+02	9.7726E+00
6.400	1.3837E+01	1.2196E+02	9.6685E+00
6.700	1.3043E+01	1.1659E+02	9.5570E+00
7.000	1.2330E+01	1.1150E+02	9.4404E+00
7.300	1.1689E+01	1.0669E+02	9.3208E+00
7.600	1.1115E+01	1.0213E+02	9.1999E+00
7.900	1.0601E+01	9.7808E+01	9.0788E+00
8.000	1.0442E+01	9.6420E+01	9.0386E+00
8.300	9.9963E+00	9.2404E+01	8.9159E+00
8.600	9.5985E+00	8.8601E+01	8.7958E+00
8.900	9.2434E+00	8.4999E+01	8.6787E+00
9.200	8.9263E+00	8.1588E+01	8.5650E+00
9.500	8.6431E+00	7.8358E+01	8.4549E+00
9.800	8.3901E+00	7.5298E+01	8.3485E+00
10.100	8.1639E+00	7.2400E+01	8.2459E+00
10.400	7.9617E+00	6.9655E+01	8.1471E+00
24.000	6.0456E+00	2.4255E+01	6.2199E+00
48.000	5.5234E+00	1.8742E+01	5.5147E+00
72.000	5.0340E+00	1.6722E+01	5.0077E+00
96.000	4.5877E+00	1.5201E+01	4.5619E+00
240.000	2.6283E+00	8.7062E+00	2.6135E+00
720.000	4.1050E-01	1.3598E+00	4.0818E-01

Time (hr)	Environment I-131 (Curies)	Control Room I-131 (Curies)	Unsprayed Drywell I-131 (Curies)
0.000	0.0000E+00	0.0000E+00	1.6456E-09
0.033	0.0000E+00	0.0000E+00	5.9117E-06
0.167	1.7522E-01	4.8522E-04	1.4807E-04
0.500	2.8909E+00	6.4699E-03	4.5624E-04
0.667	5.2563E+00	1.0665E-02	6.2600E-04
1.000	1.2631E+01	9.7193E-03	1.0214E-03
1.160	1.7478E+01	9.5832E-03	1.2131E-03
1.410	2.6730E+01	9.7117E-03	1.5137E-03
1.660	3.7972E+01	1.0185E-02	1.8154E-03
1.910	5.1129E+01	1.0933E-02	2.1183E-03
2.000	5.6319E+01	1.1258E-02	2.2276E-03
2.200	6.3335E+01	1.0807E-02	2.3100E-03
2.250	6.5098E+01	1.0706E-02	2.3140E-03
2.300	6.6860E+01	1.0608E-02	2.3170E-03
2.350	6.8620E+01	1.0513E-02	2.3194E-03
2.700	8.0836E+01	9.9209E-03	2.3335E-03
3.000	9.1089E+01	9.4880E-03	2.3453E-03
3.300	1.0109E+02	9.1017E-03	2.3570E-03
3.600	1.1080E+02	8.7492E-03	2.3687E-03
3.900	1.2022E+02	8.4227E-03	2.3803E-03
4.000	1.2330E+02	8.3188E-03	2.3842E-03
4.300	1.3234E+02	8.0201E-03	2.3958E-03
4.600	1.4110E+02	7.7394E-03	2.4074E-03
4.900	1.4961E+02	7.4754E-03	2.4189E-03
5.200	1.5787E+02	7.2273E-03	2.4304E-03
5.500	1.6591E+02	6.9945E-03	2.4419E-03
5.800	1.7373E+02	6.7766E-03	2.4534E-03
6.100	1.8137E+02	6.5730E-03	2.4648E-03
6.400	1.8883E+02	6.3834E-03	2.4762E-03
6.700	1.9613E+02	6.2071E-03	2.4875E-03
7.000	2.0328E+02	6.0436E-03	2.4989E-03
7.300	2.1029E+02	5.8923E-03	2.5102E-03
7.600	2.1718E+02	5.7525E-03	2.5215E-03
7.900	2.2396E+02	5.6235E-03	2.5327E-03
8.000	2.2620E+02	5.5828E-03	2.5364E-03
8.300	2.3282E+02	4.9135E-03	2.5476E-03
8.600	2.3934E+02	4.3687E-03	2.5588E-03
8.900	2.4579E+02	3.9249E-03	2.5700E-03
9.200	2.5216E+02	3.5627E-03	2.5811E-03
9.500	2.5846E+02	3.2667E-03	2.5922E-03
9.800	2.6470E+02	3.0245E-03	2.6032E-03
10.100	2.7089E+02	2.8258E-03	2.6143E-03
10.400	2.7702E+02	2.6625E-03	2.6253E-03
24.000	5.3280E+02	1.7660E-03	3.0939E-03
48.000	7.3966E+02	5.2615E-04	3.7922E-03
72.000	9.2826E+02	4.7950E-04	4.3475E-03
96.000	1.1002E+03	4.3699E-04	4.7795E-03
240.000	1.8548E+03	1.4892E-04	5.6127E-03
720.000	2.7090E+03	2.3259E-05	2.5084E-03

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

Exclusion Area Bounda    Low Population Zone                      Control Room

Time (hr)	Thyroid (rem)	TEDE (rem)	Thyroid (rem)	TEDE (rem)	Thyroid (rem)	TEDE (rem)
0.000	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.033	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.167	1.2810E-01	6.3717E-03	9.7956E-03	4.8724E-04	8.2000E-03	3.3453E-04
0.500	2.1070E+00	1.1222E-01	1.6112E-01	8.5817E-03	3.9916E-01	1.6215E-02
0.667	3.8294E+00	2.1870E-01	2.9284E-01	1.6724E-02	9.2282E-01	3.7617E-02
1.000	9.2295E+00	6.6989E-01	7.0579E-01	5.1227E-02	2.1658E+00	8.9776E-02
1.160	1.2782E+01	1.0424E+00	9.7744E-01	7.9715E-02	2.7326E+00	1.1459E-01
1.410	1.9559E+01	1.8821E+00	1.4957E+00	1.4392E-01	3.6158E+00	1.5562E-01
1.660	2.7782E+01	3.0792E+00	2.1245E+00	2.3547E-01	4.5269E+00	2.0187E-01
1.910	3.7385E+01	4.6684E+00	2.8588E+00	3.5699E-01	5.4942E+00	2.5582E-01
2.000	4.1166E+01	5.3408E+00	3.1480E+00	4.0841E-01	5.8606E+00	2.7754E-01
2.200	4.6274E+01	6.2949E+00	3.3035E+00	4.3746E-01	6.6698E+00	3.2709E-01
2.250	4.7555E+01	6.5416E+00	3.3425E+00	4.4497E-01	6.8669E+00	3.3935E-01
2.300	4.8833E+01	6.7916E+00	3.3814E+00	4.5258E-01	7.0621E+00	3.5158E-01
2.350	5.0110E+01	7.0448E+00	3.4203E+00	4.6028E-01	7.2554E+00	3.6379E-01
2.700	5.8946E+01	8.9014E+00	3.6892E+00	5.1680E-01	8.5618E+00	4.4888E-01
3.000	6.6328E+01	1.0579E+01	3.9140E+00	5.6786E-01	9.6229E+00	5.2146E-01
3.300	7.3493E+01	1.2308E+01	4.1321E+00	6.2051E-01	1.0636E+01	5.9387E-01
3.600	8.0425E+01	1.4069E+01	4.3431E+00	6.7410E-01	1.1607E+01	6.6608E-01
3.900	8.7121E+01	1.5842E+01	4.5469E+00	7.2808E-01	1.2537E+01	7.3795E-01
4.000	8.9301E+01	1.6433E+01	4.6133E+00	7.4608E-01	1.2839E+01	7.6180E-01
4.300	9.5688E+01	1.8201E+01	4.8077E+00	7.9990E-01	1.3720E+01	8.3293E-01
4.600	1.0186E+02	1.9952E+01	4.9954E+00	8.5320E-01	1.4567E+01	9.0328E-01
4.900	1.0782E+02	2.1677E+01	5.1769E+00	9.0572E-01	1.5382E+01	9.7265E-01
5.200	1.1358E+02	2.3370E+01	5.3524E+00	9.5724E-01	1.6167E+01	1.0409E+00
5.500	1.1917E+02	2.5025E+01	5.5225E+00	1.0076E+00	1.6923E+01	1.1078E+00
5.800	1.2459E+02	2.6639E+01	5.6875E+00	1.0568E+00	1.7653E+01	1.1733E+00
6.100	1.2986E+02	2.8210E+01	5.8479E+00	1.1046E+00	1.8357E+01	1.2372E+00
6.400	1.3498E+02	2.9735E+01	6.0039E+00	1.1510E+00	1.9039E+01	1.2996E+00
6.700	1.3998E+02	3.1215E+01	6.1561E+00	1.1960E+00	1.9699E+01	1.3604E+00
7.000	1.4486E+02	3.2648E+01	6.3046E+00	1.2397E+00	2.0339E+01	1.4195E+00
7.300	1.4963E+02	3.4036E+01	6.4499E+00	1.2819E+00	2.0960E+01	1.4769E+00
7.600	1.5431E+02	3.5378E+01	6.5921E+00	1.3228E+00	2.1564E+01	1.5327E+00
7.900	1.5889E+02	3.6677E+01	6.7316E+00	1.3623E+00	2.2152E+01	1.5869E+00
8.000	1.6039E+02	3.7100E+01	6.7775E+00	1.3752E+00	2.2344E+01	1.6046E+00
8.300	1.6484E+02	3.8340E+01	6.8215E+00	1.3976E+00	2.2884E+01	1.6538E+00
8.600	1.6922E+02	3.9539E+01	6.8649E+00	1.4192E+00	2.3359E+01	1.6965E+00
8.900	1.7353E+02	4.0699E+01	6.9076E+00	1.4401E+00	2.3783E+01	1.7340E+00
9.200	1.7777E+02	4.1820E+01	6.9497E+00	1.4603E+00	2.4164E+01	1.7674E+00
9.500	1.8196E+02	4.2904E+01	6.9912E+00	1.4798E+00	2.4511E+01	1.7975E+00
9.800	1.8610E+02	4.3953E+01	7.0322E+00	1.4987E+00	2.4830E+01	1.8248E+00
10.100	1.9019E+02	4.4968E+01	7.0727E+00	1.5170E+00	2.5126E+01	1.8499E+00
10.400	1.9423E+02	4.5951E+01	7.1127E+00	1.5346E+00	2.5402E+01	1.8732E+00
24.000	3.5567E+02	7.3369E+01	8.7122E+00	2.0150E+00	3.3790E+01	2.4461E+00
48.000	4.7575E+02	8.5963E+01	9.2901E+00	2.0979E+00	3.6441E+01	2.5818E+00
72.000	5.7896E+02	9.5347E+01	9.7868E+00	2.1587E+00	3.8449E+01	2.6758E+00
96.000	6.7029E+02	1.0333E+02	1.0226E+01	2.2102E+00	4.0226E+01	2.7572E+00
240.000	1.0619E+03	1.3480E+02	1.0703E+01	2.2609E+00	4.3274E+01	2.8910E+00
720.000	1.5027E+03	1.6241E+02	1.1240E+01	2.3036E+00	4.6675E+01	3.0240E+00

#####  
Worst Two-Hour Doses  
#####

Exclusion Area Boundary

Time (hr)	Whole Body (rem)	Thyroid (rem)	TEDE (rem)
3.0	9.7666E+00	4.3410E+01	1.1663E+01

## Attachment 13.5 - RADTRAD Output File "QDC39MS33.o0"

```
#####
RADTRAD Version 3.03 (Spring 2001) run on 1/28/2020 at 9:36:46
#####
```

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

```
Plant file          = D:\Projects\RabaioliBrosius\Exelon_RAIs\QDC-0000-N-
1481\Framatome\QDC39MS33.psf
Inventory file      = D:\Projects\RabaioliBrosius\Exelon_RAIs\QDC-0000-N-
1481\Framatome\DQLOCA_ATRIUM_DEF.nif
Release file        = c:\program files
(x86)\radtrad3.03\defaults\bwr_dba.rft
Dose Conversion file = c:\program files
(x86)\radtrad3.03\defaults\fgr11&12.inp
```

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

```
Radtrad 3.03 4/15/2001
Quad Cities MSIV Leakeg - Optima Fuel With 39 GWD/MTU, MSIV Leakage =
100/100/50/0 scfh, 40% Aerosol Settling Velocity, CREV Initiated @ 40
Minutes, CR Unfiltered Inleakage = 4,000 cfm for <0.6667 hrs and 400 cfm
>0.6667 hrs
```

Nuclide Inventory File:

D:\Projects\RabaioliBrosius\Exelon\_RAIs\QDC-0000-N-1481\Framatome\DQLOCA\_ATRIUM\_DEF.nif

Plant Power Level:

3.0161E+03

Compartments:

9

Compartment 1:

Sprayed Drywell

3

9.5000E+04

1

0

0

0

0

Compartment 2:

MSIV Failed Control Vol 1

3

2.0024E+02

0

0

0

0

0

Compartment 3:

Intact Control Volume 2

3

1.5293E+02

0

0

0

0

0

Compartment 4:

Intact Control Volume 3

3

4.9110E+01

0

0

0

0

0

Compartment 5:

Intact Control Volume 4

3

1.6375E+02

0

0

0

0

0

Compartment 6:

Intact Control Volume 5

3

4.9110E+01

0

0

0

0

0

Compartment 7:

Environment

2

0.0000E+00

0

0

0

0

0

Compartment 8:

Control Room

1

1.8400E+05

0  
0  
0  
0  
0

Compartment 9:  
Unsprayed Drywell

3  
6.3000E+04  
0  
0  
0  
0  
0

Pathways:

13

Pathway 1:

Drywell to MSIV Failed Control Vol 1

1  
2  
2

Pathway 2:

MSIV Failed Control Vol 1 to Environment

2  
7  
2

Pathway 3:

Drywell to Intact Control Volume 2

1  
3  
2

Pathway 4:

Intact Control Volume 2 to Intact Control Volume 3

3  
4  
2

Pathway 5:

Intact Control Volume 3 to Environment

4  
7  
2

Pathway 6:

Drywell to Intact Control Volume 4

1  
5  
2

Pathway 7:

Intact Control Volume 4 to Intact Control Volume 5

5  
6  
2

Pathway 8:

Intact Control Volume 5 to Environment

6  
7  
2

Pathway 9:



Filtered Intake to Control Room

7  
8  
2

Pathway 10:

Unfiltered Inleakage to Control Room

7  
8  
2

Pathway 11:

Control Room Exhaust to Environment

8  
7  
2

Pathway 12:

Sprayed Drywell to Unsprayed Drywell

1  
9  
2

Pathway 13:

Unsprayed Drywell to Sprayed Drywell

9  
1  
2

End of Plant Model File

Scenario Description Name:

Plant Model Filename:

Source Term:

1

1 1.0000E+00

c:\program files (x86)\radtrad3.03\defaults\fgr11&12.inp

c:\program files (x86)\radtrad3.03\defaults\bwr\_dba.rft

0.0000E+00

1

9.5000E-01 4.8500E-02 1.5000E-03 1.0000E+00

Overlying Pool:

0

0.0000E+00

0

0

0

0

Compartments:

9

Compartment 1:

1

1

1

0.0000E+00

6

0.0000E+00 0.0000E+00

1.6670E-01 1.5000E+01

2.2000E+00 1.5000E+00

2.3000E+00 1.5000E+00

4.0000E+00 0.0000E+00

7.2000E+02 0.0000E+00

1

0.0000E+00

6

0.0000E+00 0.0000E+00

1.6670E-01 1.5000E+01

2.2000E+00 1.5000E+01

2.3000E+00 0.0000E+00

4.0000E+00 0.0000E+00

7.2000E+02 0.0000E+00

1

0.0000E+00

0

0

0

0

0

Compartment 2:

0

1

0

0

0

0

0

0

0

Compartment 3:

0

1

0

0

0

0

0

0

0

Compartment 4:

0

1

0

0

0

0

0

0

0

Compartment 5:

0

1

0

0

0

0

0

0

0

Compartment 6:

0  
1  
0  
0  
0  
0  
0  
0  
0  
0

Compartment 7:

0  
1  
0  
0  
0  
0  
0  
0  
0  
0

Compartment 8:

0  
1  
0  
0  
0  
0  
0  
0  
0  
0

Compartment 9:

0  
1  
0  
0  
0  
0  
0  
0  
0  
0

Pathways:

13

Pathway 1:

0  
0  
0  
0  
0  
1  
5  
0.0000E+00  
3.3300E-02  
2.0000E+00  
2.4000E+01  
7.2000E+02  
0  
0

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	5.9500E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	3.4900E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	1.7500E-01	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

0  
0  
0  
0

Pathway 2:

0  
0  
0  
0  
0  
1  
10

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	1.6670E+00	8.7820E+01	6.8400E+00	0.0000E+00
2.0000E+00	9.7900E-01	8.7820E+01	6.8400E+00	0.0000E+00
8.0000E+00	9.7900E-01	8.7820E+01	9.1100E+00	0.0000E+00
2.4000E+01	4.8900E-01	8.7820E+01	1.5690E+01	0.0000E+00
4.8000E+01	4.8900E-01	8.7820E+01	3.1540E+01	0.0000E+00
7.2000E+01	4.8900E-01	8.7820E+01	5.2530E+01	0.0000E+00
9.6000E+01	4.8900E-01	8.7820E+01	7.2070E+01	0.0000E+00
2.4000E+02	4.8900E-01	8.7820E+01	9.7260E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

0  
0  
0  
0  
0  
0

Pathway 3:

0  
0  
0  
0  
0  
1  
5

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	5.9500E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	3.4900E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	1.7500E-01	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

0  
0  
0  
0  
0  
0

Pathway 4:

0  
0  
0  
0  
0  
1  
10

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	1.6670E+00	7.6750E+01	4.1600E+00	0.0000E+00

2.0000E+00	9.7900E-01	7.6750E+01	4.1600E+00	0.0000E+00
8.0000E+00	9.7900E-01	7.6750E+01	5.5700E+00	0.0000E+00
2.4000E+01	4.8900E-01	7.6750E+01	9.7400E+00	0.0000E+00
4.8000E+01	4.8900E-01	7.6750E+01	2.0390E+01	0.0000E+00
7.2000E+01	4.8900E-01	7.6750E+01	3.6240E+01	0.0000E+00
9.6000E+01	4.8900E-01	7.6750E+01	5.4010E+01	0.0000E+00
2.4000E+02	4.8900E-01	7.6750E+01	9.3310E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

0

0

0

0

0

0

Pathway 5:

0

0

0

0

0

1

10

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	1.6670E+00	8.0220E+01	1.4970E+01	0.0000E+00
2.0000E+00	9.7900E-01	8.0220E+01	1.4970E+01	0.0000E+00
8.0000E+00	9.7900E-01	8.0220E+01	1.9630E+01	0.0000E+00
2.4000E+01	4.8900E-01	8.0220E+01	3.2260E+01	0.0000E+00
4.8000E+01	4.8900E-01	8.0220E+01	5.7570E+01	0.0000E+00
7.2000E+01	4.8900E-01	8.0220E+01	8.0730E+01	0.0000E+00
9.6000E+01	4.8900E-01	8.0220E+01	9.2810E+01	0.0000E+00
2.4000E+02	4.8900E-01	8.0220E+01	9.7840E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

0

0

0

0

0

0

Pathway 6:

0

0

0

0

0

1

5

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	2.9700E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	1.7500E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	8.7000E-02	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

0

0

0

0

0

0

Pathway 7:

0				
0				
0				
0				
0				
1				
10				
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	8.3300E-01	8.9010E+01	4.7500E+00	0.0000E+00
2.0000E+00	4.8900E-01	8.9010E+01	4.7500E+00	0.0000E+00
8.0000E+00	4.8900E-01	8.9010E+01	6.3500E+00	0.0000E+00
2.4000E+01	2.4500E-01	8.9010E+01	1.1060E+01	0.0000E+00
4.8000E+01	2.4500E-01	8.9010E+01	2.2950E+01	0.0000E+00
7.2000E+01	2.4500E-01	8.9010E+01	4.0200E+01	0.0000E+00
9.6000E+01	2.4500E-01	8.9010E+01	5.8780E+01	0.0000E+00
2.4000E+02	2.4500E-01	8.9010E+01	9.4930E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0				
0				
0				
0				
0				
0				

Pathway 8:

0				
0				
0				
0				
0				
1				
10				
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	8.3300E-01	8.9030E+01	1.4970E+01	0.0000E+00
2.0000E+00	4.8900E-01	8.9030E+01	1.4970E+01	0.0000E+00
8.0000E+00	4.8900E-01	8.9030E+01	1.9630E+01	0.0000E+00
2.4000E+01	2.4500E-01	8.9030E+01	3.2260E+01	0.0000E+00
4.8000E+01	2.4500E-01	8.9030E+01	5.7570E+01	0.0000E+00
7.2000E+01	2.4500E-01	8.9030E+01	8.0730E+01	0.0000E+00
9.6000E+01	2.4500E-01	8.9030E+01	9.2810E+01	0.0000E+00
2.4000E+02	2.4500E-01	8.9030E+01	9.7840E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0				
0				
0				
0				
0				
0				

Pathway 9:

0				
0				
0				
0				
0				
1				
8				
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

3.3300E-02	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
2.0000E+00	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
8.0000E+00	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
2.4000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
9.6000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

0  
0  
0  
0  
0  
0

Pathway 10:

0  
0  
0  
0  
0  
1  
8

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	4.0000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
8.0000E+00	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
9.6000E+01	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

0  
0  
0  
0  
0  
0

Pathway 11:

0  
0  
0  
0  
0  
1  
8

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	6.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
8.0000E+00	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
9.6000E+01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

0  
0  
0  
0  
0  
0

## Pathway 12:

0				
0				
0				
0				
0				
1				
2				
0.0000E+00	2.1000E+03	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0				
0				
0				
0				
0				
0				

## Pathway 13:

0				
0				
0				
0				
0				
1				
2				
0.0000E+00	2.1000E+03	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0				
0				
0				
0				
0				
0				

## Dose Locations:

3

## Location 1:

## Exclusion Area Boundary

7		
1		
2		
0.0000E+00	1.3600E-03	
7.2000E+02	0.0000E+00	
1		
2		
0.0000E+00	3.5000E-04	
7.2000E+02	0.0000E+00	
0		

## Location 2:

## Low Population Zone

7		
1		
6		
0.0000E+00	1.0200E-03	
2.0000E+00	8.2300E-04	
8.0000E+00	3.5500E-04	
2.4000E+01	1.3920E-04	
9.6000E+01	5.5200E-05	
7.2000E+02	0.0000E+00	



1  
4  
0.0000E+00 3.5000E-04  
8.0000E+00 1.8000E-04  
2.4000E+01 2.3000E-04  
7.2000E+02 0.0000E+00  
0

Location 3:  
Control Room

8  
0  
1  
2  
0.0000E+00 3.5000E-04  
7.2000E+02 0.0000E+00  
1  
4  
0.0000E+00 1.0000E+00  
2.4000E+01 6.0000E-01  
9.6000E+01 4.0000E-01  
7.2000E+02 0.0000E+00

Effective Volume Location:

1  
6  
0.0000E+00 1.0200E-03  
2.0000E+00 8.2300E-04  
8.0000E+00 3.5500E-04  
2.4000E+01 2.3200E-04  
9.6000E+01 1.3800E-04  
7.2000E+02 0.0000E+00

Simulation Parameters:

7  
0.0000E+00 1.0000E-01  
1.0000E+00 1.0000E-02  
2.0000E+00 5.0000E-01  
8.0000E+00 1.0000E+00  
2.4000E+01 2.0000E+00  
9.6000E+01 5.0000E+00  
7.2000E+02 0.0000E+00

Output Filename:

D:\Projects\RabaioliBrosius\Exelon\_RAIs\QDC-0000-N-1481\Framatome\QDC39MS33.o0

1  
1  
1  
0  
0

End of Scenario File

#####  
RADTRAD Version 3.03 (Spring 2001) run on 1/28/2020 at 9:36:46  
#####

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

Number of Nuclides = 60

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

Number of compartments = 9

Compartment information

Compartment number 1 (Source term fraction = 1.0000E+00  
)

Name: Sprayed Drywell

Compartment volume = 9.5000E+04 (Cubic feet)

Compartment type is Normal

Removal devices within compartment:

Spray(s)

Pathways into and out of compartment 1

Inlet Pathway Number 13: Unsprayed Drywell to Sprayed Drywell

Exit Pathway Number 1: Drywell to MSIV Failed Control Vol 1

Exit Pathway Number 3: Drywell to Intact Control Volume 2

Exit Pathway Number 6: Drywell to Intact Control Volume 4

Exit Pathway Number 12: Sprayed Drywell to Unsprayed Drywell

Compartment number 2

Name: MSIV Failed Control Vol 1

Compartment volume = 2.0024E+02 (Cubic feet)

Compartment type is Normal

Pathways into and out of compartment 2

Inlet Pathway Number 1: Drywell to MSIV Failed Control Vol 1

Exit Pathway Number 2: MSIV Failed Control Vol 1 to Environment

Compartment number 3

Name: Intact Control Volume 2

Compartment volume = 1.5293E+02 (Cubic feet)

Compartment type is Normal

Pathways into and out of compartment 3

Inlet Pathway Number 3: Drywell to Intact Control Volume 2

Exit Pathway Number 4: Intact Control Volume 2 to Intact Control  
Volume 3

Compartment number 4

Name: Intact Control Volume 3

Compartment volume = 4.9110E+01 (Cubic feet)

Compartment type is Normal

Pathways into and out of compartment 4

Inlet Pathway Number 4: Intact Control Volume 2 to Intact Control  
Volume 3

Exit Pathway Number 5: Intact Control Volume 3 to Environment

Compartment number 5

Name: Intact Control Volume 4

Compartment volume = 1.6375E+02 (Cubic feet)

Compartment type is Normal

Pathways into and out of compartment 5

Inlet Pathway Number 6: Drywell to Intact Control Volume 4

Exit Pathway Number 7: Intact Control Volume 4 to Intact Control Volume 5

Compartment number 6

Name: Intact Control Volume 5

Compartment volume = 4.9110E+01 (Cubic feet)

Compartment type is Normal

Pathways into and out of compartment 6

Inlet Pathway Number 7: Intact Control Volume 4 to Intact Control Volume 5

Exit Pathway Number 8: Intact Control Volume 5 to Environment

Compartment number 7

Name: Environment

Compartment type is Environment

Pathways into and out of compartment 7

Inlet Pathway Number 2: MSIV Failed Control Vol 1 to Environment

Inlet Pathway Number 5: Intact Control Volume 3 to Environment

Inlet Pathway Number 8: Intact Control Volume 5 to Environment

Inlet Pathway Number 11: Control Room Exhaust to Environment

Exit Pathway Number 9: Filtered Intake to Control Room

Exit Pathway Number 10: Unfiltered Inleakage to Control Room

Compartment number 8

Name: Control Room

Compartment volume = 1.8400E+05 (Cubic feet)

Compartment type is Control Room

Pathways into and out of compartment 8

Inlet Pathway Number 9: Filtered Intake to Control Room

Inlet Pathway Number 10: Unfiltered Inleakage to Control Room

Exit Pathway Number 11: Control Room Exhaust to Environment

Compartment number 9

Name: Unsprayed Drywell

Compartment volume = 6.3000E+04 (Cubic feet)

Compartment type is Normal

Pathways into and out of compartment 9

Inlet Pathway Number 12: Sprayed Drywell to Unsprayed Drywell

Exit Pathway Number 13: Unsprayed Drywell to Sprayed Drywell

Total number of pathways = 13

#####  
 RADTRAD Version 3.03 (Spring 2001) run on 1/28/2020 at 9:36:46  
 #####

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

Radioactive Decay is enabled  
 Calculation of Daughters is enabled

Release Fractions and Timings

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

Inventory Power = 3016. MWt

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

Te-129	4	8.222E+03	4.176E+03	2.750E-15	5.090E-13	2.090E-11
Te-129m	4	1.664E+03	2.903E+06	3.337E-15	1.563E-10	6.484E-09
Te-131m	4	5.404E+03	1.080E+05	7.463E-14	3.669E-08	1.758E-09
Te-132	4	3.813E+04	2.815E+05	1.030E-14	6.280E-08	2.550E-09
I-131	2	2.666E+04	6.947E+05	1.820E-14	2.920E-07	8.890E-09
I-132	2	3.879E+04	8.280E+03	1.120E-13	1.740E-09	1.030E-10
I-133	2	5.504E+04	7.488E+04	2.940E-14	4.860E-08	1.580E-09
I-134	2	6.100E+04	3.156E+03	1.300E-13	2.880E-10	3.550E-11
I-135	2	5.238E+04	2.380E+04	8.294E-14	8.460E-09	3.320E-10
Xe-133	1	5.272E+04	4.532E+05	1.560E-15	0.000E+00	0.000E+00
Xe-135	1	1.787E+04	3.272E+04	1.190E-14	0.000E+00	0.000E+00
Cs-134	3	6.730E+03	6.507E+07	7.570E-14	1.110E-08	1.250E-08
Cs-136	3	1.837E+03	1.132E+06	1.060E-13	1.730E-09	1.980E-09
Cs-137	3	5.338E+03	9.467E+08	2.725E-14	7.930E-09	8.630E-09
Ba-139	6	4.841E+04	4.962E+03	2.170E-15	2.400E-12	4.640E-11
Ba-140	6	4.874E+04	1.101E+06	8.580E-15	2.560E-10	1.010E-09
La-140	9	5.205E+04	1.450E+05	1.170E-13	6.870E-11	1.310E-09
La-141	9	4.443E+04	1.415E+04	2.390E-15	9.400E-12	1.570E-10
La-142	9	4.343E+04	5.550E+03	1.440E-13	8.740E-12	6.840E-11
Ce-141	8	4.476E+04	2.808E+06	3.430E-15	2.550E-11	2.420E-09
Ce-143	8	4.178E+04	1.188E+05	1.290E-14	6.230E-12	9.160E-10
Ce-144	8	3.846E+04	2.456E+07	2.773E-15	2.920E-10	1.010E-07
Pr-143	9	4.045E+04	1.172E+06	2.100E-17	1.680E-18	2.190E-09
Nd-147	9	1.800E+04	9.487E+05	6.190E-15	1.820E-11	1.850E-09
Np-239	8	5.272E+05	2.035E+05	7.690E-15	7.620E-12	6.780E-10
Pu-238	8	1.379E+02	2.769E+09	4.880E-18	3.860E-10	7.790E-05
Pu-239	8	1.303E+01	7.594E+11	4.240E-18	3.750E-10	8.330E-05
Pu-240	8	2.387E+01	2.063E+11	4.750E-18	3.760E-10	8.330E-05
Pu-241	8	5.272E+03	4.544E+08	7.250E-20	9.150E-12	1.340E-06
Am-241	9	8.653E+00	1.364E+10	8.180E-16	1.600E-09	1.200E-04
Cm-242	9	2.202E+03	1.407E+07	5.690E-18	9.410E-10	4.670E-06
Cm-244	9	1.280E+02	5.715E+08	4.910E-18	1.010E-09	6.700E-05

Nuclide	Daughter	Fraction	Daughter	Fraction	Daughter	Fraction
Kr-85m	Kr-85	0.21	none	0.00	none	0.00
Kr-87	Rb-87	1.00	none	0.00	none	0.00
Kr-88	Rb-88	1.00	none	0.00	none	0.00
Sr-90	Y-90	1.00	none	0.00	none	0.00
Sr-91	Y-91m	0.58	Y-91	0.42	none	0.00
Sr-92	Y-92	1.00	none	0.00	none	0.00
Y-93	Zr-93	1.00	none	0.00	none	0.00
Zr-95	Nb-95m	0.01	Nb-95	0.99	none	0.00
Zr-97	Nb-97m	0.95	Nb-97	0.05	none	0.00
Mo-99	Tc-99m	0.88	Tc-99	0.12	none	0.00
Tc-99m	Tc-99	1.00	none	0.00	none	0.00
Ru-103	Rh-103m	1.00	none	0.00	none	0.00
Ru-105	Rh-105	1.00	none	0.00	none	0.00
Ru-106	Rh-106	1.00	none	0.00	none	0.00
Sb-127	Te-127m	0.18	Te-127	0.82	none	0.00
Sb-129	Te-129m	0.22	Te-129	0.77	none	0.00
Te-127m	Te-127	0.98	none	0.00	none	0.00
Te-129	I-129	1.00	none	0.00	none	0.00
Te-129m	Te-129	0.65	I-129	0.35	none	0.00
Te-131m	Te-131	0.22	I-131	0.78	none	0.00
Te-132	I-132	1.00	none	0.00	none	0.00
I-131	Xe-131m	0.01	none	0.00	none	0.00
I-133	Xe-133m	0.03	Xe-133	0.97	none	0.00

I-135	Xe-135m	0.15	Xe-135	0.85	none	0.00
Xe-135	Cs-135	1.00	none	0.00	none	0.00
Cs-137	Ba-137m	0.95	none	0.00	none	0.00
Ba-140	La-140	1.00	none	0.00	none	0.00
La-141	Ce-141	1.00	none	0.00	none	0.00
Ce-143	Pr-143	1.00	none	0.00	none	0.00
Ce-144	Pr-144m	0.02	Pr-144	0.98	none	0.00
Nd-147	Pm-147	1.00	none	0.00	none	0.00
Np-239	Pu-239	1.00	none	0.00	none	0.00
Pu-238	U-234	1.00	none	0.00	none	0.00
Pu-239	U-235	1.00	none	0.00	none	0.00
Pu-240	U-236	1.00	none	0.00	none	0.00
Pu-241	U-237	0.00	Am-241	1.00	none	0.00
Am-241	Np-237	1.00	none	0.00	none	0.00
Cm-242	Pu-238	1.00	none	0.00	none	0.00
Cm-244	Pu-240	1.00	none	0.00	none	0.00

## Iodine fractions

Aerosol	=	9.5000E-01
Elemental	=	4.8500E-02
Organic	=	1.5000E-03

## COMPARTMENT DATA

Compartment number 1: Sprayed Drywell

## Sprays: Aerosol Removal Data

Time (hr)	Removal Coef. (hr <sup>-1</sup> )
0.0000E+00	0.0000E+00
1.6670E-01	1.5000E+01
2.2000E+00	1.5000E+00
2.3000E+00	1.5000E+00
4.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00

## Sprays: Elemental Removal Data

Time (hr)	Removal Coef. (hr <sup>-1</sup> )
0.0000E+00	0.0000E+00
1.6670E-01	1.5000E+01
2.2000E+00	1.5000E+01
2.3000E+00	0.0000E+00
4.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00

Compartment number 2: MSIV Failed Control Vol 1

Compartment number 3: Intact Control Volume 2

Compartment number 4: Intact Control Volume 3

Compartment number 5: Intact Control Volume 4

Compartment number 6: Intact Control Volume 5

Compartment number 7: Environment

Compartment number 8: Control Room

Compartment number 9: Unsprayed Drywell

PATHWAY DATA

Pathway number 1: Drywell to MSIV Failed Control Vol 1

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	5.9500E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	3.4900E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	1.7500E-01	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 2: MSIV Failed Control Vol 1 to Environment

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	1.6670E+00	8.7820E+01	6.8400E+00	0.0000E+00
2.0000E+00	9.7900E-01	8.7820E+01	6.8400E+00	0.0000E+00
8.0000E+00	9.7900E-01	8.7820E+01	9.1100E+00	0.0000E+00
2.4000E+01	4.8900E-01	8.7820E+01	1.5690E+01	0.0000E+00
4.8000E+01	4.8900E-01	8.7820E+01	3.1540E+01	0.0000E+00
7.2000E+01	4.8900E-01	8.7820E+01	5.2530E+01	0.0000E+00
9.6000E+01	4.8900E-01	8.7820E+01	7.2070E+01	0.0000E+00
2.4000E+02	4.8900E-01	8.7820E+01	9.7260E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 3: Drywell to Intact Control Volume 2

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	5.9500E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	3.4900E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	1.7500E-01	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 4: Intact Control Volume 2 to Intact Control Volume 3

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	1.6670E+00	7.6750E+01	4.1600E+00	0.0000E+00
2.0000E+00	9.7900E-01	7.6750E+01	4.1600E+00	0.0000E+00
8.0000E+00	9.7900E-01	7.6750E+01	5.5700E+00	0.0000E+00
2.4000E+01	4.8900E-01	7.6750E+01	9.7400E+00	0.0000E+00

4.8000E+01	4.8900E-01	7.6750E+01	2.0390E+01	0.0000E+00
7.2000E+01	4.8900E-01	7.6750E+01	3.6240E+01	0.0000E+00
9.6000E+01	4.8900E-01	7.6750E+01	5.4010E+01	0.0000E+00
2.4000E+02	4.8900E-01	7.6750E+01	9.3310E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 5: Intact Control Volume 3 to Environment

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	1.6670E+00	8.0220E+01	1.4970E+01	0.0000E+00
2.0000E+00	9.7900E-01	8.0220E+01	1.4970E+01	0.0000E+00
8.0000E+00	9.7900E-01	8.0220E+01	1.9630E+01	0.0000E+00
2.4000E+01	4.8900E-01	8.0220E+01	3.2260E+01	0.0000E+00
4.8000E+01	4.8900E-01	8.0220E+01	5.7570E+01	0.0000E+00
7.2000E+01	4.8900E-01	8.0220E+01	8.0730E+01	0.0000E+00
9.6000E+01	4.8900E-01	8.0220E+01	9.2810E+01	0.0000E+00
2.4000E+02	4.8900E-01	8.0220E+01	9.7840E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 6: Drywell to Intact Control Volume 4

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	2.9700E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	1.7500E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	8.7000E-02	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 7: Intact Control Volume 4 to Intact Control Volume 5

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	8.3300E-01	8.9010E+01	4.7500E+00	0.0000E+00
2.0000E+00	4.8900E-01	8.9010E+01	4.7500E+00	0.0000E+00
8.0000E+00	4.8900E-01	8.9010E+01	6.3500E+00	0.0000E+00
2.4000E+01	2.4500E-01	8.9010E+01	1.1060E+01	0.0000E+00
4.8000E+01	2.4500E-01	8.9010E+01	2.2950E+01	0.0000E+00
7.2000E+01	2.4500E-01	8.9010E+01	4.0200E+01	0.0000E+00
9.6000E+01	2.4500E-01	8.9010E+01	5.8780E+01	0.0000E+00
2.4000E+02	2.4500E-01	8.9010E+01	9.4930E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 8: Intact Control Volume 5 to Environment

Pathway Filter: Removal Data

Time (hr)	Flow Rate	Filter Efficiencies (%)
-----------	-----------	-------------------------



	(cfm)	Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	8.3300E-01	8.9030E+01	1.4970E+01	0.0000E+00
2.0000E+00	4.8900E-01	8.9030E+01	1.4970E+01	0.0000E+00
8.0000E+00	4.8900E-01	8.9030E+01	1.9630E+01	0.0000E+00
2.4000E+01	2.4500E-01	8.9030E+01	3.2260E+01	0.0000E+00
4.8000E+01	2.4500E-01	8.9030E+01	5.7570E+01	0.0000E+00
7.2000E+01	2.4500E-01	8.9030E+01	8.0730E+01	0.0000E+00
9.6000E+01	2.4500E-01	8.9030E+01	9.2810E+01	0.0000E+00
2.4000E+02	2.4500E-01	8.9030E+01	9.7840E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 9: Filtered Intake to Control Room

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
2.0000E+00	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
8.0000E+00	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
2.4000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
9.6000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 10: Unfiltered Inleakage to Control Room

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	4.0000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
8.0000E+00	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
9.6000E+01	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 11: Control Room Exhaust to Environment

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	6.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
8.0000E+00	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
9.6000E+01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 12: Sprayed Drywell to Unsprayed Drywell

Pathway Filter: Removal Data

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

Pathway number 13: Unsprayed Drywell to Sprayed Drywell

Pathway Filter: Removal Data

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

#### LOCATION DATA

Location Exclusion Area Boundary is in compartment 7

Location X/Q Data

Time (hr)	X/Q (s * m <sup>-3</sup> )
0.0000E+00	1.3600E-03
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 Low Population Zone is in compartment 7

Location X/Q Data

Time (hr)	X/Q (s * m <sup>-3</sup> )
0.0000E+00	1.0200E-03
2.0000E+00	8.2300E-04
8.0000E+00	3.5500E-04
2.4000E+01	1.3920E-04
9.6000E+01	5.5200E-05
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
8.0000E+00	1.8000E-04
2.4000E+01	2.3000E-04
7.2000E+02	0.0000E+00

Location Control Room is in compartment 8

Location X/Q Data

Time (hr)	X/Q (s * m <sup>-3</sup> )
0.0000E+00	1.0200E-03
2.0000E+00	8.2300E-04
8.0000E+00	3.5500E-04
2.4000E+01	2.3200E-04
9.6000E+01	1.3800E-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 Occupancy Factor Data

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

## USER SPECIFIED TIME STEP DATA - SUPPLEMENTAL TIME STEPS

Time	Time step
0.0000E+00	1.0000E-01
1.0000E+00	1.0000E-02
2.0000E+00	5.0000E-01
8.0000E+00	1.0000E+00
2.4000E+01	2.0000E+00
9.6000E+01	5.0000E+00
7.2000E+02	0.0000E+00

#####  
 RADTRAD Version 3.03 (Spring 2001) run on 1/28/2020 at 9:36:46  
 #####

```

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

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

Exclusion Area Boundary Doses:

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

Low Population Zone Doses:

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

Control Room Doses:

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

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =	0.0333	Ci	kg	Atoms	Decay
------------	--------	----	----	-------	-------

Sprayed Drywell Transport Group Inventory:

Time (h) =	0.0333	Atmosphere	Sump	
Noble gases (atoms)		9.3660E+22	0.0000E+00	
Elemental I (atoms)		6.2043E+20	0.0000E+00	
Organic I (atoms)		1.9188E+19	0.0000E+00	
Aerosols (kg)		6.5728E-01	0.0000E+00	
Dose Effective (Ci/cc)		I-131 (Thyroid)		1.3741E-04
Dose Effective (Ci/cc)		I-131 (ICRP2 Thyroid)		1.7573E-04
Total I (Ci)				2.2772E+06

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

		Pathway	
Time (h) =	0.0333	Filtered	Transported

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

Drywell to Intact Control Volume 2 Transport Group Inventory:

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

Drywell to Intact Control Volume 4 Transport Group Inventory:

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

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 0.0333	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.0833E+21
Elemental I (atoms)	0.0000E+00	1.3811E+19
Organic I (atoms)	0.0000E+00	4.2713E+17
Aerosols (kg)	0.0000E+00	1.4620E-02

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 0.0333	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.5284E+19
Elemental I (atoms)	0.0000E+00	3.0020E+17
Organic I (atoms)	0.0000E+00	9.2845E+15
Aerosols (kg)	0.0000E+00	3.1779E-04

Exclusion Area Boundary Doses:

Time (h) = 0.1667	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.1449E-03	1.2124E-01	6.0306E-03
Accumulated dose (rem)	1.1449E-03	1.2124E-01	6.0306E-03

Low Population Zone Doses:

Time (h) = 0.1667	Whole Body	Thyroid	TEDE
Delta dose (rem)	8.5870E-04	9.0926E-02	4.5229E-03
Accumulated dose (rem)	8.5870E-04	9.0926E-02	4.5229E-03

Control Room Doses:

Time (h) = 0.1667	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.7623E-06	7.7934E-03	3.1794E-04

Accumulated dose (rem) 3.7623E-06 7.7934E-03 3.1794E-04

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =	Ci	kg	Atoms	Decay
0.1667				
Kr-85	2.0720E+04	5.2812E-02	3.7416E+23	3.1771E+17
Kr-85m	3.0067E+05	3.6536E-05	2.5885E+20	4.6567E+18
Kr-87	5.6483E+05	1.9941E-05	1.3803E+20	8.9726E+18
Kr-88	8.2480E+05	6.5777E-05	4.5014E+20	1.2848E+19
Rb-86	2.3285E+03	2.8617E-05	2.0039E+20	3.5708E+16
I-131	1.2153E+06	9.8028E-03	4.5064E+22	1.8639E+19
I-132	1.7110E+06	1.6576E-04	7.5625E+20	2.6631E+19
I-133	2.4967E+06	2.2040E-03	9.9794E+21	3.8365E+19
I-134	2.4392E+06	9.1435E-05	4.1092E+20	3.9377E+19
I-135	2.3482E+06	6.6865E-04	2.9827E+21	3.6250E+19
Xe-133	2.4047E+06	1.2847E-02	5.8170E+22	3.6866E+19
Xe-135	8.3040E+05	3.2517E-04	1.4505E+21	1.2568E+19
Cs-134	3.0702E+05	2.3729E-01	1.0664E+24	4.7077E+18
Cs-136	8.3757E+04	1.1428E-03	5.0604E+21	1.2845E+18
Cs-137	2.4349E+05	2.7994E+00	1.2305E+25	3.7336E+18

Sprayed Drywell Transport Group Inventory:

Time (h) =	Atmosphere	Sump	
0.1667			
Noble gases (atoms)	4.3463E+23	0.0000E+00	
Elemental I (atoms)	2.8709E+21	0.0000E+00	
Organic I (atoms)	8.8790E+19	0.0000E+00	
Aerosols (kg)	3.0501E+00	0.0000E+00	
Dose Effective (Ci/cc) I-131 (Thyroid)			6.3621E-04
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			8.1087E-04
Total I (Ci)			1.0210E+07

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

Time (h) =	Pathway	
	Filtered	Transported
0.1667		
Noble gases (atoms)	0.0000E+00	1.3448E+19
Elemental I (atoms)	0.0000E+00	8.9005E+16
Organic I (atoms)	0.0000E+00	2.7527E+15
Aerosols (kg)	0.0000E+00	9.4375E-05

Drywell to Intact Control Volume 2 Transport Group Inventory:

Time (h) =	Pathway	
	Filtered	Transported
0.1667		
Noble gases (atoms)	0.0000E+00	1.3448E+19
Elemental I (atoms)	0.0000E+00	8.9005E+16
Organic I (atoms)	0.0000E+00	2.7527E+15
Aerosols (kg)	0.0000E+00	9.4375E-05

Drywell to Intact Control Volume 4 Transport Group Inventory:

Time (h) =	Pathway	
	Filtered	Transported
0.1667		
Noble gases (atoms)	0.0000E+00	6.7128E+18
Elemental I (atoms)	0.0000E+00	4.4428E+16
Organic I (atoms)	0.0000E+00	1.3740E+15
Aerosols (kg)	0.0000E+00	4.7108E-05

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) =	0.1667	
	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.9547E+22
Elemental I (atoms)	0.0000E+00	3.2795E+20
Organic I (atoms)	0.0000E+00	1.0143E+19
Aerosols (kg)	0.0000E+00	3.4771E-01

## Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) =	0.1667	
	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.1416E+21
Elemental I (atoms)	0.0000E+00	3.4021E+19
Organic I (atoms)	0.0000E+00	1.0522E+18
Aerosols (kg)	0.0000E+00	3.6082E-02

## Exclusion Area Boundary Doses:

Time (h) =	0.5000	Whole Body	Thyroid	TEDE
Delta dose (rem)		2.3987E-02	1.8252E+00	9.6824E-02
Accumulated dose (rem)		2.5132E-02	1.9464E+00	1.0285E-01

## Low Population Zone Doses:

Time (h) =	0.5000	Whole Body	Thyroid	TEDE
Delta dose (rem)		1.7990E-02	1.3689E+00	7.2618E-02
Accumulated dose (rem)		1.8849E-02	1.4598E+00	7.7141E-02

## Control Room Doses:

Time (h) =	0.5000	Whole Body	Thyroid	TEDE
Delta dose (rem)		2.1324E-04	3.6142E-01	1.4677E-02
Accumulated dose (rem)		2.1700E-04	3.6921E-01	1.4995E-02

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =	0.5000	Ci	kg	Atoms	Decay
Kr-85		5.4484E+04	1.3887E-01	9.8389E+23	2.2188E+18
Kr-85m		7.5090E+05	9.1245E-05	6.4646E+20	3.1458E+19
Kr-87		1.2385E+06	4.3724E-05	3.0266E+20	5.5825E+19
Kr-88		1.9994E+06	1.5945E-04	1.0912E+21	8.5160E+19
Rb-86		1.0072E+03	1.2379E-05	8.6684E+19	8.5796E+16
I-131		5.2943E+05	4.2705E-03	1.9632E+22	4.4904E+19
I-132		7.3931E+05	7.1623E-05	3.2676E+20	6.3829E+19
I-133		1.0767E+06	9.5050E-04	4.3038E+21	9.2070E+19
I-134		8.1727E+05	3.0636E-05	1.3768E+20	8.6214E+19
I-135		9.8885E+05	2.8157E-04	1.2561E+21	8.6211E+19
Xe-133		6.3169E+06	3.3748E-02	1.5281E+23	2.5738E+20
Xe-135		2.1864E+06	8.5616E-04	3.8192E+21	8.8792E+19
Cs-134		1.3287E+05	1.0270E-01	4.6154E+23	1.1313E+19
Cs-136		3.6223E+04	4.9423E-04	2.1885E+21	3.0860E+18
Cs-137		1.0538E+05	1.2115E+00	5.3256E+24	8.9727E+18

## Sprayed Drywell Transport Group Inventory:

Time (h) =	0.5000	Atmosphere	Sump
Noble gases (atoms)	1.1426E+24	0.0000E+00	
Elemental I (atoms)	1.2349E+21	7.5496E+21	
Organic I (atoms)	2.3192E+20	0.0000E+00	
Aerosols (kg)	1.3200E+00	8.0349E+00	
Dose Effective (Ci/cc)	I-131 (Thyroid)		2.7601E-04
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		3.4947E-04
Total I (Ci)			4.1516E+06

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.1374E+20
Elemental I (atoms)	0.0000E+00	2.7814E+17
Organic I (atoms)	0.0000E+00	2.3187E+16
Aerosols (kg)	0.0000E+00	2.9567E-04

Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.1374E+20
Elemental I (atoms)	0.0000E+00	2.7814E+17
Organic I (atoms)	0.0000E+00	2.3187E+16
Aerosols (kg)	0.0000E+00	2.9567E-04

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.6775E+19
Elemental I (atoms)	0.0000E+00	1.3884E+17
Organic I (atoms)	0.0000E+00	1.1574E+16
Aerosols (kg)	0.0000E+00	1.4759E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.0352E+23
Elemental I (atoms)	0.0000E+00	9.9548E+20
Organic I (atoms)	0.0000E+00	8.2265E+19
Aerosols (kg)	0.0000E+00	1.0582E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.0978E+23
Elemental I (atoms)	0.0000E+00	3.7778E+20
Organic I (atoms)	0.0000E+00	2.2359E+19
Aerosols (kg)	0.0000E+00	4.0232E-01

Exclusion Area Boundary Doses:

Time (h) =	0.6667	Whole Body	Thyroid	TEDE
------------	--------	------------	---------	------



Delta dose (rem)	3.1352E-02	1.6055E+00	9.6900E-02
Accumulated dose (rem)	5.6484E-02	3.5519E+00	1.9975E-01

## Low Population Zone Doses:

Time (h) =	0.6667	Whole Body	Thyroid	TEDE
Delta dose (rem)		2.3514E-02	1.2042E+00	7.2675E-02
Accumulated dose (rem)		4.2363E-02	2.6640E+00	1.4982E-01

## Control Room Doses:

Time (h) =	0.6667	Whole Body	Thyroid	TEDE
Delta dose (rem)		3.6536E-04	4.8499E-01	1.9817E-02
Accumulated dose (rem)		5.8236E-04	8.5420E-01	3.4812E-02

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =	Ci	kg	Atoms	Decay
Co-58	4.4405E+01	1.3965E-06	1.4500E+19	9.0095E+14
Co-60	5.3161E+01	4.7029E-05	4.7202E+20	1.0786E+15
Kr-85	1.8004E+05	4.5889E-01	3.2512E+24	5.5807E+18
Kr-85m	2.4181E+06	2.9383E-04	2.0818E+21	7.7155E+19
Kr-87	3.7371E+06	1.3193E-04	9.1325E+20	1.2863E+20
Kr-88	6.3435E+06	5.0589E-04	3.4620E+21	2.0587E+20
Rb-86	1.3045E+03	1.6032E-05	1.1226E+20	1.1418E+17
Sr-89	6.0231E+04	2.0732E-03	1.4028E+22	1.2221E+18
Sr-90	9.4775E+03	6.9479E-02	4.6490E+23	1.9228E+17
Sr-91	7.2807E+04	2.0085E-05	1.3292E+20	1.4858E+18
Sr-92	6.8221E+04	5.4275E-06	3.5528E+19	1.4129E+18
Y-90	1.0761E+02	1.9780E-07	1.3235E+18	2.0108E+15
Y-91	7.7953E+02	3.1786E-05	2.1035E+20	1.5790E+16
Y-92	2.0955E+03	2.1777E-07	1.4255E+18	1.9872E+16
Y-93	5.9180E+02	1.7738E-07	1.1486E+18	1.2073E+16
Zr-95	1.1092E+03	5.1632E-05	3.2730E+20	2.2505E+16
Zr-97	1.0496E+03	5.4906E-07	3.4088E+18	2.1366E+16
Nb-95	1.1095E+03	2.8375E-05	1.7987E+20	2.2510E+16
Mo-99	1.4442E+04	3.0112E-05	1.8317E+20	2.9326E+17
Tc-99m	1.2899E+04	2.4532E-06	1.4923E+19	2.6046E+17
Ru-103	1.2515E+04	3.8776E-04	2.2672E+21	2.5392E+17
Ru-105	7.9156E+03	1.1776E-06	6.7537E+18	1.6262E+17
Ru-106	5.4608E+03	1.6322E-03	9.2732E+21	1.1079E+17
Rh-105	8.2268E+03	9.7467E-06	5.5901E+19	1.6678E+17
Sb-127	1.3743E+04	5.1460E-05	2.4402E+20	2.7898E+17
Sb-129	4.5176E+04	8.0335E-06	3.7503E+19	9.2845E+17
Te-127	1.3712E+04	5.1955E-06	2.4636E+19	2.7733E+17
Te-127m	2.3501E+03	2.4915E-04	1.1814E+21	4.7680E+16
Te-129	4.6519E+04	2.2213E-06	1.0370E+19	9.2624E+17
Te-129m	9.6706E+03	3.2101E-04	1.4986E+21	1.9619E+17
Te-131m	3.0919E+04	3.8774E-05	1.7825E+20	6.2846E+17
Te-132	2.2022E+05	7.2537E-04	3.3093E+21	4.4711E+18
I-131	8.4096E+05	6.7833E-03	3.1183E+22	6.2966E+19
I-132	1.1889E+06	1.1518E-04	5.2549E+20	8.9524E+19
I-133	1.7016E+06	1.5021E-03	6.8016E+21	1.2871E+20
I-134	1.1384E+06	4.2674E-05	1.9178E+20	1.1232E+20
I-135	1.5442E+06	4.3972E-04	1.9615E+21	1.1966E+20
Xe-133	2.0875E+07	1.1152E-01	5.0497E+23	6.4727E+20
Xe-135	7.3604E+06	2.8822E-03	1.2857E+22	2.2618E+20

Cs-134	1.7213E+05	1.3304E-01	5.9789E+23	1.5058E+19
Cs-136	4.6907E+04	6.4001E-04	2.8340E+21	4.1065E+18
Cs-137	1.3652E+05	1.5695E+00	6.8990E+24	1.1942E+19
Ba-139	8.0450E+04	4.9184E-06	2.1309E+19	1.6999E+18
Ba-140	1.1310E+05	1.5448E-03	6.6452E+21	2.2950E+18
La-140	1.3943E+03	2.5085E-06	1.0790E+19	2.5016E+16
La-141	9.1796E+02	1.6232E-07	6.9326E+17	1.8890E+16
La-142	7.4795E+02	5.2249E-08	2.2159E+17	1.5736E+16
Ce-141	2.6003E+03	9.1259E-05	3.8977E+20	5.2756E+16
Ce-143	2.3934E+03	3.6040E-06	1.5178E+19	4.8640E+16
Ce-144	2.2344E+03	7.0054E-04	2.9297E+21	4.5332E+16
Pr-143	9.4036E+02	1.3965E-05	5.8809E+19	1.9072E+16
Nd-147	4.1766E+02	5.1627E-06	2.1150E+19	8.4754E+15
Np-239	3.0378E+04	1.3095E-04	3.2995E+20	6.1694E+17
Pu-238	8.0132E+00	4.6807E-04	1.1844E+21	1.6258E+14
Pu-239	7.5711E-01	1.2181E-02	3.0692E+22	1.5360E+13
Pu-240	1.3870E+00	6.0867E-03	1.5273E+22	2.8139E+13
Pu-241	3.0628E+02	2.9732E-03	7.4295E+21	6.2139E+15
Am-241	2.0112E-01	5.8599E-05	1.4643E+20	4.0804E+12
Cm-242	5.1157E+01	1.5435E-05	3.8410E+19	1.0379E+15
Cm-244	2.9742E+00	3.6763E-05	9.0735E+19	6.0343E+13

## Sprayed Drywell Transport Group Inventory:

Time (h) =	0.6667	Atmosphere	Sump	
Noble gases (atoms)	3.7755E+24	0.0000E+00		
Elemental I (atoms)	1.9580E+21	1.1945E+22		
Organic I (atoms)	3.5375E+20	0.0000E+00		
Aerosols (kg)	1.8111E+00	1.2217E+01		
Dose Effective (Ci/cc)	I-131 (Thyroid)		4.3758E-04	
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		5.5260E-04	
Total I (Ci)			6.4142E+06	

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

		Pathway	
Time (h) =	0.6667	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.7017E+20	
Elemental I (atoms)	0.0000E+00	3.8827E+17	
Organic I (atoms)	0.0000E+00	4.1627E+16	
Aerosols (kg)	0.0000E+00	4.0045E-04	

## Drywell to Intact Control Volume 2 Transport Group Inventory:

		Pathway	
Time (h) =	0.6667	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.7017E+20	
Elemental I (atoms)	0.0000E+00	3.8827E+17	
Organic I (atoms)	0.0000E+00	4.1627E+16	
Aerosols (kg)	0.0000E+00	4.0045E-04	

## Drywell to Intact Control Volume 4 Transport Group Inventory:

		Pathway	
Time (h) =	0.6667	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.3486E+20	
Elemental I (atoms)	0.0000E+00	1.9381E+17	
Organic I (atoms)	0.0000E+00	2.0778E+16	

Aerosols (kg) 0.0000E+00 1.9989E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 0.6667	Filtered	Transported
Noble gases (atoms)	0.0000E+00	9.5562E+23
Elemental I (atoms)	0.0000E+00	1.3842E+21
Organic I (atoms)	0.0000E+00	1.4735E+20
Aerosols (kg)	0.0000E+00	1.4280E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 0.6667	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.6171E+23
Elemental I (atoms)	0.0000E+00	6.0694E+20
Organic I (atoms)	0.0000E+00	4.8326E+19
Aerosols (kg)	0.0000E+00	6.4249E-01

Exclusion Area Boundary Doses:

Time (h) = 2.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.5813E+00	3.5151E+01	4.2418E+00
Accumulated dose (rem)	2.6377E+00	3.8703E+01	4.4415E+00

Low Population Zone Doses:

Time (h) = 2.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.9359E+00	2.6363E+01	3.1813E+00
Accumulated dose (rem)	1.9783E+00	2.9027E+01	3.3311E+00

Control Room Doses:

Time (h) = 2.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.4275E-02	4.6063E+00	2.1994E-01
Accumulated dose (rem)	2.4857E-02	5.4605E+00	2.5475E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 2.0000	Ci	kg	Atoms	Decay
Co-58	5.0851E+01	1.5992E-06	1.6604E+19	9.7346E+15
Co-60	6.0909E+01	5.3884E-05	5.4082E+20	1.1657E+16
Kr-85	9.2660E+05	2.3618E+00	1.6733E+25	1.0811E+20
Kr-85m	1.0125E+07	1.2303E-03	8.7169E+21	1.2954E+21
Kr-87	9.2989E+06	3.2829E-04	2.2724E+21	1.5303E+21
Kr-88	2.3579E+07	1.8804E-03	1.2868E+22	3.1875E+21
Rb-86	1.3607E+03	1.6723E-05	1.1710E+20	3.5390E+17
Sr-89	6.8959E+04	2.3736E-03	1.6061E+22	1.3203E+19
Sr-90	1.0859E+04	7.9607E-02	5.3267E+23	2.0782E+18
Sr-91	7.5687E+04	2.0879E-05	1.3817E+20	1.5284E+19
Sr-92	5.5579E+04	4.4218E-06	2.8944E+19	1.2893E+19
Y-90	1.2405E+02	2.2800E-07	1.5256E+18	2.2915E+16
Y-91	8.9277E+02	3.6404E-05	2.4091E+20	1.7079E+17
Y-92	1.9925E+03	2.0707E-07	1.3555E+18	3.3236E+17
Y-93	6.1878E+02	1.8547E-07	1.2010E+18	1.2455E+17
Zr-95	1.2701E+03	5.9123E-05	3.7479E+20	2.4316E+17

Zr-97	1.1386E+03	5.9563E-07	3.6979E+18	2.2456E+17
Nb-95	1.2713E+03	3.2511E-05	2.0609E+20	2.4329E+17
Mo-99	1.6317E+04	3.4022E-05	2.0695E+20	3.1468E+18
Tc-99m	1.4738E+04	2.8028E-06	1.7049E+19	2.8197E+18
Ru-103	1.4325E+04	4.4386E-04	2.5951E+21	2.7429E+18
Ru-105	7.3652E+03	1.0957E-06	6.2841E+18	1.5829E+18
Ru-106	6.2562E+03	1.8700E-03	1.0624E+22	1.1974E+18
Rh-105	9.3941E+03	1.1130E-05	6.3833E+19	1.8012E+18
Sb-127	1.5589E+04	5.8375E-05	2.7681E+20	2.9998E+18
Sb-129	4.1792E+04	7.4319E-06	3.4694E+19	9.0115E+18
Te-127	1.5691E+04	5.9455E-06	2.8193E+19	3.0012E+18
Te-127m	2.6927E+03	2.8547E-04	1.3537E+21	5.1532E+17
Te-129	4.7599E+04	2.2729E-06	1.0611E+19	9.6471E+18
Te-129m	1.1079E+04	3.6778E-04	1.7169E+21	2.1205E+18
Te-131m	3.4351E+04	4.3079E-05	1.9804E+20	6.6861E+18
Te-132	2.4936E+05	8.2135E-04	3.7472E+21	4.8031E+19
I-131	9.0723E+05	7.3179E-03	3.3641E+22	2.2117E+20
I-132	1.2834E+06	1.2433E-04	5.6724E+20	3.1411E+20
I-133	1.7631E+06	1.5564E-03	7.0472E+21	4.4241E+20
I-134	4.2970E+05	1.6108E-05	7.2391E+19	2.4434E+20
I-135	1.4544E+06	4.1414E-04	1.8474E+21	3.9116E+20
Xe-133	1.0709E+08	5.7214E-01	2.5906E+24	1.2514E+22
Xe-135	3.8692E+07	1.5151E-02	6.7587E+22	4.4890E+21
Cs-134	1.7991E+05	1.3905E-01	6.2491E+23	4.6721E+19
Cs-136	4.8886E+04	6.6701E-04	2.9535E+21	1.2723E+19
Cs-137	1.4269E+05	1.6405E+00	7.2111E+24	3.7055E+19
Ba-139	4.7144E+04	2.8822E-06	1.2487E+19	1.3319E+19
Ba-140	1.2919E+05	1.7647E-03	7.5909E+21	2.4765E+19
La-140	1.6097E+03	2.8961E-06	1.2458E+19	2.9264E+17
La-141	8.3137E+02	1.4701E-07	6.2787E+17	1.8145E+17
La-142	4.7058E+02	3.2873E-08	1.3941E+17	1.2730E+17
Ce-141	2.9786E+03	1.0454E-04	4.4648E+20	5.7012E+17
Ce-143	2.6665E+03	4.0154E-06	1.6910E+19	5.1821E+17
Ce-144	2.5597E+03	8.0255E-04	3.3563E+21	4.8991E+17
Pr-143	1.0775E+03	1.6001E-05	6.7384E+19	2.0617E+17
Nd-147	4.7686E+02	5.8946E-06	2.4148E+19	9.1436E+16
Np-239	3.4242E+04	1.4760E-04	3.7192E+20	6.6122E+18
Pu-238	9.1815E+00	5.3631E-04	1.3570E+21	1.7571E+15
Pu-239	8.6763E-01	1.3959E-02	3.5172E+22	1.6603E+14
Pu-240	1.5891E+00	6.9740E-03	1.7499E+22	3.0413E+14
Pu-241	3.5092E+02	3.4066E-03	8.5125E+21	6.7159E+16
Am-241	2.3048E-01	6.7152E-05	1.6780E+20	4.4104E+13
Cm-242	5.8600E+01	1.7681E-05	4.3999E+19	1.1216E+16
Cm-244	3.4078E+00	4.2122E-05	1.0396E+20	6.5218E+14

## Sprayed Drywell Transport Group Inventory:

Time (h) =	2.0000	Atmosphere	Sump	
Noble gases (atoms)	1.9415E+25	0.0000E+00		
Elemental I (atoms)	2.0418E+21	5.2662E+22		
Organic I (atoms)	1.1387E+21	0.0000E+00		
Aerosols (kg)	1.9030E+00	4.9870E+01		
Dose Effective (Ci/cc)	I-131 (Thyroid)		4.6500E-04	
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		5.7733E-04	
Total I (Ci)			5.8378E+06	

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
2.0000		
Noble gases (atoms)	0.0000E+00	6.2364E+21
Elemental I (atoms)	0.0000E+00	1.4083E+18
Organic I (atoms)	0.0000E+00	4.2180E+17
Aerosols (kg)	0.0000E+00	1.3437E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
2.0000		
Noble gases (atoms)	0.0000E+00	6.2364E+21
Elemental I (atoms)	0.0000E+00	1.4083E+18
Organic I (atoms)	0.0000E+00	4.2180E+17
Aerosols (kg)	0.0000E+00	1.3437E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
2.0000		
Noble gases (atoms)	0.0000E+00	3.1130E+21
Elemental I (atoms)	0.0000E+00	7.0298E+17
Organic I (atoms)	0.0000E+00	2.1054E+17
Aerosols (kg)	0.0000E+00	6.7074E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
2.0000		
Noble gases (atoms)	0.0000E+00	2.2013E+25
Elemental I (atoms)	0.0000E+00	4.9844E+21
Organic I (atoms)	0.0000E+00	1.4891E+21
Aerosols (kg)	0.0000E+00	4.7572E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
2.0000		
Noble gases (atoms)	0.0000E+00	1.2731E+25
Elemental I (atoms)	0.0000E+00	3.6478E+21
Organic I (atoms)	0.0000E+00	9.1397E+20
Aerosols (kg)	0.0000E+00	3.5375E+00

Exclusion Area Boundary Doses:

Time (h) =	Whole Body	Thyroid	TEDE
2.2000			
Delta dose (rem)	5.1563E-01	4.7800E+00	7.4623E-01
Accumulated dose (rem)	3.1534E+00	4.3483E+01	5.1878E+00

Low Population Zone Doses:

Time (h) =	Whole Body	Thyroid	TEDE
2.2000			
Delta dose (rem)	3.1203E-01	2.8926E+00	4.5158E-01
Accumulated dose (rem)	2.2903E+00	3.1920E+01	3.7827E+00

Control Room Doses:

Time (h) =	2.2000	Whole Body	Thyroid	TEDE
Delta dose (rem)		9.9047E-03	7.5797E-01	4.4191E-02
Accumulated dose (rem)		3.4762E-02	6.2184E+00	2.9894E-01

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =	Ci	kg	Atoms	Decay
Co-58	5.1072E+00	1.6061E-07	1.6677E+18	9.9746E+15
Co-60	6.1179E+00	5.4122E-06	5.4322E+19	1.1944E+16
Kr-85	8.7632E+05	2.2336E+00	1.5825E+25	1.3174E+20
Kr-85m	9.2840E+06	1.1281E-03	7.9927E+21	1.5496E+21
Kr-87	7.8860E+06	2.7841E-04	1.9271E+21	1.7550E+21
Kr-88	2.1237E+07	1.6936E-03	1.1590E+22	3.7744E+21
Rb-86	1.3979E+02	1.7180E-06	1.2030E+19	3.6040E+17
Sr-89	6.9257E+03	2.3839E-04	1.6130E+21	1.3528E+19
Sr-90	1.0907E+03	7.9960E-03	5.3503E+22	2.1294E+18
Sr-91	7.4922E+03	2.0668E-06	1.3678E+19	1.5639E+19
Sr-92	5.3042E+03	4.2199E-07	2.7623E+18	1.3150E+19
Y-90	1.7379E+01	3.1944E-08	2.1374E+17	2.3584E+16
Y-91	9.0335E+01	3.6836E-06	2.4377E+19	1.7502E+17
Y-92	6.4165E+02	6.6684E-08	4.3650E+17	3.4943E+17
Y-93	6.1305E+01	1.8375E-08	1.1899E+17	1.2745E+17
Zr-95	1.2757E+02	5.9380E-06	3.7642E+19	2.4915E+17
Zr-97	1.1343E+02	5.9338E-08	3.6839E+17	2.2992E+17
Nb-95	1.2769E+02	3.2655E-06	2.0700E+19	2.4929E+17
Mo-99	1.6355E+03	3.4101E-06	2.0743E+19	3.2237E+18
Tc-99m	1.4796E+03	2.8138E-07	1.7116E+18	2.8889E+18
Ru-103	1.4386E+03	4.4576E-05	2.6062E+20	2.8106E+18
Ru-105	7.1704E+02	1.0667E-07	6.1180E+17	1.6173E+18
Ru-106	6.2838E+02	1.8783E-04	1.0671E+21	1.2269E+18
Rh-105	9.4273E+02	1.1169E-06	6.4059E+18	1.8455E+18
Sb-127	1.5635E+03	5.8546E-06	2.7762E+19	3.0733E+18
Sb-129	4.0652E+03	7.2290E-07	3.3748E+18	9.2063E+18
Te-127	1.5757E+03	5.9706E-07	2.8312E+18	3.0750E+18
Te-127m	2.7047E+02	2.8674E-05	1.3597E+20	5.2803E+17
Te-129	4.6954E+03	2.2421E-07	1.0467E+18	9.8647E+18
Te-129m	1.1128E+03	3.6940E-05	1.7245E+20	2.1727E+18
Te-131m	3.4345E+03	4.3070E-06	1.9800E+19	6.8479E+18
Te-132	2.5002E+04	8.2353E-05	3.7571E+20	4.9207E+19
I-131	1.1305E+05	9.1188E-04	4.1920E+21	2.2600E+20
I-132	1.4515E+05	1.4062E-05	6.4155E+19	3.2060E+20
I-133	2.1841E+05	1.9281E-04	8.7302E+20	4.5176E+20
I-134	4.5750E+04	1.7150E-06	7.7074E+18	2.4648E+20
I-135	1.7762E+05	5.0576E-05	2.2561E+20	3.9883E+20
Xe-133	1.0116E+08	5.4043E-01	2.4470E+24	1.5243E+22
Xe-135	3.5909E+07	1.4061E-02	6.2726E+22	5.4653E+21
Cs-134	1.8488E+04	1.4290E-02	6.4219E+22	4.7581E+19
Cs-136	5.0216E+03	6.8516E-05	3.0339E+20	1.2956E+19
Cs-137	1.4664E+04	1.6859E-01	7.4106E+23	3.7738E+19
Ba-139	4.2822E+03	2.6180E-07	1.1342E+18	1.3533E+19
Ba-140	1.2971E+04	1.7717E-04	7.6211E+20	2.5375E+19
La-140	2.5448E+02	4.5784E-07	1.9694E+18	3.0181E+17
La-141	8.0611E+01	1.4254E-08	6.0879E+16	1.8532E+17
La-142	4.3201E+01	3.0179E-09	1.2799E+16	1.2944E+17
Ce-141	2.9911E+02	1.0498E-05	4.4836E+19	5.8418E+17
Ce-143	2.6671E+02	4.0163E-07	1.6914E+18	5.3077E+17
Ce-144	2.5710E+02	8.0609E-05	3.3711E+20	5.0199E+17

Pr-143	1.0837E+02	1.6093E-06	6.7773E+18	2.1126E+17
Nd-147	4.7873E+01	5.9176E-07	2.4243E+18	9.3687E+16
Np-239	3.4310E+03	1.4789E-05	3.7265E+19	6.7736E+18
Pu-238	9.2222E-01	5.3869E-05	1.3630E+20	1.8005E+15
Pu-239	8.7149E-02	1.4021E-03	3.5329E+21	1.7012E+14
Pu-240	1.5962E-01	7.0049E-04	1.7577E+21	3.1163E+14
Pu-241	3.5248E+01	3.4217E-04	8.5502E+20	6.8815E+16
Am-241	2.3152E-02	6.7456E-06	1.6856E+19	4.5192E+13
Cm-242	5.8858E+00	1.7759E-06	4.4193E+18	1.1493E+16
Cm-244	3.4229E-01	4.2309E-06	1.0442E+19	6.6826E+14

## Sprayed Drywell Transport Group Inventory:

Time (h) =	2.2000	Atmosphere	Sump	
Noble gases (atoms)	1.8356E+25	0.0000E+00		
Elemental I (atoms)	2.0802E+20	5.4669E+22		
Organic I (atoms)	1.0799E+21	0.0000E+00		
Aerosols (kg)	1.9529E-01	5.1743E+01		
Dose Effective (Ci/cc)	I-131 (Thyroid)		5.7789E-05	
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		7.1455E-05	
Total I (Ci)			6.9998E+05	

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	7.0664E+21
Elemental I (atoms)	0.0000E+00	1.4378E+18
Organic I (atoms)	0.0000E+00	4.7060E+17
Aerosols (kg)	0.0000E+00	1.3713E-03

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	7.0664E+21
Elemental I (atoms)	0.0000E+00	1.4378E+18
Organic I (atoms)	0.0000E+00	4.7060E+17
Aerosols (kg)	0.0000E+00	1.3713E-03

## Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.5292E+21
Elemental I (atoms)	0.0000E+00	7.1777E+17
Organic I (atoms)	0.0000E+00	2.3502E+17
Aerosols (kg)	0.0000E+00	6.8454E-04

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.7007E+25
Elemental I (atoms)	0.0000E+00	5.1618E+21
Organic I (atoms)	0.0000E+00	1.7828E+21
Aerosols (kg)	0.0000E+00	4.9229E+00

## Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 2.2000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.6674E+25
Elemental I (atoms)	0.0000E+00	4.1226E+21
Organic I (atoms)	0.0000E+00	1.1527E+21
Aerosols (kg)	0.0000E+00	3.9832E+00

## Exclusion Area Boundary Doses:

Time (h) = 2.3000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.7128E-01	2.3900E+00	3.8613E-01
Accumulated dose (rem)	3.4247E+00	4.5873E+01	5.5739E+00

## Low Population Zone Doses:

Time (h) = 2.3000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.6417E-01	1.4463E+00	2.3367E-01
Accumulated dose (rem)	2.4545E+00	3.3366E+01	4.0164E+00

## Control Room Doses:

Time (h) = 2.3000	Whole Body	Thyroid	TEDE
Delta dose (rem)	5.0950E-03	3.6751E-01	2.1808E-02
Accumulated dose (rem)	3.9857E-02	6.5859E+00	3.2075E-01

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 2.3000	Ci	kg	Atoms	Decay
Co-58	3.1730E+00	9.9786E-08	1.0361E+18	1.0017E+16
Co-60	3.8011E+00	3.3626E-06	3.3750E+19	1.1995E+16
Kr-85	8.6125E+05	2.1952E+00	1.5553E+25	1.4321E+20
Kr-85m	8.9843E+06	1.0917E-03	7.7346E+21	1.6702E+21
Kr-87	7.3393E+06	2.5910E-04	1.7935E+21	1.8555E+21
Kr-88	2.0368E+07	1.6244E-03	1.1116E+22	4.0490E+21
Rb-86	8.7624E+01	1.0769E-06	7.5409E+18	3.6157E+17
Sr-89	4.3027E+03	1.4810E-04	1.0021E+21	1.3585E+19
Sr-90	6.7766E+02	4.9679E-03	3.3242E+22	2.1385E+18
Sr-91	4.6211E+03	1.2748E-06	8.4361E+18	1.5700E+19
Sr-92	3.2123E+03	2.5556E-07	1.6729E+18	1.3194E+19
Y-90	1.2162E+01	2.2353E-08	1.4957E+17	2.3736E+16
Y-91	5.6308E+01	2.2960E-06	1.5195E+19	1.7576E+17
Y-92	5.1266E+02	5.3278E-08	3.4875E+17	3.5547E+17
Y-93	3.7828E+01	1.1338E-08	7.3421E+16	1.2796E+17
Zr-95	7.9253E+01	3.6891E-06	2.3386E+19	2.5021E+17
Zr-97	7.0189E+01	3.6716E-08	2.2795E+17	2.3085E+17
Nb-95	7.9334E+01	2.0288E-06	1.2861E+19	2.5035E+17
Mo-99	1.0151E+03	2.1165E-06	1.2874E+19	3.2373E+18
Tc-99m	9.1903E+02	1.7478E-07	1.0632E+18	2.9010E+18
Ru-103	8.9376E+02	2.7693E-05	1.6191E+20	2.8225E+18
Ru-105	4.3860E+02	6.5248E-08	3.7422E+17	1.6231E+18
Ru-106	3.9041E+02	1.1670E-04	6.6298E+20	1.2321E+18
Rh-105	5.8544E+02	6.9361E-07	3.9781E+18	1.8533E+18
Sb-127	9.7067E+02	3.6348E-06	1.7235E+19	3.0863E+18
Sb-129	2.4855E+03	4.4199E-07	2.0634E+18	9.2397E+18
Te-127	9.7888E+02	3.7091E-07	1.7588E+18	3.0880E+18



Te-127m	1.6804E+02	1.7815E-05	8.4476E+19	5.3027E+17
Te-129	2.8902E+03	1.3801E-07	6.4427E+17	9.9024E+18
Te-129m	6.9138E+02	2.2950E-05	1.0714E+20	2.1820E+18
Te-131m	2.1289E+03	2.6698E-06	1.2273E+19	6.8763E+18
Te-132	1.5520E+04	5.1121E-05	2.3322E+20	4.9414E+19
I-131	7.8894E+04	6.3637E-04	2.9254E+21	2.2705E+20
I-132	9.6952E+04	9.3927E-06	4.2851E+19	3.2190E+20
I-133	1.5198E+05	1.3416E-04	6.0746E+20	4.5379E+20
I-134	2.9512E+04	1.1063E-06	4.9718E+18	2.4689E+20
I-135	1.2271E+05	3.4941E-05	1.5586E+20	4.0047E+20
Xe-133	9.9361E+07	5.3083E-01	2.4035E+24	1.6566E+22
Xe-135	3.4984E+07	1.3699E-02	6.1109E+22	5.9330E+21
Cs-134	1.1591E+04	8.9583E-03	4.0260E+22	4.7736E+19
Cs-136	3.1474E+03	4.2944E-05	1.9016E+20	1.2998E+19
Cs-137	9.1931E+03	1.0569E-01	4.6458E+23	3.7860E+19
Ba-139	2.5301E+03	1.5468E-07	6.7014E+17	1.3568E+19
Ba-140	8.0568E+03	1.1005E-04	4.7339E+20	2.5482E+19
La-140	1.8379E+02	3.3067E-07	1.4224E+18	3.0407E+17
La-141	4.9208E+01	8.7012E-09	3.7163E+16	1.8598E+17
La-142	2.5661E+01	1.7926E-09	7.6023E+15	1.2979E+17
Ce-141	1.8582E+02	6.5216E-06	2.7854E+19	5.8666E+17
Ce-143	1.6536E+02	2.4901E-07	1.0486E+18	5.3298E+17
Ce-144	1.5974E+02	5.0082E-05	2.0945E+20	5.0412E+17
Pr-143	6.7370E+01	1.0005E-06	4.2132E+18	2.1216E+17
Nd-147	2.9736E+01	3.6757E-07	1.5058E+18	9.4083E+16
Np-239	2.1291E+03	9.1774E-06	2.3124E+19	6.8020E+18
Pu-238	5.7298E-01	3.3469E-05	8.4686E+19	1.8081E+15
Pu-239	5.4147E-02	8.7114E-04	2.1950E+21	1.7084E+14
Pu-240	9.9172E-02	4.3522E-04	1.0921E+21	3.1295E+14
Pu-241	2.1900E+01	2.1259E-04	5.3122E+20	6.9107E+16
Am-241	1.4385E-02	4.1912E-06	1.0473E+19	4.5383E+13
Cm-242	3.6568E+00	1.1033E-06	2.7456E+18	1.1542E+16
Cm-244	2.1266E-01	2.6287E-06	6.4878E+18	6.7109E+14

## Sprayed Drywell Transport Group Inventory:

Time (h) =	2.3000	Atmosphere	Sump	
Noble gases (atoms)	1.8038E+25	0.0000E+00		
Elemental I (atoms)	1.2993E+20	5.4908E+22		
Organic I (atoms)	1.0617E+21	0.0000E+00		
Aerosols (kg)	1.2236E-01	5.1967E+01		
Dose Effective (Ci/cc)	I-131 (Thyroid)		4.0277E-05	
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		4.9709E-05	
Total I (Ci)			4.8004E+05	

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

		Pathway	
Time (h) =	2.3000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	7.4673E+21	
Elemental I (atoms)	0.0000E+00	1.4413E+18	
Organic I (atoms)	0.0000E+00	4.9422E+17	
Aerosols (kg)	0.0000E+00	1.3746E-03	

## Drywell to Intact Control Volume 2 Transport Group Inventory:

		Pathway	
Time (h) =	2.3000	Filtered	Transported

Noble gases (atoms)	0.0000E+00	7.4673E+21
Elemental I (atoms)	0.0000E+00	1.4413E+18
Organic I (atoms)	0.0000E+00	4.9422E+17
Aerosols (kg)	0.0000E+00	1.3746E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 2.3000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.7302E+21
Elemental I (atoms)	0.0000E+00	7.1953E+17
Organic I (atoms)	0.0000E+00	2.4686E+17
Aerosols (kg)	0.0000E+00	6.8620E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 2.3000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.9420E+25
Elemental I (atoms)	0.0000E+00	5.1830E+21
Organic I (atoms)	0.0000E+00	1.9249E+21
Aerosols (kg)	0.0000E+00	4.9427E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 2.3000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.8772E+25
Elemental I (atoms)	0.0000E+00	4.3085E+21
Organic I (atoms)	0.0000E+00	1.2783E+21
Aerosols (kg)	0.0000E+00	4.1581E+00

Exclusion Area Boundary Doses:

Time (h) = 4.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	5.2935E+00	3.8274E+01	7.0864E+00
Accumulated dose (rem)	8.7181E+00	8.4146E+01	1.2660E+01

Low Population Zone Doses:

Time (h) = 4.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.2033E+00	2.3161E+01	4.2883E+00
Accumulated dose (rem)	5.6578E+00	5.6527E+01	8.3047E+00

Control Room Doses:

Time (h) = 4.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.0418E-01	5.4191E+00	3.5450E-01
Accumulated dose (rem)	1.4403E-01	1.2005E+01	6.7526E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 4.0000	Ci	kg	Atoms	Decay
Co-58	3.8633E+00	1.2150E-07	1.2615E+18	1.1427E+16
Co-60	4.6312E+00	4.0970E-06	4.1121E+19	1.3684E+16
Kr-85	8.2283E+05	2.0973E+00	1.4859E+25	3.3083E+20
Kr-85m	6.5982E+06	8.0177E-04	5.6804E+21	3.3922E+21

Kr-87	2.7759E+06	9.7999E-05	6.7835E+20	2.9002E+21
Kr-88	1.2851E+07	1.0249E-03	7.0135E+21	7.6843E+21
Rb-86	1.0688E+02	1.3135E-06	9.1977E+18	4.0061E+17
Sr-89	5.2374E+03	1.8027E-04	1.2198E+21	1.5497E+19
Sr-90	8.2567E+02	6.0530E-03	4.0502E+22	2.4397E+18
Sr-91	4.9736E+03	1.3720E-06	9.0797E+18	1.7645E+19
Sr-92	2.5338E+03	2.0158E-07	1.3195E+18	1.4377E+19
Y-90	2.9935E+01	5.5022E-08	3.6817E+17	3.1516E+16
Y-91	7.0459E+01	2.8731E-06	1.9013E+19	2.0109E+17
Y-92	1.3654E+03	1.4189E-07	9.2881E+17	7.2026E+17
Y-93	4.1015E+01	1.2294E-08	7.9606E+16	1.4392E+17
Zr-95	9.6489E+01	4.4915E-06	2.8472E+19	2.8542E+17
Zr-97	7.9759E+01	4.1722E-08	2.5903E+17	2.6110E+17
Nb-95	9.6660E+01	2.4719E-06	1.5670E+19	2.8561E+17
Mo-99	1.2149E+03	2.5331E-06	1.5409E+19	3.6849E+18
Tc-99m	1.1135E+03	2.1177E-07	1.2882E+18	3.3063E+18
Ru-103	1.0876E+03	3.3699E-05	1.9703E+20	3.2195E+18
Ru-105	4.0983E+02	6.0968E-08	3.4968E+17	1.7967E+18
Ru-106	4.7562E+02	1.4216E-04	8.0767E+20	1.4056E+18
Rh-105	7.0532E+02	8.3563E-07	4.7927E+18	2.1121E+18
Sb-127	1.1677E+03	4.3725E-06	2.0734E+19	3.5153E+18
Sb-129	2.3054E+03	4.0997E-07	1.9139E+18	1.0220E+19
Te-127	1.1898E+03	4.5084E-07	2.1378E+18	3.5211E+18
Te-127m	2.0475E+02	2.1707E-05	1.0293E+20	6.0496E+17
Te-129	2.9459E+03	1.4067E-07	6.5667E+17	1.1064E+19
Te-129m	8.4201E+02	2.7950E-05	1.3048E+20	2.4892E+18
Te-131m	2.4940E+03	3.1276E-06	1.4378E+19	7.8061E+18
Te-132	1.8627E+04	6.1355E-05	2.7991E+20	5.6266E+19
I-131	9.8982E+04	7.9840E-04	3.6703E+21	2.5831E+20
I-132	8.1463E+04	7.8920E-06	3.6005E+19	3.5363E+20
I-133	1.8125E+05	1.6000E-04	7.2448E+20	5.1261E+20
I-134	9.7132E+03	3.6411E-07	1.6364E+18	2.5361E+20
I-135	1.2959E+05	3.6900E-05	1.6460E+20	4.4541E+20
Xe-133	9.4035E+07	5.0237E-01	2.2747E+24	3.8109E+22
Xe-135	2.9295E+07	1.1472E-02	5.1173E+22	1.3068E+22
Cs-134	1.4173E+04	1.0955E-02	4.9231E+22	5.2905E+19
Cs-136	3.8346E+03	5.2321E-05	2.3168E+20	1.4400E+19
Cs-137	1.1242E+04	1.2925E-01	5.6815E+23	4.1960E+19
Ba-139	1.3111E+03	8.0158E-08	3.4728E+17	1.4355E+19
Ba-140	9.7788E+03	1.3357E-04	5.7457E+20	2.9057E+19
La-140	5.0614E+02	9.1061E-07	3.9170E+18	4.3020E+17
La-141	4.4424E+01	7.8552E-09	3.3550E+16	2.0516E+17
La-142	1.4559E+01	1.0170E-09	4.3131E+15	1.3806E+17
Ce-141	2.2614E+02	7.9366E-06	3.3897E+19	6.6921E+17
Ce-143	1.9441E+02	2.9275E-07	1.2329E+18	6.0532E+17
Ce-144	1.9459E+02	6.1011E-05	2.5515E+20	5.7512E+17
Pr-143	8.2513E+01	1.2253E-06	5.1603E+18	2.4217E+17
Nd-147	3.6069E+01	4.4585E-07	1.8265E+18	1.0727E+17
Np-239	2.5406E+03	1.0951E-05	2.7594E+19	7.7396E+18
Pu-238	6.9813E-01	4.0779E-05	1.0318E+20	2.0628E+15
Pu-239	6.5988E-02	1.0616E-03	2.6750E+21	1.9491E+14
Pu-240	1.2083E-01	5.3028E-04	1.3306E+21	3.5703E+14
Pu-241	2.6683E+01	2.5902E-04	6.4725E+20	7.8841E+16
Am-241	1.7535E-02	5.1091E-06	1.2767E+19	5.1779E+13
Cm-242	4.4541E+00	1.3439E-06	3.3443E+18	1.3167E+16
Cm-244	2.5911E-01	3.2028E-06	7.9047E+18	7.6562E+14

## Sprayed Drywell Transport Group Inventory:

Time (h) =	4.0000	Atmosphere	Sump	
Noble gases (atoms)	1.7198E+25	0.0000E+00		
Elemental I (atoms)	5.7118E+20	5.4908E+22		
Organic I (atoms)	9.9405E+20	0.0000E+00		
Aerosols (kg)	1.4959E-01	5.2582E+01		
Dose Effective (Ci/cc)	I-131 (Thyroid)			4.9589E-05
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)			5.9965E-05
Total I (Ci)				5.0100E+05

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

		Pathway	
Time (h) =	4.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.3972E+22	
Elemental I (atoms)	0.0000E+00	1.6288E+18	
Organic I (atoms)	0.0000E+00	8.7442E+17	
Aerosols (kg)	0.0000E+00	1.4648E-03	

## Drywell to Intact Control Volume 2 Transport Group Inventory:

		Pathway	
Time (h) =	4.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.3972E+22	
Elemental I (atoms)	0.0000E+00	1.6288E+18	
Organic I (atoms)	0.0000E+00	8.7442E+17	
Aerosols (kg)	0.0000E+00	1.4648E-03	

## Drywell to Intact Control Volume 4 Transport Group Inventory:

		Pathway	
Time (h) =	4.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	6.9918E+21	
Elemental I (atoms)	0.0000E+00	8.1351E+17	
Organic I (atoms)	0.0000E+00	4.3750E+17	
Aerosols (kg)	0.0000E+00	7.3146E-04	

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

		Pathway	
Time (h) =	4.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	6.8559E+25	
Elemental I (atoms)	0.0000E+00	6.3107E+21	
Organic I (atoms)	0.0000E+00	4.2126E+21	
Aerosols (kg)	0.0000E+00	5.4858E+00	

## Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

		Pathway	
Time (h) =	4.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.7122E+25	
Elemental I (atoms)	0.0000E+00	5.8907E+21	
Organic I (atoms)	0.0000E+00	3.5253E+21	
Aerosols (kg)	0.0000E+00	5.3425E+00	

## Exclusion Area Boundary Doses:

Time (h) =	8.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.1215E+01	1.1215E+01	7.0652E+01	1.4232E+01
Accumulated dose (rem)	1.9933E+01	1.9933E+01	1.5480E+02	2.6892E+01

## Low Population Zone Doses:

Time (h) =	8.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	6.7865E+00	6.7865E+00	4.2755E+01	8.6126E+00
Accumulated dose (rem)	1.2444E+01	1.2444E+01	9.9282E+01	1.6917E+01

## Control Room Doses:

Time (h) =	8.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.8090E-01	2.8090E-01	9.2212E+00	6.9212E-01
Accumulated dose (rem)	4.2494E-01	4.2494E-01	2.1226E+01	1.3674E+00

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =	8.0000	Ci	kg	Atoms	Decay
Co-58		4.7503E+00	1.4939E-07	1.5511E+18	1.3931E+16
Co-60		5.7033E+00	5.0455E-06	5.0641E+19	1.6689E+16
Kr-85		8.2161E+05	2.0942E+00	1.4837E+25	7.6887E+20
Kr-85m		3.5482E+06	4.3115E-04	3.0546E+21	6.0115E+21
Kr-87		3.1324E+05	1.1058E-05	7.6546E+19	3.5015E+21
Kr-88		4.8340E+06	3.8551E-04	2.6382E+21	1.2053E+22
Rb-86		1.3081E+02	1.6077E-06	1.1258E+19	4.6972E+17
Sr-89		6.4355E+03	2.2152E-04	1.4989E+21	1.8891E+19
Sr-90		1.0169E+03	7.4547E-03	4.9882E+22	2.9753E+18
Sr-91		4.5749E+03	1.2621E-06	8.3519E+18	2.0439E+19
Sr-92		1.1218E+03	8.9248E-08	5.8420E+17	1.5400E+19
Y-90		7.8441E+01	1.4418E-07	9.6472E+17	6.1786E+16
Y-91		9.1007E+01	3.7109E-06	2.4558E+19	2.4795E+17
Y-92		1.7711E+03	1.8406E-07	1.2048E+18	1.6899E+18
Y-93		3.8388E+01	1.1506E-08	7.4506E+16	1.6716E+17
Zr-95		1.1862E+02	5.5216E-06	3.5002E+19	3.4796E+17
Zr-97		8.3368E+01	4.3610E-08	2.7075E+17	3.0878E+17
Nb-95		1.1904E+02	3.0443E-06	1.9298E+19	3.4831E+17
Mo-99		1.4347E+03	2.9914E-06	1.8197E+19	4.4566E+18
Tc-99m		1.3431E+03	2.5543E-07	1.5538E+18	4.0178E+18
Ru-103		1.3356E+03	4.1382E-05	2.4195E+20	3.9240E+18
Ru-105		2.7032E+02	4.0214E-08	2.3064E+17	1.9938E+18
Ru-106		5.8559E+02	1.7503E-04	9.9441E+20	1.7141E+18
Rh-105		8.3138E+02	9.8498E-07	5.6492E+18	2.5603E+18
Sb-127		1.3956E+03	5.2260E-06	2.4781E+19	4.2614E+18
Sb-129		1.4945E+03	2.6576E-07	1.2406E+18	1.1320E+19
Te-127		1.4520E+03	5.5018E-07	2.6089E+18	4.2870E+18
Te-127m		2.5217E+02	2.6734E-05	1.2677E+20	7.3779E+17
Te-129		2.3010E+03	1.0987E-07	5.1293E+17	1.2557E+19
Te-129m		1.0350E+03	3.4358E-05	1.6039E+20	3.0350E+18
Te-131m		2.8004E+03	3.5119E-06	1.6145E+19	9.3509E+18
Te-132		2.2142E+04	7.2932E-05	3.3273E+20	6.8136E+19
I-131		1.1249E+05	9.0737E-04	4.1712E+21	3.1819E+20
I-132		4.4138E+04	4.2760E-06	1.9508E+19	3.8731E+20
I-133		1.8284E+05	1.6140E-04	7.3082E+20	6.1595E+20
I-134		4.7372E+02	1.7758E-08	7.9806E+16	2.5538E+20
I-135		9.8191E+04	2.7960E-05	1.2472E+20	5.0980E+20
Xe-133		9.1854E+07	4.9072E-01	2.2219E+24	8.7624E+22

Xe-135	2.1589E+07	8.4539E-03	3.7711E+22	2.6518E+22
Cs-134	1.7453E+04	1.3490E-02	6.0624E+22	6.2099E+19
Cs-136	4.6813E+03	6.3872E-05	2.8283E+20	1.6876E+19
Cs-137	1.3846E+04	1.5918E-01	6.9972E+23	4.9254E+19
Ba-139	2.1603E+02	1.3207E-08	5.7219E+16	1.4717E+19
Ba-140	1.1935E+04	1.6302E-04	7.0125E+20	3.5372E+19
La-140	1.3802E+03	2.4831E-06	1.0681E+19	9.5708E+17
La-141	2.7020E+01	4.7779E-09	2.0406E+16	2.2576E+17
La-142	2.9685E+00	2.0737E-10	8.7944E+14	1.4240E+17
Ce-141	2.7766E+02	9.7449E-06	4.1620E+19	8.1569E+17
Ce-143	2.2014E+02	3.3150E-07	1.3960E+18	7.2623E+17
Ce-144	2.3956E+02	7.5110E-05	3.1411E+20	7.0133E+17
Pr-143	1.0271E+02	1.5253E-06	6.4233E+18	2.9598E+17
Nd-147	4.3957E+01	5.4336E-07	2.2260E+18	1.3055E+17
Np-239	2.9792E+03	1.2842E-05	3.2357E+19	9.3476E+18
Pu-238	8.5982E-01	5.0224E-05	1.2708E+20	2.5157E+15
Pu-239	8.1310E-02	1.3081E-03	3.2962E+21	2.3773E+14
Pu-240	1.4882E-01	6.5308E-04	1.6387E+21	4.3542E+14
Pu-241	3.2861E+01	3.1900E-04	7.9712E+20	9.6151E+16
Am-241	2.1620E-02	6.2993E-06	1.5741E+19	6.3161E+13
Cm-242	5.4818E+00	1.6540E-06	4.1159E+18	1.6055E+16
Cm-244	3.1911E-01	3.9444E-06	9.7352E+18	9.3372E+14

## Sprayed Drywell Transport Group Inventory:

Time (h) =	8.0000	Atmosphere	Sump	
Noble gases (atoms)	1.7102E+25	0.0000E+00		
Elemental I (atoms)	5.4477E+20	5.4908E+22		
Organic I (atoms)	9.4536E+20	0.0000E+00		
Aerosols (kg)	1.8418E-01	5.2582E+01		
Dose Effective (Ci/cc)	I-131 (Thyroid)		5.4285E-05	
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		6.3615E-05	
Total I (Ci)			4.3813E+05	

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.9092E+22
Elemental I (atoms)	0.0000E+00	2.1210E+18
Organic I (atoms)	0.0000E+00	1.7289E+18
Aerosols (kg)	0.0000E+00	1.6250E-03

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.9092E+22
Elemental I (atoms)	0.0000E+00	2.1210E+18
Organic I (atoms)	0.0000E+00	1.7289E+18
Aerosols (kg)	0.0000E+00	1.6250E-03

## Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.4573E+22
Elemental I (atoms)	0.0000E+00	1.0603E+18

Organic I (atoms)	0.0000E+00	8.6595E+17
Aerosols (kg)	0.0000E+00	8.1179E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 8.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.5954E+26
Elemental I (atoms)	0.0000E+00	9.2728E+21
Organic I (atoms)	0.0000E+00	9.3540E+21
Aerosols (kg)	0.0000E+00	6.4498E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 8.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.4811E+26
Elemental I (atoms)	0.0000E+00	8.8548E+21
Organic I (atoms)	0.0000E+00	8.6673E+21
Aerosols (kg)	0.0000E+00	6.3416E+00

Exclusion Area Boundary Doses:

Time (h) = 24.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.8289E+01	2.0469E+02	2.6021E+01
Accumulated dose (rem)	3.8222E+01	3.5949E+02	5.2913E+01

Low Population Zone Doses:

Time (h) = 24.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	4.7740E+00	2.7478E+01	5.8119E+00
Accumulated dose (rem)	1.7218E+01	1.2676E+02	2.2729E+01

Control Room Doses:

Time (h) = 24.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.7689E-01	1.1869E+01	7.3792E-01
Accumulated dose (rem)	7.0183E-01	3.3095E+01	2.1053E+00

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 24.0000	Ci	kg	Atoms	Decay
Co-58	4.6944E+00	1.4763E-07	1.5329E+18	2.3994E+16
Co-60	5.6718E+00	5.0176E-06	5.0361E+19	2.8809E+16
Kr-85	8.1720E+05	2.0829E+00	1.4757E+25	2.5150E+21
Kr-85m	2.9689E+05	3.6076E-05	2.5559E+20	8.8043E+21
Kr-87	5.0820E+01	1.7941E-09	1.2419E+16	3.5780E+21
Kr-88	9.6840E+04	7.7230E-06	5.2851E+19	1.4634E+22
Rb-86	1.2694E+02	1.5601E-06	1.0924E+19	7.4433E+17
Sr-89	6.3432E+03	2.1834E-04	1.4774E+21	3.2506E+19
Sr-90	1.0115E+03	7.4150E-03	4.9616E+22	5.1364E+18
Sr-91	1.4161E+03	3.9064E-07	2.5852E+18	2.6179E+19
Sr-92	1.8634E+01	1.4825E-09	9.7042E+15	1.5974E+19
Y-90	2.2719E+02	4.1758E-07	2.7941E+18	3.8361E+17
Y-91	9.8680E+01	4.0238E-06	2.6629E+19	4.5153E+17
Y-92	1.8128E+02	1.8839E-08	1.2332E+17	3.3422E+18
Y-93	1.2735E+01	3.8172E-09	2.4718E+16	2.1670E+17

Zr-95	1.1714E+02	5.4529E-06	3.4567E+19	5.9916E+17
Zr-97	4.3022E+01	2.2505E-08	1.3972E+17	4.3874E+17
Nb-95	1.1839E+02	3.0275E-06	1.9192E+19	6.0121E+17
Mo-99	1.2064E+03	2.5153E-06	1.5301E+19	7.2636E+18
Tc-99m	1.2090E+03	2.2992E-07	1.3986E+18	6.6353E+18
Ru-103	1.3130E+03	4.0682E-05	2.3785E+20	6.7459E+18
Ru-105	2.2120E+01	3.2906E-09	1.8873E+16	2.2051E+18
Ru-106	5.8176E+02	1.7389E-04	9.8791E+20	2.9579E+18
Rh-105	6.2951E+02	7.4582E-07	4.2775E+18	4.1168E+18
Sb-127	1.2312E+03	4.6104E-06	2.1862E+19	7.0566E+18
Sb-129	1.1409E+02	2.0289E-08	9.4715E+16	1.2463E+19
Te-127	1.3762E+03	5.2147E-07	2.4727E+18	7.2267E+18
Te-127m	2.5077E+02	2.6586E-05	1.2606E+20	1.2736E+18
Te-129	1.0397E+03	4.9646E-08	2.3176E+17	1.5139E+19
Te-129m	1.0171E+03	3.3762E-05	1.5761E+20	5.2220E+18
Te-131m	1.9247E+03	2.4138E-06	1.1096E+19	1.4327E+19
Te-132	1.9112E+04	6.2954E-05	2.8721E+20	1.1201E+20
I-131	1.0575E+05	8.5298E-04	3.9212E+21	5.5064E+20
I-132	2.2872E+04	2.2158E-06	1.0109E+19	4.4052E+20
I-133	1.0671E+05	9.4199E-05	4.2653E+20	9.1722E+20
I-134	1.5105E-03	5.6624E-14	2.5448E+11	2.5546E+20
I-135	1.8243E+04	5.1947E-06	2.3173E+19	6.1102E+20
Xe-133	8.3674E+07	4.4702E-01	2.0241E+24	2.7451E+23
Xe-135	6.3642E+06	2.4921E-03	1.1117E+22	5.3080E+22
Cs-134	1.7350E+04	1.3410E-02	6.0266E+22	9.9181E+19
Cs-136	4.4951E+03	6.1332E-05	2.7158E+20	2.6652E+19
Cs-137	1.3772E+04	1.5833E-01	6.9599E+23	7.8680E+19
Ba-139	6.8831E-02	4.2080E-12	1.8231E+13	1.4774E+19
Ba-140	1.1449E+04	1.5638E-04	6.7269E+20	6.0283E+19
La-140	3.8647E+03	6.9531E-06	2.9909E+19	6.5320E+18
La-141	1.5989E+00	2.8272E-10	1.2075E+15	2.4492E+17
La-142	2.2184E-03	1.5497E-13	6.5721E+11	1.4327E+17
Ce-141	2.7242E+02	9.5609E-06	4.0835E+19	1.4018E+18
Ce-143	1.5647E+02	2.3562E-07	9.9228E+17	1.1237E+18
Ce-144	2.3791E+02	7.4591E-05	3.1194E+20	1.2101E+18
Pr-143	1.0497E+02	1.5589E-06	6.5648E+18	5.1736E+17
Nd-147	4.1922E+01	5.1821E-07	2.1229E+18	2.2203E+17
Np-239	2.4354E+03	1.0498E-05	2.6452E+19	1.5097E+19
Pu-238	8.5534E-01	4.9963E-05	1.2642E+20	4.3431E+15
Pu-239	8.1021E-02	1.3035E-03	3.2845E+21	4.1069E+14
Pu-240	1.4803E-01	6.4963E-04	1.6301E+21	7.5170E+14
Pu-241	3.2685E+01	3.1729E-04	7.9284E+20	1.6599E+17
Am-241	2.1602E-02	6.2938E-06	1.5727E+19	1.0921E+14
Cm-242	5.4373E+00	1.6406E-06	4.0825E+18	2.7689E+16
Cm-244	3.1740E-01	3.9233E-06	9.6830E+18	1.6119E+15

## Sprayed Drywell Transport Group Inventory:

Time (h) =	24.0000	Atmosphere	Sump	
Noble gases (atoms)	1.6793E+25	0.0000E+00		
Elemental I (atoms)	4.7294E+20	5.4908E+22		
Organic I (atoms)	8.2071E+20	0.0000E+00		
Aerosols (kg)	1.8307E-01	5.2582E+01		
Dose Effective (Ci/cc)	I-131 (Thyroid)		4.6159E-05	
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		5.0784E-05	
Total I (Ci)			2.5357E+05	

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:



	Pathway	
Time (h) = 24.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	8.8859E+22
Elemental I (atoms)	0.0000E+00	3.9088E+18
Organic I (atoms)	0.0000E+00	4.8313E+18
Aerosols (kg)	0.0000E+00	2.2726E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 24.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	8.8859E+22
Elemental I (atoms)	0.0000E+00	3.9088E+18
Organic I (atoms)	0.0000E+00	4.8313E+18
Aerosols (kg)	0.0000E+00	2.2726E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 24.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.4543E+22
Elemental I (atoms)	0.0000E+00	1.9568E+18
Organic I (atoms)	0.0000E+00	2.4216E+18
Aerosols (kg)	0.0000E+00	1.1365E-03

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 24.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.1917E+26
Elemental I (atoms)	0.0000E+00	2.0030E+22
Organic I (atoms)	0.0000E+00	2.8022E+22
Aerosols (kg)	0.0000E+00	1.0346E+01

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 24.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.0780E+26
Elemental I (atoms)	0.0000E+00	1.9614E+22
Organic I (atoms)	0.0000E+00	2.7339E+22
Aerosols (kg)	0.0000E+00	1.0239E+01

Exclusion Area Boundary Doses:

Time (h) = 48.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	5.4423E+00	1.2267E+02	1.0095E+01
Accumulated dose (rem)	4.3664E+01	4.8216E+02	6.3008E+01

Low Population Zone Doses:

Time (h) = 48.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	5.5704E-01	8.2511E+00	8.6997E-01
Accumulated dose (rem)	1.7775E+01	1.3501E+02	2.3599E+01

Control Room Doses:

Time (h) = 48.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.2830E-02	2.7253E+00	1.3594E-01
Accumulated dose (rem)	7.3466E-01	3.5820E+01	2.2412E+00

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 48.0000	Ci	kg	Atoms	Decay
Co-58	4.6304E+00	1.4562E-07	1.5120E+18	3.8898E+16
Co-60	5.6474E+00	4.9960E-06	5.0144E+19	4.6900E+16
Kr-85	8.1384E+05	2.0743E+00	1.4696E+25	5.1218E+21
Kr-85m	7.2147E+03	8.7668E-07	6.2112E+18	9.0534E+21
Kr-87	1.0544E-04	3.7225E-15	2.5767E+10	3.5780E+21
Kr-88	2.7569E+02	2.1986E-08	1.5046E+17	1.4687E+22
Rb-86	1.2183E+02	1.4973E-06	1.0485E+19	1.1419E+18
Sr-89	6.2321E+03	2.1451E-04	1.4515E+21	5.2604E+19
Sr-90	1.0074E+03	7.3853E-03	4.9417E+22	8.3632E+18
Sr-91	2.4483E+02	6.7541E-08	4.4697E+17	2.8312E+19
Sr-92	4.0054E-02	3.1866E-12	2.0859E+13	1.5983E+19
Y-90	4.0634E+02	7.4687E-07	4.9975E+18	1.3915E+18
Y-91	1.0042E+02	4.0948E-06	2.7098E+19	7.7101E+17
Y-92	2.1087E+00	2.1915E-10	1.4345E+15	3.4736E+18
Y-93	2.4433E+00	7.3233E-10	4.7421E+15	2.3663E+17
Zr-95	1.1543E+02	5.3729E-06	3.4059E+19	9.7087E+17
Zr-97	1.6013E+01	8.3766E-09	5.2005E+16	5.2610E+17
Nb-95	1.1786E+02	3.0141E-06	1.9107E+19	9.7865E+17
Mo-99	9.3391E+02	1.9472E-06	1.1845E+19	1.0666E+19
Tc-99m	9.5574E+02	1.8176E-07	1.1056E+18	9.9173E+18
Ru-103	1.2849E+03	3.9812E-05	2.3277E+20	1.0898E+19
Ru-105	5.1984E-01	7.7334E-11	4.4354E+14	2.2235E+18
Ru-106	5.7838E+02	1.7288E-04	9.8217E+20	4.8121E+18
Rh-105	3.9363E+02	4.6636E-07	2.6748E+18	5.7244E+18
Sb-127	1.0243E+03	3.8356E-06	1.8188E+19	1.0651E+19
Sb-129	2.4163E+00	4.2969E-10	2.0059E+15	1.2556E+19
Te-127	1.2160E+03	4.6075E-07	2.1848E+18	1.1237E+19
Te-127m	2.4948E+02	2.6449E-05	1.2542E+20	2.0732E+18
Te-129	8.6166E+02	4.1144E-08	1.9208E+17	1.7337E+19
Te-129m	9.9254E+02	3.2947E-05	1.5381E+20	8.4339E+18
Te-131m	1.1011E+03	1.3809E-06	6.3479E+18	1.9042E+19
Te-132	1.5389E+04	5.0690E-05	2.3126E+20	1.6694E+20
I-131	9.6725E+04	7.8020E-04	3.5866E+21	8.7405E+20
I-132	1.8368E+04	1.7795E-06	8.1185E+18	4.9741E+20
I-133	4.7769E+04	4.2169E-05	1.9094E+20	1.1516E+21
I-135	1.4669E+03	4.1769E-07	1.8632E+18	6.3230E+20
Xe-133	7.3035E+07	3.9018E-01	1.7667E+24	5.2459E+23
Xe-135	1.0202E+06	3.9950E-04	1.7821E+21	6.2412E+22
Cs-134	1.7266E+04	1.3345E-02	5.9973E+22	1.5451E+20
Cs-136	4.2466E+03	5.7942E-05	2.5657E+20	4.0620E+19
Cs-137	1.3717E+04	1.5770E-01	6.9320E+23	1.2262E+20
Ba-139	3.9303E-07	2.4029E-17	1.0410E+08	1.4774E+19
Ba-140	1.0800E+04	1.4752E-04	6.3456E+20	9.5832E+19
La-140	6.3280E+03	1.1385E-05	4.8972E+19	2.2861E+19
La-141	2.3108E-02	4.0860E-12	1.7451E+13	2.4611E+17
La-142	4.5500E-08	3.1785E-18	1.3480E+07	1.4327E+17
Ce-141	2.6563E+02	9.3225E-06	3.9817E+19	2.2618E+18
Ce-143	9.4145E+01	1.4177E-07	5.9702E+17	1.5158E+18
Ce-144	2.3639E+02	7.4116E-05	3.0996E+20	1.9681E+18

Pr-143	1.0544E+02	1.5658E-06	6.5942E+18	8.5410E+17
Nd-147	3.9203E+01	4.8459E-07	1.9852E+18	3.5165E+17
Np-239	1.8073E+03	7.7904E-06	1.9630E+19	2.1829E+19
Pu-238	8.5207E-01	4.9771E-05	1.2594E+20	7.0721E+15
Pu-239	8.0868E-02	1.3010E-03	3.2782E+21	6.6944E+14
Pu-240	1.4745E-01	6.4707E-04	1.6236E+21	1.2239E+15
Pu-241	3.2551E+01	3.1599E-04	7.8961E+20	2.7025E+17
Am-241	2.1659E-02	6.3106E-06	1.5769E+19	1.7834E+14
Cm-242	5.3929E+00	1.6272E-06	4.0492E+18	4.4999E+16
Cm-244	3.1612E-01	3.9074E-06	9.6439E+18	2.6245E+15

## Sprayed Drywell Transport Group Inventory:

Time (h) = 48.0000	Atmosphere	Sump	
Noble gases (atoms)	1.6465E+25	0.0000E+00	
Elemental I (atoms)	4.0887E+20	5.4908E+22	
Organic I (atoms)	7.0953E+20	0.0000E+00	
Aerosols (kg)	1.8221E-01	5.2582E+01	
Dose Effective (Ci/cc)	I-131 (Thyroid)		3.8968E-05
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		4.0994E-05
Total I (Ci)			1.6433E+05

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 48.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.3297E+23
Elemental I (atoms)	0.0000E+00	5.0756E+18
Organic I (atoms)	0.0000E+00	6.8560E+18
Aerosols (kg)	0.0000E+00	2.7571E-03

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 48.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.3297E+23
Elemental I (atoms)	0.0000E+00	5.0756E+18
Organic I (atoms)	0.0000E+00	6.8560E+18
Aerosols (kg)	0.0000E+00	2.7571E-03

## Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 48.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	6.6473E+22
Elemental I (atoms)	0.0000E+00	2.5368E+18
Organic I (atoms)	0.0000E+00	3.4282E+18
Aerosols (kg)	0.0000E+00	1.3774E-03

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 48.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.0485E+27
Elemental I (atoms)	0.0000E+00	3.4031E+22
Organic I (atoms)	0.0000E+00	5.2318E+22
Aerosols (kg)	0.0000E+00	1.6160E+01

## Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 48.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.0372E+27
Elemental I (atoms)	0.0000E+00	3.3616E+22
Organic I (atoms)	0.0000E+00	5.1636E+22
Aerosols (kg)	0.0000E+00	1.6053E+01

## Exclusion Area Boundary Doses:

Time (h) = 72.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.8116E+00	9.7569E+01	7.6730E+00
Accumulated dose (rem)	4.7476E+01	5.7973E+02	7.0681E+01

## Low Population Zone Doses:

Time (h) = 72.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.9012E-01	6.5625E+00	6.4985E-01
Accumulated dose (rem)	1.8166E+01	1.4157E+02	2.4249E+01

## Control Room Doses:

Time (h) = 72.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.9806E-02	1.9077E+00	9.5208E-02
Accumulated dose (rem)	7.5446E-01	3.7728E+01	2.3364E+00

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 72.0000	Ci	kg	Atoms	Decay
Co-58	4.5670E+00	1.4363E-07	1.4913E+18	5.3597E+16
Co-60	5.6229E+00	4.9744E-06	4.9927E+19	6.4913E+16
Kr-85	8.1046E+05	2.0657E+00	1.4635E+25	7.7179E+21
Kr-85m	1.7532E+02	2.1304E-08	1.5093E+17	9.0594E+21
Kr-87	2.1877E-10	7.7234E-21	5.3462E+04	3.5780E+21
Kr-88	7.8484E-01	6.2591E-11	4.2833E+14	1.4687E+22
Rb-86	1.1692E+02	1.4369E-06	1.0062E+19	1.5234E+18
Sr-89	6.1227E+03	2.1075E-04	1.4260E+21	7.2350E+19
Sr-90	1.0033E+03	7.3554E-03	4.9217E+22	1.1577E+19
Sr-91	4.2330E+01	1.1677E-08	7.7277E+16	2.8681E+19
Sr-92	8.6093E-05	6.8494E-15	4.4835E+10	1.5983E+19
Y-90	5.4300E+02	9.9804E-07	6.6782E+18	2.9013E+18
Y-91	9.9412E+01	4.0537E-06	2.6826E+19	1.0906E+18
Y-92	2.0116E-02	2.0906E-12	1.3685E+13	3.4751E+18
Y-93	4.6873E-01	1.4049E-10	9.0976E+14	2.4045E+17
Zr-95	1.1373E+02	5.2939E-06	3.3558E+19	1.3371E+18
Zr-97	5.9601E+00	3.1177E-09	1.9356E+16	5.5861E+17
Nb-95	1.1731E+02	3.0000E-06	1.9018E+19	1.3544E+18
Mo-99	7.2295E+02	1.5074E-06	9.1692E+18	1.3300E+19
Tc-99m	7.4109E+02	1.4094E-07	8.5733E+17	1.2479E+19
Ru-103	1.2574E+03	3.8961E-05	2.2779E+20	1.4961E+19
Ru-105	1.2217E-02	1.8174E-12	1.0424E+13	2.2239E+18
Ru-106	5.7499E+02	1.7187E-04	9.7642E+20	6.6555E+18
Rh-105	2.4498E+02	2.9024E-07	1.6646E+18	6.7264E+18
Sb-127	8.5214E+02	3.1909E-06	1.5131E+19	1.3642E+19
Sb-129	5.1172E-02	9.0998E-12	4.2481E+13	1.2558E+19
Te-127	1.0578E+03	4.0081E-07	1.9006E+18	1.4744E+19

Te-127m	2.4798E+02	2.6290E-05	1.2466E+20	2.8682E+18
Te-129	8.3746E+02	3.9989E-08	1.8668E+17	1.9380E+19
Te-129m	9.6841E+02	3.2146E-05	1.5007E+20	1.1568E+19
Te-131m	6.2991E+02	7.8995E-07	3.6314E+18	2.1738E+19
Te-132	1.2391E+04	4.0813E-05	1.8620E+20	2.1117E+20
I-131	8.8437E+04	7.1335E-04	3.2793E+21	1.1698E+21
I-132	1.4789E+04	1.4328E-06	6.5367E+18	5.4319E+20
I-133	2.1383E+04	1.8876E-05	8.5471E+19	1.2566E+21
I-135	1.1794E+02	3.3583E-08	1.4981E+17	6.3401E+20
Xe-133	6.3744E+07	3.4054E-01	1.5420E+24	7.4287E+23
Xe-135	1.6326E+05	6.3931E-05	2.8519E+20	6.3907E+22
Cs-134	1.7181E+04	1.3280E-02	5.9680E+22	2.0956E+20
Cs-136	4.0118E+03	5.4738E-05	2.4238E+20	5.3816E+19
Cs-137	1.3662E+04	1.5706E-01	6.9040E+23	1.6637E+20
Ba-140	1.0187E+04	1.3915E-04	5.9857E+20	1.2937E+20
La-140	7.7367E+03	1.3919E-05	5.9874E+19	4.5274E+19
La-141	3.3395E-04	5.9049E-14	2.5220E+11	2.4613E+17
Ce-141	2.5899E+02	9.0895E-06	3.8822E+19	3.1002E+18
Ce-143	5.6642E+01	8.5293E-08	3.5919E+17	1.7518E+18
Ce-144	2.3488E+02	7.3642E-05	3.0797E+20	2.7213E+18
Pr-143	1.0346E+02	1.5363E-06	6.4700E+18	1.1882E+18
Nd-147	3.6658E+01	4.5313E-07	1.8564E+18	4.7285E+17
Np-239	1.3411E+03	5.7810E-06	1.4567E+19	2.6824E+19
Pu-238	8.4878E-01	4.9579E-05	1.2545E+20	9.7905E+15
Pu-239	8.0669E-02	1.2978E-03	3.2702E+21	9.2762E+14
Pu-240	1.4686E-01	6.4450E-04	1.6172E+21	1.6943E+15
Pu-241	3.2418E+01	3.1470E-04	7.8637E+20	3.7409E+17
Am-241	2.1715E-02	6.3270E-06	1.5810E+19	2.4766E+14
Cm-242	5.3486E+00	1.6138E-06	4.0159E+18	6.2167E+16
Cm-244	3.1483E-01	3.8915E-06	9.6045E+18	3.6329E+15

## Sprayed Drywell Transport Group Inventory:

Time (h) = 72.0000	Atmosphere	Sump	
Noble gases (atoms)	1.6178E+25	0.0000E+00	
Elemental I (atoms)	3.6396E+20	5.4908E+22	
Organic I (atoms)	6.3159E+20	0.0000E+00	
Aerosols (kg)	1.8138E-01	5.2582E+01	
Dose Effective (Ci/cc)	I-131 (Thyroid)		3.4232E-05
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		3.5202E-05
Total I (Ci)			1.2473E+05

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 72.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.7627E+23
Elemental I (atoms)	0.0000E+00	6.1002E+18
Organic I (atoms)	0.0000E+00	8.6342E+18
Aerosols (kg)	0.0000E+00	3.2393E-03

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 72.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.7627E+23
Elemental I (atoms)	0.0000E+00	6.1002E+18
Organic I (atoms)	0.0000E+00	8.6342E+18

Aerosols (kg) 0.0000E+00 3.2393E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 72.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	8.7999E+22
Elemental I (atoms)	0.0000E+00	3.0463E+18
Organic I (atoms)	0.0000E+00	4.3122E+18
Aerosols (kg)	0.0000E+00	1.6171E-03

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 72.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.5681E+27
Elemental I (atoms)	0.0000E+00	4.6327E+22
Organic I (atoms)	0.0000E+00	7.3656E+22
Aerosols (kg)	0.0000E+00	2.1947E+01

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 72.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.5568E+27
Elemental I (atoms)	0.0000E+00	4.5913E+22
Organic I (atoms)	0.0000E+00	7.2976E+22
Aerosols (kg)	0.0000E+00	2.1841E+01

Exclusion Area Boundary Doses:

Time (h) = 96.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.1830E+00	7.9712E+01	6.4867E+00
Accumulated dose (rem)	5.0659E+01	6.5944E+02	7.7168E+01

Low Population Zone Doses:

Time (h) = 96.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.2579E-01	5.3614E+00	5.4800E-01
Accumulated dose (rem)	1.8491E+01	1.4694E+02	2.4797E+01

Control Room Doses:

Time (h) = 96.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.6559E-02	1.5586E+00	8.1062E-02
Accumulated dose (rem)	7.7102E-01	3.9287E+01	2.4175E+00

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 96.0000	Ci	kg	Atoms	Decay
Co-58	4.5046E+00	1.4166E-07	1.4709E+18	6.8096E+16
Co-60	5.5986E+00	4.9528E-06	4.9711E+19	8.2848E+16
Kr-85	8.0709E+05	2.0572E+00	1.4575E+25	1.0303E+22
Kr-85m	4.2603E+00	5.1768E-10	3.6677E+15	9.0596E+21
Kr-88	2.2343E-03	1.7818E-13	1.2194E+12	1.4687E+22
Rb-86	1.1221E+02	1.3790E-06	9.6567E+18	1.8896E+18
Sr-89	6.0152E+03	2.0705E-04	1.4010E+21	9.1749E+19

Sr-90	9.9928E+02	7.3257E-03	4.9018E+22	1.4778E+19
Sr-91	7.3184E+00	2.0189E-09	1.3360E+16	2.8745E+19
Sr-92	1.8505E-07	1.4722E-17	9.6369E+07	1.5983E+19
Y-90	6.4702E+02	1.1892E-06	7.9575E+18	4.7935E+18
Y-91	9.7949E+01	3.9940E-06	2.6432E+19	1.4061E+18
Y-92	1.8451E-04	1.9176E-14	1.2552E+11	3.4751E+18
Y-93	8.9925E-02	2.6953E-11	1.7453E+14	2.4119E+17
Zr-95	1.1206E+02	5.2160E-06	3.3065E+19	1.6980E+18
Zr-97	2.2183E+00	1.1604E-09	7.2043E+15	5.7071E+17
Nb-95	1.1674E+02	2.9855E-06	1.8925E+19	1.7283E+18
Mo-99	5.5965E+02	1.1669E-06	7.0980E+18	1.5338E+19
Tc-99m	5.7377E+02	1.0912E-07	6.6376E+17	1.4464E+19
Ru-103	1.2305E+03	3.8127E-05	2.2292E+20	1.8937E+19
Ru-105	2.8710E-04	4.2710E-14	2.4496E+11	2.2239E+18
Ru-106	5.7163E+02	1.7086E-04	9.7071E+20	8.4881E+18
Rh-105	1.5243E+02	1.8060E-07	1.0358E+18	7.3499E+18
Sb-127	7.0891E+02	2.6546E-06	1.2588E+19	1.6130E+19
Sb-129	1.0837E-03	1.9271E-13	8.9965E+11	1.2558E+19
Te-127	9.2164E+02	3.4923E-07	1.6560E+18	1.7796E+19
Te-127m	2.4631E+02	2.6113E-05	1.2382E+20	3.6582E+18
Te-129	8.1703E+02	3.9014E-08	1.8213E+17	2.1372E+19
Te-129m	9.4487E+02	3.1365E-05	1.4642E+20	1.4626E+19
Te-131m	3.6035E+02	4.5190E-07	2.0774E+18	2.3281E+19
Te-132	9.9764E+03	3.2861E-05	1.4992E+20	2.4678E+20
I-131	8.0841E+04	6.5207E-04	2.9976E+21	1.4402E+21
I-132	1.1908E+04	1.1536E-06	5.2631E+18	5.8004E+20
I-133	9.5720E+03	8.4498E-06	3.8260E+19	1.3035E+21
I-135	9.4827E+00	2.7002E-09	1.2045E+16	6.3415E+20
Xe-133	5.5632E+07	2.9721E-01	1.3457E+24	9.3337E+23
Xe-135	2.6105E+04	1.0222E-05	4.5600E+19	6.4146E+22
Cs-134	1.7097E+04	1.3215E-02	5.9388E+22	2.6435E+20
Cs-136	3.7899E+03	5.1710E-05	2.2897E+20	6.6282E+19
Cs-137	1.3606E+04	1.5643E-01	6.8761E+23	2.0995E+20
Ba-140	9.6094E+03	1.3126E-04	5.6462E+20	1.6100E+20
La-140	8.4627E+03	1.5225E-05	6.5492E+19	7.1036E+19
La-141	4.8261E-06	8.5336E-16	3.6447E+09	2.4613E+17
Ce-141	2.5252E+02	8.8624E-06	3.7851E+19	3.9177E+18
Ce-143	3.4078E+01	5.1316E-08	2.1611E+17	1.8937E+18
Ce-144	2.3338E+02	7.3170E-05	3.0600E+20	3.4697E+18
Pr-143	1.0012E+02	1.4867E-06	6.2611E+18	1.5137E+18
Nd-147	3.4279E+01	4.2372E-07	1.7359E+18	5.8618E+17
Np-239	9.9522E+02	4.2899E-06	1.0809E+19	3.0530E+19
Pu-238	8.4550E-01	4.9388E-05	1.2497E+20	1.2498E+16
Pu-239	8.0440E-02	1.2942E-03	3.2609E+21	1.1851E+15
Pu-240	1.4628E-01	6.4193E-04	1.6108E+21	2.1628E+15
Pu-241	3.2285E+01	3.1340E-04	7.8314E+20	4.7750E+17
Am-241	2.1771E-02	6.3431E-06	1.5850E+19	3.1715E+14
Cm-242	5.3047E+00	1.6006E-06	3.9830E+18	7.9194E+16
Cm-244	3.1355E-01	3.8756E-06	9.5653E+18	4.6372E+15

## Sprayed Drywell Transport Group Inventory:

Time (h) =	96.0000	Atmosphere	Sump	
Noble gases (atoms)	1.5920E+25	0.0000E+00		
Elemental I (atoms)	3.2830E+20	5.4908E+22		
Organic I (atoms)	5.6971E+20	0.0000E+00		
Aerosols (kg)	1.8056E-01	5.2582E+01		
Dose Effective (Ci/cc)	I-131 (Thyroid)			3.0670E-05

Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid) 3.1162E-05  
 Total I (Ci) 1.0233E+05

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.1885E+23
Elemental I (atoms)	0.0000E+00	7.0188E+18
Organic I (atoms)	0.0000E+00	1.0228E+19
Aerosols (kg)	0.0000E+00	3.7194E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.1885E+23
Elemental I (atoms)	0.0000E+00	7.0188E+18
Organic I (atoms)	0.0000E+00	1.0228E+19
Aerosols (kg)	0.0000E+00	3.7194E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.0917E+23
Elemental I (atoms)	0.0000E+00	3.5029E+18
Organic I (atoms)	0.0000E+00	5.1046E+18
Aerosols (kg)	0.0000E+00	1.8558E-03

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.0790E+27
Elemental I (atoms)	0.0000E+00	5.7350E+22
Organic I (atoms)	0.0000E+00	9.2784E+22
Aerosols (kg)	0.0000E+00	2.7708E+01

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.0678E+27
Elemental I (atoms)	0.0000E+00	5.6937E+22
Organic I (atoms)	0.0000E+00	9.2106E+22
Aerosols (kg)	0.0000E+00	2.7602E+01

Exclusion Area Boundary Doses:

Time (h) = 240.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.2073E+01	3.2594E+02	2.7093E+01
Accumulated dose (rem)	6.2732E+01	9.8538E+02	1.0426E+02

Low Population Zone Doses:

Time (h) = 240.0000	Whole Body	Thyroid	TEDE
---------------------	------------	---------	------



Delta dose (rem)	4.9002E-01	8.6934E+00	8.9065E-01
Accumulated dose (rem)	1.8981E+01	1.5563E+02	2.5688E+01

## Control Room Doses:

Time (h) = 240.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.5162E-02	2.5395E+00	1.4206E-01
Accumulated dose (rem)	7.9618E-01	4.1826E+01	2.5596E+00

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 240.0000	Ci	kg	Atoms	Decay
Co-58	4.1473E+00	1.3043E-07	1.3542E+18	1.5102E+17
Co-60	5.4546E+00	4.8254E-06	4.8432E+19	1.8884E+17
Kr-85	7.8720E+05	2.0064E+00	1.4215E+25	2.5591E+22
Kr-85m	8.7719E-10	1.0659E-19	7.5518E+05	9.0596E+21
Rb-86	8.7670E+01	1.0775E-06	7.5449E+18	3.7967E+18
Sr-89	5.4089E+03	1.8618E-04	1.2598E+21	2.0120E+20
Sr-90	9.7530E+02	7.1499E-03	4.7842E+22	3.3712E+19
Sr-91	1.9546E-04	5.3920E-14	3.5683E+11	2.8758E+19
Y-90	9.0737E+02	1.6678E-06	1.1159E+19	2.0287E+19
Y-91	8.9094E+01	3.6329E-06	2.4042E+19	3.1986E+18
Y-93	4.4832E-06	1.3438E-15	8.7014E+09	2.4136E+17
Zr-95	1.0252E+02	4.7723E-06	3.0252E+19	3.7543E+18
Zr-97	5.8974E-03	3.0849E-12	1.9152E+13	5.7787E+17
Nb-95	1.1297E+02	2.8889E-06	1.8313E+19	3.9312E+18
Mo-99	1.2043E+02	2.5110E-07	1.5275E+18	2.0822E+19
Tc-99m	1.2347E+02	2.3482E-08	1.4284E+17	1.9802E+19
Ru-103	1.0807E+03	3.3487E-05	1.9579E+20	4.1070E+19
Ru-106	5.5187E+02	1.6495E-04	9.3715E+20	1.9261E+19
Rh-105	8.8468E+00	1.0481E-08	6.0114E+16	8.3173E+18
Sb-127	2.3500E+02	8.7999E-07	4.1728E+18	2.4362E+19
Te-127	4.6140E+02	1.7483E-07	8.2902E+17	2.9866E+19
Te-127m	2.3434E+02	2.4843E-05	1.1780E+20	8.2711E+18
Te-129	7.0487E+02	3.3658E-08	1.5712E+17	3.2343E+19
Te-129m	8.1515E+02	2.7059E-05	1.2632E+20	3.1473E+19
Te-131m	1.2630E+01	1.5839E-08	7.2812E+16	2.5271E+19
Te-132	2.7181E+03	8.9532E-06	4.0847E+19	3.5384E+20
I-131	4.7083E+04	3.7978E-04	1.7459E+21	2.6380E+21
I-132	3.2444E+03	3.1431E-07	1.4340E+18	6.9086E+20
I-133	7.7014E+01	6.7985E-08	3.0783E+17	1.3413E+21
I-135	2.5619E-06	7.2950E-16	3.2542E+09	6.3416E+20
Xe-133	2.4581E+07	1.3132E-01	5.9462E+23	1.6625E+24
Xe-135	4.3443E-01	1.7012E-10	7.5886E+14	6.4192E+22
Cs-134	1.6602E+04	1.2832E-02	5.7666E+22	5.8749E+20
Cs-136	2.6938E+03	3.6755E-05	1.6275E+20	1.2786E+20
Cs-137	1.3280E+04	1.5268E-01	6.7112E+23	4.6777E+20
Ba-140	6.7693E+03	9.2466E-05	3.9774E+20	3.1647E+20
La-140	7.6424E+03	1.3750E-05	5.9144E+19	2.3130E+20
Ce-141	2.1694E+02	7.6138E-06	3.2519E+19	8.4110E+18
Ce-143	1.6163E+00	2.4338E-09	1.0250E+16	2.0979E+18
Ce-144	2.2456E+02	7.0405E-05	2.9444E+20	7.8606E+18
Pr-143	7.4515E+01	1.1066E-06	4.6601E+18	3.1882E+18
Nd-147	2.2916E+01	2.8327E-07	1.1605E+18	1.1274E+18
Np-239	1.6618E+02	7.1633E-07	1.8050E+18	3.9414E+19
Pu-238	8.2610E-01	4.8254E-05	1.2210E+20	2.8528E+16
Pu-239	7.8756E-02	1.2671E-03	3.1926E+21	2.7123E+15

Pu-240	1.4282E-01	6.2678E-04	1.5727E+21	4.9350E+15
Pu-241	3.1497E+01	3.0576E-04	7.6404E+20	1.0891E+18
Am-241	2.2086E-02	6.4351E-06	1.6080E+19	7.3771E+14
Cm-242	5.0488E+00	1.5234E-06	3.7908E+18	1.7846E+17
Cm-244	3.0595E-01	3.7817E-06	9.3336E+18	1.0578E+16

## Sprayed Drywell Transport Group Inventory:

Time (h) = 240.0000	Atmosphere	Sump	
Noble gases (atoms)	1.4810E+25	0.0000E+00	
Elemental I (atoms)	1.8866E+20	5.4908E+22	
Organic I (atoms)	3.2739E+20	0.0000E+00	
Aerosols (kg)	1.7587E-01	5.2582E+01	
Dose Effective (Ci/cc) I-131 (Thyroid)			1.7514E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			1.7553E-05
Total I (Ci)			5.0404E+04

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 240.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.6262E+23
Elemental I (atoms)	0.0000E+00	1.1024E+19
Organic I (atoms)	0.0000E+00	1.7178E+19
Aerosols (kg)	0.0000E+00	6.5555E-03

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 240.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.6262E+23
Elemental I (atoms)	0.0000E+00	1.1024E+19
Organic I (atoms)	0.0000E+00	1.7178E+19
Aerosols (kg)	0.0000E+00	6.5555E-03

## Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 240.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.3036E+23
Elemental I (atoms)	0.0000E+00	5.4940E+18
Organic I (atoms)	0.0000E+00	8.5598E+18
Aerosols (kg)	0.0000E+00	3.2657E-03

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 240.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.0043E+27
Elemental I (atoms)	0.0000E+00	1.0541E+23
Organic I (atoms)	0.0000E+00	1.7619E+23
Aerosols (kg)	0.0000E+00	6.1741E+01

## Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 240.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.9934E+27

Elemental I (atoms)	0.0000E+00	1.0500E+23
Organic I (atoms)	0.0000E+00	1.7551E+23
Aerosols (kg)	0.0000E+00	6.1638E+01

## Exclusion Area Boundary Doses:

Time (h) = 720.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	9.0521E+00	3.5945E+02	3.5572E+01
Accumulated dose (rem)	7.1784E+01	1.3448E+03	1.3983E+02

## Low Population Zone Doses:

Time (h) = 720.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.6741E-01	9.5874E+00	1.0748E+00
Accumulated dose (rem)	1.9349E+01	1.6522E+02	2.6762E+01

## Control Room Doses:

Time (h) = 720.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.8545E-02	2.7735E+00	2.2313E-01
Accumulated dose (rem)	8.1473E-01	4.4600E+01	2.7827E+00

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 720.0000	Ci	kg	Atoms	Decay
Co-58	3.1487E+00	9.9023E-08	1.0282E+18	3.8277E+17
Co-60	5.0008E+00	4.4240E-06	4.4403E+19	5.2284E+17
Kr-85	7.2436E+05	1.8463E+00	1.3081E+25	7.3881E+22
Rb-86	3.8513E+01	4.7333E-07	3.3145E+18	7.6171E+18
Sr-89	3.7957E+03	1.3065E-04	8.8405E+20	4.9239E+20
Sr-90	8.9946E+02	6.5939E-03	4.4122E+22	9.3607E+19
Y-90	9.0419E+02	1.6619E-06	1.1120E+19	7.9312E+19
Y-91	6.4917E+01	2.6471E-06	1.7518E+19	8.0808E+18
Zr-95	7.6231E+01	3.5484E-06	2.2494E+19	9.4268E+18
Zr-97	1.5350E-11	8.0295E-21	4.9850E+04	5.7789E+17
Nb-95	9.7599E+01	2.4959E-06	1.5822E+19	1.0675E+19
Mo-99	7.1919E-01	1.4995E-09	9.1215E+15	2.2316E+19
Tc-99m	7.3734E-01	1.4023E-10	8.5299E+14	2.1257E+19
Ru-103	7.0123E+02	2.1727E-05	1.2703E+20	9.7160E+19
Ru-106	4.9078E+02	1.4670E-04	8.3342E+20	5.2551E+19
Rh-105	6.6960E-04	7.9331E-13	4.5499E+12	8.3769E+18
Sb-127	5.9250E+00	2.2187E-08	1.0521E+17	2.8341E+19
Te-127	2.0129E+02	7.6273E-08	3.6167E+17	4.6881E+19
Te-127m	1.9177E+02	2.0331E-05	9.6405E+19	2.1868E+19
Te-129	4.3085E+02	2.0573E-08	9.6043E+16	5.9146E+19
Te-129m	4.9826E+02	1.6540E-05	7.7213E+19	7.2629E+19
Te-131m	1.7796E-04	2.2318E-13	1.0260E+12	2.5344E+19
Te-132	3.5639E+01	1.1739E-07	5.3556E+17	3.9340E+20
I-131	7.7528E+03	6.2535E-05	2.8748E+20	4.0320E+21
I-132	4.2539E+01	4.1211E-09	1.8801E+16	7.3182E+20
I-133	8.0377E-06	7.0954E-15	3.2127E+10	1.3416E+21
Xe-133	1.6149E+06	8.6272E-03	3.9063E+22	2.2018E+24
Cs-134	1.5051E+04	1.1633E-02	5.2280E+22	1.5985E+21
Cs-136	8.6336E+02	1.1780E-05	5.2162E+19	2.3070E+20
Cs-137	1.2248E+04	1.4081E-01	6.1895E+23	1.2833E+21
Ba-140	2.1056E+03	2.8762E-05	1.2372E+20	5.7179E+20
La-140	2.4459E+03	4.4004E-06	1.8929E+19	5.2399E+20

Ce-141	1.3077E+02	4.5895E-06	1.9602E+19	1.9294E+19
Ce-143	6.2417E-05	9.3989E-14	3.9582E+11	2.1081E+18
Ce-144	1.9749E+02	6.1920E-05	2.5895E+20	2.1333E+19
Pr-143	2.4815E+01	3.6851E-07	1.5519E+18	6.0810E+18
Nd-147	5.9873E+00	7.4010E-08	3.0320E+17	1.9337E+18
Np-239	4.2607E-01	1.8366E-09	4.6276E+15	4.1190E+19
Pu-238	7.6445E-01	4.4653E-05	1.1299E+20	7.9345E+16
Pu-239	7.2767E-02	1.1707E-03	2.9499E+21	7.5542E+15
Pu-240	1.3189E-01	5.7879E-04	1.4523E+21	1.3712E+16
Pu-241	2.9009E+01	2.8161E-04	7.0369E+20	3.0221E+18
Am-241	2.2944E-02	6.6850E-06	1.6705E+19	2.1785E+15
Cm-242	4.2817E+00	1.2919E-06	3.2149E+18	4.7604E+17
Cm-244	2.8193E-01	3.4849E-06	8.6010E+18	2.9359E+16

## Sprayed Drywell Transport Group Inventory:

Time (h) = 720.0000	Atmosphere	Sump	
Noble gases (atoms)	1.3120E+25	0.0000E+00	
Elemental I (atoms)	3.1036E+19	5.4908E+22	
Organic I (atoms)	5.3858E+19	0.0000E+00	
Aerosols (kg)	1.6163E-01	5.2582E+01	
Dose Effective (Ci/cc) I-131 (Thyroid)			2.8821E-06
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			2.8825E-06
Total I (Ci)			7.7953E+03

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.1971E+24
Elemental I (atoms)	0.0000E+00	1.5665E+19
Organic I (atoms)	0.0000E+00	2.5231E+19
Aerosols (kg)	0.0000E+00	1.5501E-02

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.1971E+24
Elemental I (atoms)	0.0000E+00	1.5665E+19
Organic I (atoms)	0.0000E+00	2.5231E+19
Aerosols (kg)	0.0000E+00	1.5501E-02

## Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.9551E+23
Elemental I (atoms)	0.0000E+00	7.8011E+18
Organic I (atoms)	0.0000E+00	1.2563E+19
Aerosols (kg)	0.0000E+00	7.7128E-03

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.3818E+28
Elemental I (atoms)	0.0000E+00	1.6110E+23

Organic I (atoms)      0.0000E+00    2.7282E+23  
Aerosols (kg)            0.0000E+00    1.6908E+02

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.3808E+28
Elemental I (atoms)	0.0000E+00	1.6069E+23
Organic I (atoms)	0.0000E+00	2.7216E+23
Aerosols (kg)	0.0000E+00	1.6899E+02

930

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

Time (hr)	Sprayed Drywell I-131 (Curies)	MSIV Failed Control V I-131 (Curies)	Intact Control Volume I-131 (Curies)
0.000	4.4650E+03	0.0000E+00	0.0000E+00
0.033	2.6200E+05	0.0000E+00	0.0000E+00
0.167	1.2153E+06	3.6628E+01	3.6336E+01
0.500	5.2943E+05	1.0490E+02	1.0107E+02
0.667	8.4096E+05	1.4142E+02	1.3500E+02
1.000	8.8113E+05	2.1978E+02	2.0618E+02
1.160	8.8779E+05	2.5389E+02	2.3608E+02
1.410	8.9559E+05	3.0264E+02	2.7757E+02
1.660	9.0135E+05	3.4621E+02	3.1335E+02
1.910	9.0583E+05	3.8508E+02	3.4414E+02
2.000	9.0723E+05	3.9801E+02	3.5414E+02
2.200	1.1305E+05	3.8900E+02	3.4149E+02
2.300	7.8894E+04	3.7964E+02	3.3051E+02
2.600	1.6297E+05	3.5574E+02	3.0257E+02
2.900	1.6484E+05	3.3600E+02	2.7979E+02
3.200	1.4699E+05	3.1726E+02	2.5883E+02
3.500	1.2694E+05	2.9888E+02	2.3895E+02
3.800	1.0916E+05	2.8086E+02	2.2006E+02
4.000	9.8982E+04	2.6911E+02	2.0806E+02
4.300	1.0849E+05	2.5280E+02	1.9175E+02
4.600	1.1191E+05	2.3825E+02	1.7760E+02
4.900	1.1308E+05	2.2508E+02	1.6513E+02
5.200	1.1343E+05	2.1307E+02	1.5408E+02
5.500	1.1348E+05	2.0209E+02	1.4425E+02
5.800	1.1341E+05	1.9205E+02	1.3549E+02
6.100	1.1330E+05	1.8286E+02	1.2770E+02
6.400	1.1318E+05	1.7444E+02	1.2075E+02
6.700	1.1305E+05	1.6673E+02	1.1455E+02
7.000	1.1292E+05	1.5968E+02	1.0903E+02
7.300	1.1279E+05	1.5321E+02	1.0411E+02
7.600	1.1266E+05	1.4729E+02	9.9717E+01
7.900	1.1253E+05	1.4186E+02	9.5799E+01
8.000	1.1249E+05	1.4016E+02	9.4590E+01
8.300	1.1236E+05	1.3533E+02	9.1224E+01
8.600	1.1223E+05	1.3090E+02	8.8220E+01
8.900	1.1210E+05	1.2684E+02	8.5537E+01
9.200	1.1197E+05	1.2312E+02	8.3141E+01

9.500	1.1184E+05	1.1971E+02	8.1000E+01
9.800	1.1171E+05	1.1658E+02	7.9086E+01
10.100	1.1158E+05	1.1371E+02	7.7373E+01
10.400	1.1146E+05	1.1108E+02	7.5841E+01
24.000	1.0575E+05	8.0029E+01	6.0798E+01
48.000	9.6725E+04	7.3049E+01	5.5770E+01
72.000	8.8437E+04	6.6786E+01	5.0993E+01
96.000	8.0841E+04	6.1049E+01	4.6613E+01
240.000	4.7083E+04	3.5556E+01	2.7148E+01
720.000	7.7528E+03	5.8547E+00	4.4702E+00

Time (hr)	Intact Control Volume I-131 (Curies)	Intact Control Volume I-131 (Curies)	Intact Control Volume I-131 (Curies)
0.000	0.0000E+00	0.0000E+00	0.0000E+00
0.033	0.0000E+00	0.0000E+00	0.0000E+00
0.167	3.1396E-01	1.8469E+01	4.3559E-02
0.500	3.4945E+00	5.4899E+01	5.6544E-01
0.667	5.4436E+00	7.4927E+01	9.4480E-01
1.000	1.0335E+01	1.1921E+02	2.0021E+00
1.160	1.2897E+01	1.3937E+02	2.6233E+00
1.410	1.6890E+01	1.6927E+02	3.6974E+00
1.660	2.0701E+01	1.9725E+02	4.8601E+00
1.910	2.4230E+01	2.2339E+02	6.0773E+00
2.000	2.5423E+01	2.3236E+02	6.5236E+00
2.200	2.6714E+01	2.3112E+02	7.0810E+00
2.300	2.7126E+01	2.2795E+02	7.3305E+00
2.600	2.7596E+01	2.2009E+02	7.9660E+00
2.900	2.7333E+01	2.1374E+02	8.4681E+00
3.200	2.6640E+01	2.0739E+02	8.8643E+00
3.500	2.5683E+01	2.0075E+02	9.1713E+00
3.800	2.4567E+01	1.9384E+02	9.4020E+00
4.000	2.3771E+01	1.8914E+02	9.5188E+00
4.300	2.2548E+01	1.8243E+02	9.6469E+00
4.600	2.1345E+01	1.7626E+02	9.7287E+00
4.900	2.0200E+01	1.7050E+02	9.7739E+00
5.200	1.9129E+01	1.6506E+02	9.7900E+00
5.500	1.8142E+01	1.5992E+02	9.7828E+00
5.800	1.7238E+01	1.5505E+02	9.7573E+00
6.100	1.6417E+01	1.5044E+02	9.7175E+00
6.400	1.5673E+01	1.4607E+02	9.6666E+00
6.700	1.5002E+01	1.4193E+02	9.6074E+00
7.000	1.4397E+01	1.3800E+02	9.5420E+00
7.300	1.3854E+01	1.3429E+02	9.4722E+00
7.600	1.3367E+01	1.3076E+02	9.3995E+00
7.900	1.2931E+01	1.2742E+02	9.3251E+00
8.000	1.2795E+01	1.2635E+02	9.3000E+00
8.300	1.2408E+01	1.2324E+02	9.2180E+00
8.600	1.2063E+01	1.2029E+02	9.1373E+00
8.900	1.1755E+01	1.1749E+02	9.0583E+00
9.200	1.1481E+01	1.1484E+02	8.9812E+00
9.500	1.1237E+01	1.1232E+02	8.9063E+00
9.800	1.1018E+01	1.0994E+02	8.8336E+00
10.100	1.0822E+01	1.0768E+02	8.7633E+00
10.400	1.0647E+01	1.0553E+02	8.6954E+00
24.000	8.8468E+00	6.8408E+01	7.2718E+00
48.000	8.0362E+00	5.9693E+01	6.4396E+00
72.000	7.1598E+00	5.4271E+01	5.6642E+00

96.000	6.2886E+00	4.9577E+01	4.8993E+00
240.000	3.4954E+00	2.8872E+01	2.6795E+00
720.000	5.1463E-01	4.7541E+00	3.8554E-01

Time (hr)	Environment I-131 (Curies)	Control Room I-131 (Curies)	Unsprayed Drywell I-131 (Curies)
0.000	0.0000E+00	0.0000E+00	1.6446E+00
0.033	0.0000E+00	0.0000E+00	5.6993E+03
0.167	1.6584E-01	4.5896E-04	1.2411E+05
0.500	2.6706E+00	5.9745E-03	2.6443E+05
0.667	4.8751E+00	9.9018E-03	3.3106E+05
1.000	1.1807E+01	9.0392E-03	4.5043E+05
1.160	1.6377E+01	8.9244E-03	4.8753E+05
1.410	2.5104E+01	9.0647E-03	5.2816E+05
1.660	3.5696E+01	9.5250E-03	5.5451E+05
1.910	4.8056E+01	1.0235E-02	5.7179E+05
2.000	5.2919E+01	1.0539E-02	5.7647E+05
2.200	5.9477E+01	1.0116E-02	4.5315E+05
2.300	6.2763E+01	9.9272E-03	3.8196E+05
2.600	7.2550E+01	9.4252E-03	2.5035E+05
2.900	8.2210E+01	9.0023E-03	1.8721E+05
3.200	9.1708E+01	8.6379E-03	1.4917E+05
3.500	1.0101E+02	8.3156E-03	1.2241E+05
3.800	1.1009E+02	8.0239E-03	1.0208E+05
4.000	1.1602E+02	7.8423E-03	9.1023E+04
4.300	1.2471E+02	7.5857E-03	8.1300E+04
4.600	1.3318E+02	7.3464E-03	7.7664E+04
4.900	1.4144E+02	7.1232E-03	7.6270E+04
5.200	1.4950E+02	6.9151E-03	7.5701E+04
5.500	1.5739E+02	6.7213E-03	7.5437E+04
5.800	1.6511E+02	6.5409E-03	7.5285E+04
6.100	1.7268E+02	6.3734E-03	7.5174E+04
6.400	1.8010E+02	6.2181E-03	7.5078E+04
6.700	1.8740E+02	6.0744E-03	7.4988E+04
7.000	1.9459E+02	5.9416E-03	7.4901E+04
7.300	2.0166E+02	5.8190E-03	7.4814E+04
7.600	2.0864E+02	5.7061E-03	7.4727E+04
7.900	2.1553E+02	5.6021E-03	7.4641E+04
8.000	2.1781E+02	5.5694E-03	7.4612E+04
8.300	2.2451E+02	4.9079E-03	7.4526E+04
8.600	2.3113E+02	4.3704E-03	7.4440E+04
8.900	2.3769E+02	3.9332E-03	7.4354E+04
9.200	2.4418E+02	3.5773E-03	7.4268E+04
9.500	2.5062E+02	3.2871E-03	7.4182E+04
9.800	2.5701E+02	3.0501E-03	7.4096E+04
10.100	2.6335E+02	2.8564E-03	7.4010E+04
10.400	2.6965E+02	2.6977E-03	7.3925E+04
24.000	5.3635E+02	1.8506E-03	7.0139E+04
48.000	7.4549E+02	5.3253E-04	6.4149E+04
72.000	9.2184E+02	4.4854E-04	5.8653E+04
96.000	1.0702E+03	3.7735E-04	5.3615E+04
240.000	1.6918E+03	1.2373E-04	3.1226E+04
720.000	2.3779E+03	1.9328E-05	5.1417E+03

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

Time (hr)	Exclusion Area Bounda		Low Population Zone		Control Room	
	Thyroid (rem)	TEDE (rem)	Thyroid (rem)	TEDE (rem)	Thyroid (rem)	TEDE (rem)
0.000	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.033	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.167	1.2124E-01	6.0306E-03	9.0926E-02	4.5229E-03	7.7934E-03	3.1794E-04
0.500	1.9464E+00	1.0285E-01	1.4598E+00	7.7141E-02	3.6921E-01	1.4995E-02
0.667	3.5519E+00	1.9975E-01	2.6640E+00	1.4982E-01	8.5420E-01	3.4812E-02
1.000	8.6285E+00	6.0396E-01	6.4713E+00	4.5297E-01	2.0091E+00	8.3229E-02
1.160	1.1979E+01	9.2944E-01	8.9839E+00	6.9708E-01	2.5367E+00	1.0623E-01
1.410	1.8374E+01	1.6440E+00	1.3781E+01	1.2330E+00	3.3603E+00	1.4412E-01
1.660	2.6127E+01	2.6326E+00	1.9595E+01	1.9744E+00	4.2118E+00	1.8646E-01
1.910	3.5156E+01	3.9098E+00	2.6367E+01	2.9324E+00	5.1173E+00	2.3527E-01
2.000	3.8703E+01	4.4415E+00	2.9027E+01	3.3311E+00	5.4605E+00	2.5475E-01
2.200	4.3483E+01	5.1878E+00	3.1920E+01	3.7827E+00	6.2184E+00	2.9894E-01
2.300	4.5873E+01	5.5739E+00	3.3366E+01	4.0164E+00	6.5859E+00	3.2075E-01
2.600	5.2971E+01	6.7707E+00	3.7661E+01	4.7407E+00	7.6481E+00	3.8530E-01
2.900	5.9949E+01	8.0100E+00	4.1884E+01	5.4906E+00	8.6571E+00	4.4885E-01
3.200	6.6783E+01	9.2738E+00	4.6020E+01	6.2554E+00	9.6207E+00	5.1161E-01
3.500	7.3449E+01	1.0547E+01	5.0054E+01	7.0261E+00	1.0544E+01	5.7364E-01
3.800	7.9931E+01	1.1819E+01	5.3976E+01	7.7954E+00	1.1432E+01	6.3489E-01
4.000	8.4146E+01	1.2660E+01	5.6527E+01	8.3047E+00	1.2005E+01	6.7526E-01
4.300	9.0309E+01	1.3908E+01	6.0257E+01	9.0598E+00	1.2839E+01	7.3500E-01
4.600	9.6290E+01	1.5134E+01	6.3876E+01	9.8015E+00	1.3643E+01	7.9367E-01
4.900	1.0210E+02	1.6333E+01	6.7393E+01	1.0527E+01	1.4420E+01	8.5118E-01
5.200	1.0775E+02	1.7504E+01	7.0814E+01	1.1236E+01	1.5172E+01	9.0744E-01
5.500	1.1326E+02	1.8644E+01	7.4146E+01	1.1926E+01	1.5899E+01	9.6239E-01
5.800	1.1863E+02	1.9752E+01	7.7397E+01	1.2596E+01	1.6604E+01	1.0160E+00
6.100	1.2388E+02	2.0827E+01	8.0572E+01	1.3247E+01	1.7288E+01	1.0682E+00
6.400	1.2901E+02	2.1870E+01	8.3677E+01	1.3878E+01	1.7953E+01	1.1190E+00
6.700	1.3404E+02	2.2879E+01	8.6719E+01	1.4489E+01	1.8600E+01	1.1685E+00
7.000	1.3897E+02	2.3857E+01	8.9703E+01	1.5080E+01	1.9230E+01	1.2166E+00
7.300	1.4381E+02	2.4803E+01	9.2632E+01	1.5653E+01	1.9845E+01	1.2633E+00
7.600	1.4857E+02	2.5718E+01	9.5512E+01	1.6207E+01	2.0446E+01	1.3087E+00
7.900	1.5325E+02	2.6604E+01	9.8347E+01	1.6743E+01	2.1033E+01	1.3529E+00
8.000	1.5480E+02	2.6892E+01	9.9282E+01	1.6917E+01	2.1226E+01	1.3674E+00
8.300	1.5933E+02	2.7738E+01	9.9891E+01	1.7115E+01	2.1767E+01	1.4076E+00
8.600	1.6381E+02	2.8557E+01	1.0049E+02	1.7306E+01	2.2245E+01	1.4426E+00
8.900	1.6822E+02	2.9349E+01	1.0108E+02	1.7491E+01	2.2672E+01	1.4736E+00
9.200	1.7258E+02	3.0116E+01	1.0167E+02	1.7669E+01	2.3057E+01	1.5012E+00
9.500	1.7689E+02	3.0860E+01	1.0225E+02	1.7842E+01	2.3408E+01	1.5261E+00
9.800	1.8116E+02	3.1581E+01	1.0282E+02	1.8009E+01	2.3731E+01	1.5489E+00
10.100	1.8539E+02	3.2280E+01	1.0339E+02	1.8170E+01	2.4031E+01	1.5698E+00
10.400	1.8957E+02	3.2958E+01	1.0395E+02	1.8327E+01	2.4313E+01	1.5893E+00
24.000	3.5949E+02	5.2913E+01	1.2676E+02	2.2729E+01	3.3095E+01	2.1053E+00
48.000	4.8216E+02	6.3008E+01	1.3501E+02	2.3599E+01	3.5820E+01	2.2412E+00
72.000	5.7973E+02	7.0681E+01	1.4157E+02	2.4249E+01	3.7728E+01	2.3364E+00
96.000	6.5944E+02	7.7168E+01	1.4694E+02	2.4797E+01	3.9287E+01	2.4175E+00
240.000	9.8538E+02	1.0426E+02	1.5563E+02	2.5688E+01	4.1826E+01	2.5596E+00
720.000	1.3448E+03	1.3983E+02	1.6522E+02	2.6762E+01	4.4600E+01	2.7827E+00

#####  
Worst Two-Hour Doses  
#####

Exclusion Area Boundary



Time (hr)	Whole Body (rem)	Thyroid (rem)	TEDE (rem)
1.6	6.1340E+00	5.1344E+01	8.5759E+00

**Attachment 13.6 - RADTRAD Nuclide Inventory File "DQLOCA\_ATRIUM\_DEF.nif"**

Nuclide Inventory Name: Dresden/Quad NIF File - 39 GWD/MTU Burnup

Normalized MACCS Sample 3578 MWth BWR Core Inventory

Power Level:

0.1000E+01

Nuclides:

60

Nuclide 001:

Co-58

7

0.6117120000E+07

0.5800E+02

0.1529E+03

none 0.0000E+00

none 0.0000E+00

none 0.0000E+00

Nuclide 002:

Co-60

7

0.1663401096E+09

0.6000E+02

0.1830E+03

none 0.0000E+00

none 0.0000E+00

none 0.0000E+00

Nuclide 003:

Kr-85

1

0.3382974720E+09

0.8500E+02

4.5422E+02

none 0.0000E+00

none 0.0000E+00

none 0.0000E+00

Nuclide 004:

Kr-85m

1

0.1612800000E+05

0.8500E+02

6.7636E+03

Kr-85 0.2100E+00

none 0.0000E+00

none 0.0000E+00

Nuclide 005:

Kr-87

1

0.4578000000E+04

0.8700E+02

1.3560E+04

Rb-87 0.1000E+01

none 0.0000E+00

none 0.0000E+00

Nuclide 006:

Kr-88

1

0.1022400000E+05

0.8800E+02

1.8832E+04

Rb-88 0.1000E+01

none 0.0000E+00

none 0.0000E+00

Nuclide 007:

Rb-86

3

0.1612224000E+07

0.8600E+02

5.1059E+01

none 0.0000E+00

none 0.0000E+00

none 0.0000E+00

Nuclide 008:

Sr-89

5

0.4363200000E+07

0.8900E+02

2.5927E+04

none 0.0000E+00

none 0.0000E+00

none 0.0000E+00

Nuclide 009:

Sr-90

5

0.9189573120E+09

0.9000E+02

4.0781E+03

Y-90 0.1000E+01

none 0.0000E+00

none 0.0000E+00

Nuclide 010:

Sr-91

5

0.3420000000E+05

0.9100E+02

3.2890E+04

Y-91m 0.5800E+00

Y-91 0.4200E+00

none 0.0000E+00

Nuclide 011:

Sr-92

5

0.9756000000E+04

0.9200E+02

3.4813E+04

Y-92 0.1000E+01

none 0.0000E+00

none 0.0000E+00

Nuclide 012:

Y-90  
9  
0.2304000000E+06  
0.9000E+02  
4.2107E+03  
none 0.0000E+00  
none 0.0000E+00  
none 0.0000E+00  
Nuclide 013:  
Y-91  
9  
0.5055264000E+07  
0.9100E+02  
3.3487E+04  
none 0.0000E+00  
none 0.0000E+00  
none 0.0000E+00  
Nuclide 014:  
Y-92  
9  
0.1274400000E+05  
0.9200E+02  
3.5144E+04  
none 0.0000E+00  
none 0.0000E+00  
none 0.0000E+00  
Nuclide 015:  
Y-93  
9  
0.3636000000E+05  
0.9300E+02  
2.6657E+04  
Zr-93 0.1000E+01  
none 0.0000E+00  
none 0.0000E+00  
Nuclide 016:  
Zr-95  
9  
0.5527872000E+07  
0.9500E+02  
4.7743E+04  
Nb-95m 0.7000E-02  
Nb-95 0.9900E+00  
none 0.0000E+00  
Nuclide 017:  
Zr-97  
9  
0.6084000000E+05  
0.9700E+02  
4.6417E+04  
Nb-97m 0.9500E+00  
Nb-97 0.5300E-01  
none 0.0000E+00  
Nuclide 018:

Nb-95

9

0.3036960000E+07

0.9500E+02

4.7743E+04

none 0.0000E+00

none 0.0000E+00

none 0.0000E+00

Nuclide 019:

Mo-99

7

0.2376000000E+06

0.9900E+02

5.0064E+04

Tc-99m 0.8800E+00

Tc-99 0.1200E+00

none 0.0000E+00

Nuclide 020:

Tc-99m

7

0.2167200000E+05

0.9900E+02

4.4428E+04

Tc-99 0.1000E+01

none 0.0000E+00

none 0.0000E+00

Nuclide 021:

Ru-103

7

0.3393792000E+07

0.1030E+03

4.3101E+04

Rh-103m 0.1000E+01

none 0.0000E+00

none 0.0000E+00

Nuclide 022:

Ru-105

7

0.1598400000E+05

0.1050E+03

3.0237E+04

Rh-105 0.1000E+01

none 0.0000E+00

none 0.0000E+00

Nuclide 023:

Ru-106

7

0.3181248000E+08

0.1060E+03

1.8799E+04

Rh-106 0.1000E+01

none 0.0000E+00

none 0.0000E+00

Nuclide 024:

Rh-105  
7  
0.1272960000E+06  
0.1050E+03  
2.8314E+04  
none 0.0000E+00  
none 0.0000E+00  
none 0.0000E+00  
Nuclide 025:  
Sb-127  
4  
0.3326400000E+06  
0.1270E+03  
2.3772E+03  
Te-127m 0.1800E+00  
Te-127 0.8200E+00  
none 0.0000E+00  
Nuclide 026:  
Sb-129  
4  
0.1555200000E+05  
0.1290E+03  
8.6534E+03  
Te-129m 0.2200E+00  
Te-129 0.7700E+00  
none 0.0000E+00  
Nuclide 027:  
Te-127  
4  
0.3366000000E+05  
0.1270E+03  
2.3606E+03  
none 0.0000E+00  
none 0.0000E+00  
none 0.0000E+00  
Nuclide 028:  
Te-127m  
4  
0.9417600000E+07  
0.1270E+03  
4.0449E+02  
Te-127 0.9800E+00  
none 0.0000E+00  
none 0.0000E+00  
Nuclide 029:  
Te-129  
4  
0.4176000000E+04  
0.1290E+03  
8.2224E+03  
I-129 0.1000E+01  
none 0.0000E+00  
none 0.0000E+00  
Nuclide 030:

Te-129m  
4  
0.2903040000E+07  
0.1290E+03  
1.6644E+03  
Te-129 0.6500E+00  
I-129 0.3500E+00  
none 0.0000E+00  
Nuclide 031:  
Te-131m  
4  
0.1080000000E+06  
0.1310E+03  
5.4043E+03  
Te-131 0.2200E+00  
I-131 0.7800E+00  
none 0.0000E+00  
Nuclide 032:  
Te-132  
4  
0.2815200000E+06  
0.1320E+03  
3.8128E+04  
I-132 0.1000E+01  
none 0.0000E+00  
none 0.0000E+00  
Nuclide 033:  
I-131  
2  
0.6946560000E+06  
0.1310E+03  
2.6657E+04  
Xe-131m 0.1100E-01  
none 0.0000E+00  
none 0.0000E+00  
Nuclide 034:  
I-132  
2  
0.8280000000E+04  
0.1320E+03  
3.8791E+04  
none 0.0000E+00  
none 0.0000E+00  
none 0.0000E+00  
Nuclide 035:  
I-133  
2  
0.7488000000E+05  
0.1330E+03  
5.5037E+04  
Xe-133m 0.2900E-01  
Xe-133 0.9700E+00  
none 0.0000E+00  
Nuclide 036:

I-134

2

0.3156000000E+04

0.1340E+03

6.1005E+04

none 0.0000E+00

none 0.0000E+00

none 0.0000E+00

Nuclide 037:

I-135

2

0.2379600000E+05

0.1350E+03

5.2385E+04

Xe-135m 0.1500E+00

Xe-135 0.8500E+00

none 0.0000E+00

Nuclide 038:

Xe-133

1

0.4531680000E+06

0.1330E+03

5.2716E+04

none 0.0000E+00

none 0.0000E+00

none 0.0000E+00

Nuclide 039:

Xe-135

1

0.3272400000E+05

0.1350E+03

1.7871E+04

Cs-135 0.1000E+01

none 0.0000E+00

none 0.0000E+00

Nuclide 040:

Cs-134

3

0.6507177120E+08

0.1340E+03

6.7305E+03

none 0.0000E+00

none 0.0000E+00

none 0.0000E+00

Nuclide 041:

Cs-136

3

0.1131840000E+07

0.1360E+03

1.8368E+03

none 0.0000E+00

none 0.0000E+00

none 0.0000E+00

Nuclide 042:



Cs-137  
3  
0.9467280000E+09  
0.1370E+03  
5.3379E+03  
Ba-137m 0.9500E+00  
none 0.0000E+00  
none 0.0000E+00  
Nuclide 043:  
Ba-139  
6  
0.4962000000E+04  
0.1390E+03  
4.8406E+04  
none 0.0000E+00  
none 0.0000E+00  
none 0.0000E+00  
Nuclide 044:  
Ba-140  
6  
0.1100736000E+07  
0.1400E+03  
4.8738E+04  
La-140 0.1000E+01  
none 0.0000E+00  
none 0.0000E+00  
Nuclide 045:  
La-140  
9  
0.1449792000E+06  
0.1400E+03  
5.2053E+04  
none 0.0000E+00  
none 0.0000E+00  
none 0.0000E+00  
Nuclide 046:  
La-141  
9  
0.1414800000E+05  
0.1410E+03  
4.4428E+04  
Ce-141 0.1000E+01  
none 0.0000E+00  
none 0.0000E+00  
Nuclide 047:  
La-142  
9  
0.5550000000E+04  
0.1420E+03  
4.3433E+04  
none 0.0000E+00  
none 0.0000E+00  
none 0.0000E+00  
Nuclide 048:

Ce-141  
8  
0.2808086400E+07  
0.1410E+03  
4.4759E+04  
none 0.0000E+00  
none 0.0000E+00  
none 0.0000E+00  
Nuclide 049:  
Ce-143  
8  
0.1188000000E+06  
0.1430E+03  
4.1775E+04  
Pr-143 0.1000E+01  
none 0.0000E+00  
none 0.0000E+00  
Nuclide 050:  
Ce-144  
8  
0.2456352000E+08  
0.1440E+03  
3.8460E+04  
Pr-144m 0.1800E-01  
Pr-144 0.9800E+00  
none 0.0000E+00  
Nuclide 051:  
Pr-143  
9  
0.1171584000E+07  
0.1430E+03  
4.0449E+04  
none 0.0000E+00  
none 0.0000E+00  
none 0.0000E+00  
Nuclide 052:  
Nd-147  
9  
0.9486720000E+06  
0.1470E+03  
1.8003E+04  
Pm-147 0.1000E+01  
none 0.0000E+00  
none 0.0000E+00  
Nuclide 053:  
Np-239  
8  
0.2034720000E+06  
0.2390E+03  
5.2716E+05  
Pu-239 0.1000E+01  
none 0.0000E+00  
none 0.0000E+00  
Nuclide 054:

Pu-238  
8  
0.2768863824E+10  
0.2380E+03  
1.3792E+02  
U-234 0.1000E+01  
none 0.0000E+00  
none 0.0000E+00  
Nuclide 055:  
Pu-239  
8  
0.7594336440E+12  
0.2390E+03  
1.3030E+01  
U-235 0.1000E+01  
none 0.0000E+00  
none 0.0000E+00  
Nuclide 056:  
Pu-240  
8  
0.2062920312E+12  
0.2400E+03  
2.3872E+01  
U-236 0.1000E+01  
none 0.0000E+00  
none 0.0000E+00  
Nuclide 057:  
Pu-241  
8  
0.4544294400E+09  
0.2410E+03  
5.2716E+03  
U-237 0.2400E-04  
Am-241 0.1000E+01  
none 0.0000E+00  
Nuclide 058:  
Am-241  
9  
0.1363919472E+11  
0.2410E+03  
8.6534E+00  
Np-237 0.1000E+01  
none 0.0000E+00  
none 0.0000E+00  
Nuclide 059:  
Cm-242  
9  
0.1406592000E+08  
0.2420E+03  
2.2015E+03  
Pu-238 0.1000E+01  
none 0.0000E+00  
none 0.0000E+00  
Nuclide 060:

Cm-244

9

0.5715081360E+09

0.2440E+03

1.2798E+02

Pu-240 0.1000E+01

none 0.0000E+00

none 0.0000E+00

End of Nuclear Inventory File

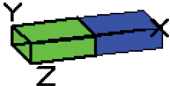
**Attachment 13.7 - RADTRAD Release Fraction and Timing File "bwr\_dba.rft"**

Release Fraction and Timing Name:  
BWR, RG 1.183, Table 1 Section 3.2  
Duration (h): Design Basis Accident  
0.5000E+00 0.1500E+01 0.0000E+00 0.0000E+00  
Noble Gases:  
0.5000E-01 0.9500E+00 0.0000E+00 0.0000E+00  
Iodine:  
0.5000E-01 0.2500E+00 0.0000E+00 0.0000E+00  
Cesium:  
0.5000E-01 0.2000E+00 0.0000E+00 0.0000E+00  
Tellurium:  
0.0000E+00 0.0500E+00 0.0000E+00 0.0000E+00  
Strontium:  
0.0000E+00 0.2000E-01 0.0000E+00 0.0000E+00  
Barium:  
0.0000E+00 0.2000E-01 0.0000E+00 0.0000E+00  
Ruthenium:  
0.0000E+00 0.2500E-02 0.0000E+00 0.0000E+00  
Cerium:  
0.0000E+00 0.5000E-03 0.0000E+00 0.0000E+00  
Lanthanum:  
0.0000E+00 0.2000E-03 0.0000E+00 0.0000E+00  
Non-Radioactive Aerosols (kg):  
0.0000E+00 0.0000E+00 0.0000E+00 0.0000E+00  
End of Release File

**Attachment 13.8 – MicroShield Output Files “QA[667, 2, 4, 8, 16, & 24].MSD”**

Case Summary of Case 1

MicroShield 10.04				
<b>Date</b>		<b>By</b>		<b>Checked</b>
<b>File Name</b>	<b>Run Date</b>	<b>Run Time</b>	<b>Duration</b>	
QA667.msdc	February 2, 2020	12:02:21 PM	00:00:02	
Project Info				
Case Title	Case 1			
Description	Containment Shine CR Dose Rate @ T=0.667 hrs			
Geometry	13 - Rectangular Volume			
Source Dimensions				
Length	4.5e+3 cm (147 ft .0 in)			
Width	3.6e+3 cm (117 ft 6.0 in)			
Height	1.3e+3 cm (44 ft)			
Dose Points				
<b>A</b>	<b>X</b>	<b>Y</b>	<b>Z</b>	
#1	9.1e+3 cm (299 ft .0 in)	670.56 cm (22 ft)	1.8e+3 cm (58 ft 9.0 in)	
Shield				
<b>Shield N</b>	<b>Dimension</b>	<b>Material</b>	<b>Density (g/cm<sup>3</sup>)</b>	
Source	2.15e+10 cm <sup>3</sup>	Air	0.00122	
Shield 1	4526.28 cm	Air	0.00122	
Shield 2	76.2 cm	Concrete	2.3	
Air Gap		Air	0.00122	



Source Input: Grouping Method - Standard Indices				
Number of Groups: 25				
Lower Energy Cutoff: 0.015				
Photons < 0.015: Included				
Library: Grove				
Nuclide	Ci	Bq	µCi/cm <sup>3</sup>	Bq/cm <sup>3</sup>
Am-241	3.1400e-005	1.1618e+006	1.4591e-009	5.3986e-005
Ba-139	1.2600e+001	4.6620e+011	5.8549e-004	2.1663e+001
Ba-140	1.7700e+001	6.5490e+011	8.2247e-004	3.0431e+001
Ce-141	4.0600e-001	1.5022e+010	1.8866e-005	6.9803e-001
Ce-143	3.7400e-001	1.3838e+010	1.7379e-005	6.4301e-001
Ce-144	3.4900e-001	1.2913e+010	1.6217e-005	6.0003e-001
Cm-242	7.9900e-003	2.9563e+008	3.7127e-007	1.3737e-002
Cm-244	4.6400e-004	1.7168e+007	2.1561e-008	7.9775e-004
Co-58	6.9300e-003	2.5641e+008	3.2202e-007	1.1915e-002
Co-60	8.3000e-003	3.0710e+008	3.8568e-007	1.4270e-002
Cs-134	1.6700e+002	6.1790e+012	7.7600e-003	2.8712e+002
Cs-136	4.5600e+001	1.6872e+012	2.1189e-003	7.8400e+001
Cs-137	1.3300e+002	4.9210e+012	6.1801e-003	2.2867e+002
I-131	7.1400e+002	2.6418e+013	3.3178e-002	1.2276e+003
I-132	9.1900e+002	3.4003e+013	4.2703e-002	1.5800e+003
I-133	1.4400e+003	5.3280e+013	6.6913e-002	2.4758e+003
I-134	9.6600e+002	3.5742e+013	4.4887e-002	1.6608e+003
I-135	1.3100e+003	4.8470e+013	6.0872e-002	2.2523e+003
Kr-85	4.9600e+001	1.8352e+012	2.3048e-003	8.5277e+001
Kr-85m	6.6700e+002	2.4679e+013	3.0994e-002	1.1468e+003
Kr-87	1.0300e+003	3.8110e+013	4.7861e-002	1.7709e+003
Kr-88	1.7500e+003	6.4750e+013	8.1318e-002	3.0088e+003
La-140	2.2100e-001	8.1770e+009	1.0269e-005	3.7996e-001

Case Summary of Case 1

La-141	1.4300e-001	5.2910e+009	6.6448e-006	2.4586e-001
La-142	1.1700e-001	4.3290e+009	5.4367e-006	2.0116e-001
Mo-99	2.2600e+000	8.3620e+010	1.0502e-004	3.8856e+000
Nb-95	1.7300e-001	6.4010e+009	8.0388e-006	2.9744e-001
Nd-147	6.5200e-002	2.4124e+009	3.0297e-006	1.1210e-001
Np-239	4.7400e+000	1.7538e+011	2.2025e-004	8.1494e+000
Pr-143	1.4700e-001	5.4390e+009	6.8307e-006	2.5274e-001
Pu-238	1.2500e-003	4.6250e+007	5.8084e-008	2.1491e-003
Pu-239	1.1800e-004	4.3660e+006	5.4831e-009	2.0288e-004
Pu-240	2.1700e-004	8.0290e+006	1.0083e-008	3.7309e-004
Pu-241	4.7800e-002	1.7686e+009	2.2211e-006	8.2182e-002
Rb-86	1.2700e+000	4.6990e+010	5.9013e-005	2.1835e+000
Rh-105	1.2800e+000	4.7360e+010	5.9478e-005	2.2007e+000
Ru-103	1.9500e+000	7.2150e+010	9.0611e-005	3.3526e+000
Ru-105	1.2400e+000	4.5880e+010	5.7619e-005	2.1319e+000
Ru-106	8.5300e-001	3.1561e+010	3.9637e-005	1.4666e+000
Sb-127	2.1500e+000	7.9550e+010	9.9905e-005	3.6965e+000
Sb-129	7.0500e+000	2.6085e+011	3.2759e-004	1.2121e+001
Sr-89	9.4100e+000	3.4817e+011	4.3726e-004	1.6179e+001
Sr-90	1.4800e+000	5.4760e+010	6.8772e-005	2.5445e+000
Sr-91	1.1400e+001	4.2180e+011	5.2973e-004	1.9600e+001
Sr-92	1.0700e+001	3.9590e+011	4.9720e-004	1.8396e+001
Tc-99m	2.0100e+000	7.4370e+010	9.3399e-005	3.4558e+000
Te-127	2.1400e+000	7.9180e+010	9.9440e-005	3.6793e+000
Te-127m	3.6700e-001	1.3579e+010	1.7053e-005	6.3098e-001
Te-129	7.2100e+000	2.6677e+011	3.3503e-004	1.2396e+001
Te-129m	1.5100e+000	5.5870e+010	7.0166e-005	2.5961e+000
Te-131m	4.8300e+000	1.7871e+011	2.2444e-004	8.3042e+000
Te-132	3.4400e+001	1.2728e+012	1.5985e-003	5.9144e+001
Xe-133	5.7500e+003	2.1275e+014	2.6719e-001	9.8859e+003
Xe-135	2.0100e+003	7.4370e+013	9.3399e-002	3.4558e+003
Y-90	1.7000e-002	6.2900e+008	7.8994e-007	2.9228e-002
Y-91	1.2200e-001	4.5140e+009	5.6690e-006	2.0975e-001
Y-92	3.4900e-001	1.2913e+010	1.6217e-005	6.0003e-001
Y-93	9.2400e-002	3.4188e+009	4.2936e-006	1.5886e-001
Zr-95	1.7300e-001	6.4010e+009	8.0388e-006	2.9744e-001
Zr-97	1.6400e-001	6.0680e+009	7.6206e-006	2.8196e-001

**Buildup: The material reference is Shield 2.  
 Integration Parameters**

X Direction	20
Y Direction	20
Z Direction	20

**Results**

Energy (MeV)	Activity (Photons/sec)	Fluence Rate MeV/cm <sup>2</sup> /sec No Buildup	Fluence Rate MeV/cm <sup>2</sup> /sec With Buildup	Exposure Rate mR/hr No Buildup	Exposure Rate mR/hr With Buildup	Absorbed Dose Rate mrad/hr No Buildup	Absorbed Dose Rate mrad/hr With Buildup	Absorbed Dose Rate mGy/hr No Buildup	Absorbed Dose Rate mGy/hr With Buildup
0.015	2.119e+13	0.000e+00	5.640e-24	0.000e+00	4.838e-25	0.000e+00	4.223e-25	0.000e+00	4.223e-27
0.02	9.150e+09	9.492e-272	3.832e-27	3.288e-273	1.327e-28	2.870e-273	1.159e-28	2.870e-275	1.159e-30
0.03	1.109e+14	1.363e-85	1.027e-22	1.350e-87	1.018e-24	1.179e-87	8.883e-25	1.179e-89	8.883e-27

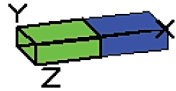


Case Summary of Case 1

0.04	8.443e+10	2.127e-44	2.073e-25	9.409e-47	9.170e-28	8.214e-47	8.005e-28	8.214e-49	8.005e-30
0.05	1.673e+11	2.692e-28	1.343e-24	7.171e-31	3.578e-27	6.260e-31	3.124e-27	6.260e-33	3.124e-29
0.06	2.150e+11	4.073e-21	1.604e-19	8.089e-24	3.187e-22	7.062e-24	2.782e-22	7.062e-26	2.782e-24
0.08	7.888e+13	1.221e-12	8.616e-11	1.932e-15	1.363e-13	1.686e-15	1.190e-13	1.686e-17	1.190e-15
0.1	3.261e+11	1.368e-12	1.927e-10	2.093e-15	2.947e-13	1.827e-15	2.573e-13	1.827e-17	2.573e-15
0.15	2.311e+13	3.696e-08	9.478e-06	6.086e-11	1.561e-08	5.313e-11	1.363e-08	5.313e-13	1.363e-10
0.2	8.756e+13	2.820e-06	7.811e-04	4.978e-09	1.379e-06	4.346e-09	1.203e-06	4.346e-11	1.203e-08
0.3	9.644e+12	1.222e-05	2.380e-03	2.317e-08	4.514e-06	2.023e-08	3.941e-06	2.023e-10	3.941e-08
0.4	5.086e+13	7.182e-04	9.102e-02	1.399e-06	1.774e-04	1.222e-06	1.548e-04	1.222e-08	1.548e-06
0.5	6.473e+13	5.454e-03	4.752e-01	1.071e-05	9.328e-04	9.346e-06	8.143e-04	9.346e-08	8.143e-06
0.6	6.937e+13	2.374e-02	1.503e+00	4.635e-05	2.934e-03	4.046e-05	2.561e-03	4.046e-07	2.561e-05
0.8	1.240e+14	3.512e-01	1.345e+01	6.679e-04	2.559e-02	5.831e-04	2.234e-02	5.831e-06	2.234e-04
1.0	5.290e+13	7.081e-01	1.859e+01	1.305e-03	3.427e-02	1.139e-03	2.992e-02	1.139e-05	2.992e-04
1.5	5.118e+13	9.191e+00	1.282e+02	1.546e-02	2.156e-01	1.350e-02	1.882e-01	1.350e-04	1.882e-03
2.0	4.993e+13	4.512e+01	4.307e+02	6.977e-02	6.661e-01	6.091e-02	5.815e-01	6.091e-04	5.815e-03
3.0	5.830e+12	3.673e+01	2.207e+02	4.983e-02	2.994e-01	4.350e-02	2.614e-01	4.350e-04	2.614e-03
4.0	1.136e+08	2.266e-03	1.028e-02	2.803e-06	1.272e-05	2.447e-06	1.110e-05	2.447e-08	1.110e-07
<b>Total</b>	<b>8.009e+14</b>	<b>9.213e+01</b>	<b>8.137e+02</b>	<b>1.371e-01</b>	<b>1.245e+00</b>	<b>1.197e-01</b>	<b>1.087e+00</b>	<b>1.197e-03</b>	<b>1.087e-02</b>

Case Summary of Case 2

MicroShield 10.04				
Date		By	Checked	
File Name	Run Date	Run Time	Duration	
QA2.msdd	February 2, 2020	12:05:48 PM	00:00:02	
Project Info				
Case Title	Case 2			
Description	Containment Shine CR Dose Rate @ T= 2 hrs			
Geometry	13 - Rectangular Volume			
Source Dimensions				
Length	4.5e+3 cm (147 ft .0 in)			
Width	3.6e+3 cm (117 ft 6.0 in)			
Height	1.3e+3 cm (44 ft)			
Dose Points				
A	X	Y	Z	
#1	9.1e+3 cm (299 ft .0 in)	670.56 cm (22 ft)	1.8e+3 cm (58 ft 9.0 in)	
Shield				
Shield N	Dimension	Material	Density (g/cm <sup>3</sup> )	
Source	2.15e+10 cm <sup>3</sup>	Air	0.00122	
Shield 1	4526.28 cm	Air	0.00122	
Shield 2	76.2 cm	Concrete	2.3	
Air Gap		Air	0.00122	



Source Input: Grouping Method - Standard Indices				
Number of Groups: 25				
Lower Energy Cutoff: 0.015				
Photons < 0.015: Included				
Library: Grove				
Nuclide	Ci	Bq	µCi/cm <sup>3</sup>	Bq/cm <sup>3</sup>
Am-241	5.4100e-004	2.0017e+007	2.5139e-008	9.3014e-004
Ba-139	1.1100e+002	4.1070e+012	5.1579e-003	1.9084e+002
Ba-140	3.0300e+002	1.1211e+013	1.4080e-002	5.2094e+002
Ce-141	6.9900e+000	2.5863e+011	3.2481e-004	1.2018e+001
Ce-143	6.2600e+000	2.3162e+011	2.9089e-004	1.0763e+001
Ce-144	6.0100e+000	2.2237e+011	2.7927e-004	1.0333e+001
Cm-242	1.3800e-001	5.1060e+009	6.4125e-006	2.3726e-001
Cm-244	8.0000e-003	2.9600e+008	3.7174e-007	1.3754e-002
Co-58	1.1900e-001	4.4030e+009	5.5296e-006	2.0460e-001
Co-60	1.4300e-001	5.2910e+009	6.6448e-006	2.4586e-001
Cs-134	5.8100e+002	2.1497e+013	2.6997e-002	9.9891e+002
Cs-136	1.5800e+002	5.8460e+012	7.3418e-003	2.7165e+002
Cs-137	4.6100e+002	1.7057e+013	2.1421e-002	7.9259e+002
I-131	3.0300e+003	1.1211e+014	1.4080e-001	5.2094e+003
I-132	3.3700e+003	1.2469e+014	1.5659e-001	5.7940e+003
I-133	5.9000e+003	2.1830e+014	2.7416e-001	1.0144e+004
I-134	1.4400e+003	5.3280e+013	6.6913e-002	2.4758e+003
I-135	4.8700e+003	1.8019e+014	2.2630e-001	8.3729e+003
Kr-85	1.2900e+003	4.7730e+013	5.9943e-002	2.2179e+003
Kr-85m	1.4100e+004	5.2170e+014	6.5519e-001	2.4242e+004
Kr-87	1.2900e+004	4.7730e+014	5.9943e-001	2.2179e+004
Kr-88	3.2800e+004	1.2136e+015	1.5241e+000	5.6393e+004
La-140	7.4700e+000	2.7639e+011	3.4711e-004	1.2843e+001

Case Summary of Case 2

La-141	1.9500e+000	7.2150e+010	9.0611e-005	3.3526e+000					
La-142	1.1100e+000	4.1070e+010	5.1579e-005	1.9084e+000					
Mo-99	3.8300e+001	1.4171e+012	1.7797e-003	6.5849e+001					
Nb-95	2.9900e+000	1.1063e+011	1.3894e-004	5.1407e+000					
Nd-147	1.1200e+000	4.1440e+010	5.2043e-005	1.9256e+000					
Np-239	8.0400e+001	2.9748e+012	3.7360e-003	1.3823e+002					
Pr-143	2.5400e+000	9.3980e+010	1.1803e-004	4.3670e+000					
Pu-238	2.1600e-002	7.9920e+008	1.0037e-006	3.7137e-002					
Pu-239	2.0400e-003	7.5480e+007	9.4793e-008	3.5074e-003					
Pu-240	3.7300e-003	1.3801e+008	1.7332e-007	6.4129e-003					
Pu-241	8.2400e-001	3.0488e+010	3.8289e-005	1.4167e+000					
Rb-86	4.4000e+000	1.6280e+011	2.0446e-004	7.5649e+000					
Rh-105	2.2100e+001	8.1770e+011	1.0269e-003	3.7996e+001					
Ru-103	3.3600e+001	1.2432e+012	1.5613e-003	5.7768e+001					
Ru-105	1.7300e+001	6.4010e+011	8.0388e-004	2.9744e+001					
Ru-106	1.4700e+001	5.4390e+011	6.8307e-004	2.5274e+001					
Sb-127	3.6600e+001	1.3542e+012	1.7007e-003	6.2926e+001					
Sb-129	9.8100e+001	3.6297e+012	4.5584e-003	1.6866e+002					
Sr-89	1.6200e+002	5.9940e+012	7.5277e-003	2.7852e+002					
Sr-90	2.5500e+001	9.4350e+011	1.1849e-003	4.3842e+001					
Sr-91	1.7800e+002	6.5860e+012	8.2712e-003	3.0603e+002					
Sr-92	1.3100e+002	4.8470e+012	6.0872e-003	2.2523e+002					
Tc-99m	3.4600e+001	1.2802e+012	1.6078e-003	5.9487e+001					
Te-127	3.6800e+001	1.3616e+012	1.7100e-003	6.3270e+001					
Te-127m	6.3200e+000	2.3384e+011	2.9367e-004	1.0866e+001					
Te-129	1.1100e+002	4.1070e+012	5.1579e-003	1.9084e+002					
Te-129m	2.6000e+001	9.6200e+011	1.2081e-003	4.4702e+001					
Te-131m	8.0700e+001	2.9859e+012	3.7499e-003	1.3875e+002					
Te-132	5.8600e+002	2.1682e+013	2.7230e-002	1.0075e+003					
Xe-133	1.4900e+005	5.5130e+015	6.9236e+000	2.5617e+005					
Xe-135	5.1600e+004	1.9092e+015	2.3977e+000	8.8715e+004					
Y-90	4.8700e-001	1.8019e+010	2.2630e-005	8.3729e-001					
Y-91	2.1200e+000	7.8440e+010	9.8511e-005	3.6449e+000					
Y-92	2.3500e+001	8.6950e+011	1.0920e-003	4.0403e+001					
Y-93	1.4500e+000	5.3650e+010	6.7378e-005	2.4930e+000					
Zr-95	2.9800e+000	1.1026e+011	1.3847e-004	5.1235e+000					
Zr-97	2.6700e+000	9.8790e+010	1.2407e-004	4.5905e+000					
<b>Buildup: The material reference is Shield 2.</b>									
<b>Integration Parameters</b>									
X Direction				20					
Y Direction				20					
Z Direction				20					
<b>Results</b>									
Energy (MeV)	Activity (Photons/sec)	Fluence Rate MeV/cm <sup>2</sup> /sec No Buildup	Fluence Rate MeV/cm <sup>2</sup> /sec With Buildup	Exposure Rate mR/hr No Buildup	Exposure Rate mR/hr With Buildup	Absorbed Dose Rate mrad/hr No Buildup	Absorbed Dose Rate mrad/hr With Buildup	Absorbed Dose Rate mGy/hr No Buildup	Absorbed Dose Rate mGy/hr With Buildup
0.015	4.921e+14	0.000e+00	1.310e-22	0.000e+00	1.123e-23	0.000e+00	9.807e-24	0.000e+00	9.807e-26
0.02	1.560e+11	1.618e-270	6.531e-26	5.604e-272	2.262e-27	4.893e-272	1.975e-27	4.893e-274	1.975e-29
0.03	2.794e+15	3.433e-84	2.587e-21	3.402e-86	2.564e-23	2.970e-86	2.238e-23	2.970e-88	2.238e-25
0.04	5.321e+11	1.341e-43	1.307e-24	5.930e-46	5.779e-27	5.177e-46	5.045e-27	5.177e-48	5.045e-29

Case Summary of Case 2

0.05	2.851e+12	4.586e-27	2.288e-23	1.222e-29	6.096e-26	1.066e-29	5.322e-26	1.066e-31	5.322e-28
0.06	8.093e+11	1.533e-20	6.037e-19	3.044e-23	1.199e-21	2.658e-23	1.047e-21	2.658e-25	1.047e-23
0.08	2.027e+15	3.136e-11	2.213e-09	4.963e-14	3.503e-12	4.333e-14	3.058e-12	4.333e-16	3.058e-14
0.1	5.663e+12	2.376e-11	3.346e-09	3.635e-14	5.118e-12	3.174e-14	4.468e-12	3.174e-16	4.468e-14
0.15	4.441e+14	7.103e-07	1.822e-04	1.170e-09	3.000e-07	1.021e-09	2.619e-07	1.021e-11	2.619e-09
0.2	2.066e+15	6.653e-05	1.842e-02	1.174e-07	3.252e-05	1.025e-07	2.839e-05	1.025e-09	2.839e-07
0.3	1.005e+14	1.273e-04	2.480e-02	2.415e-07	4.704e-05	2.108e-07	4.107e-05	2.108e-09	4.107e-07
0.4	3.963e+14	5.596e-03	7.092e-01	1.090e-05	1.382e-03	9.519e-06	1.206e-03	9.519e-08	1.206e-05
0.5	2.595e+14	2.187e-02	1.905e+00	4.292e-05	3.740e-03	3.747e-05	3.265e-03	3.747e-07	3.265e-05
0.6	2.897e+14	9.915e-02	6.276e+00	1.935e-04	1.225e-02	1.690e-04	1.070e-02	1.690e-06	1.070e-04
0.8	4.934e+14	1.398e+00	5.355e+01	2.658e-03	1.018e-01	2.321e-03	8.891e-02	2.321e-05	8.891e-04
1.0	2.506e+14	3.355e+00	8.808e+01	6.183e-03	1.623e-01	5.398e-03	1.417e-01	5.398e-05	1.417e-03
1.5	3.681e+14	6.611e+01	9.218e+02	1.112e-01	1.551e+00	9.710e-02	1.354e+00	9.710e-04	1.354e-02
2.0	7.818e+14	7.063e+02	6.743e+03	1.092e+00	1.043e+01	9.536e-01	9.104e+00	9.536e-03	9.104e-02
3.0	7.613e+13	4.796e+02	2.882e+03	6.507e-01	3.910e+00	5.680e-01	3.413e+00	5.680e-03	3.413e-02
4.0	1.078e+09	2.149e-02	9.753e-02	2.659e-05	1.207e-04	2.321e-05	1.053e-04	2.321e-07	1.053e-06
<b>Total</b>	<b>1.085e+16</b>	<b>1.257e+03</b>	<b>1.070e+04</b>	<b>1.863e+00</b>	<b>1.617e+01</b>	<b>1.627e+00</b>	<b>1.412e+01</b>	<b>1.627e-02</b>	<b>1.412e-01</b>

Case Summary of Case 3

MicroShield 10.04				
Date	By		Checked	
File Name	Run Date	Run Time	Duration	
QA4.msdd	February 2, 2020	12:08:17 PM	00:00:02	
Project Info				
Case Title	Case 3			
Description	Containment Shine CR Dose Rate @ T= 4 hrs			
Geometry	13 - Rectangular Volume			
Source Dimensions				
Length	4.5e+3 cm (147 ft .0 in)			
Width	3.6e+3 cm (117 ft 6.0 in)			
Height	1.3e+3 cm (44 ft)			
Dose Points				
A	X	Y	Z	
#1	9.1e+3 cm (299 ft .0 in)	670.56 cm (22 ft)	1.8e+3 cm (58 ft 9.0 in)	
Shield				
Shield N	Dimension	Material	Density (g/cm <sup>3</sup> )	
Source	2.15e+10 cm <sup>3</sup>	Air	0.00122	
Shield 1	4526.28 cm	Air	0.00122	
Shield 2	76.2 cm	Concrete	2.3	
Air Gap		Air	0.00122	

Source Input: Grouping Method - Standard Indices				
Number of Groups: 25				
Lower Energy Cutoff: 0.015				
Photons < 0.015: Included				
Library: Grove				
Nuclide	Ci	Bq	µCi/cm <sup>3</sup>	Bq/cm <sup>3</sup>
Am-241	6.1800e-004	2.2866e+007	2.8717e-008	1.0625e-003
Ba-139	4.6200e+001	1.7094e+012	2.1468e-003	7.9431e+001
Ba-140	3.4500e+002	1.2765e+013	1.6031e-002	5.9315e+002
Ce-141	7.9700e+000	2.9489e+011	3.7034e-004	1.3703e+001
Ce-143	6.8500e+000	2.5345e+011	3.1830e-004	1.1777e+001
Ce-144	6.8600e+000	2.5382e+011	3.1877e-004	1.1794e+001
Cm-242	1.5700e-001	5.8090e+009	7.2954e-006	2.6993e-001
Cm-244	9.1300e-003	3.3781e+008	4.2425e-007	1.5697e-002
Co-58	1.3600e-001	5.0320e+009	6.3195e-006	2.3382e-001
Co-60	1.6300e-001	6.0310e+009	7.5742e-006	2.8024e-001
Cs-134	6.1400e+002	2.2718e+013	2.8531e-002	1.0556e+003
Cs-136	1.6600e+002	6.1420e+012	7.7136e-003	2.8540e+002
Cs-137	4.8700e+002	1.8019e+013	2.2630e-002	8.3729e+002
I-131	3.8500e+003	1.4245e+014	1.7890e-001	6.6193e+003
I-132	2.7500e+003	1.0175e+014	1.2779e-001	4.7280e+003
I-133	7.0500e+003	2.6085e+014	3.2759e-001	1.2121e+004
I-134	3.7800e+002	1.3986e+013	1.7565e-002	6.4989e+002
I-135	5.0400e+003	1.8648e+014	2.3420e-001	8.6652e+003
Kr-85	4.0900e+003	1.5133e+014	1.9005e-001	7.0319e+003
Kr-85m	3.2800e+004	1.2136e+015	1.5241e+000	5.6393e+004
Kr-87	1.3800e+004	5.1060e+014	6.4125e-001	2.3726e+004
Kr-88	6.3900e+004	2.3643e+015	2.9693e+000	1.0986e+005
La-140	1.9300e+001	7.1410e+011	8.9682e-004	3.3182e+001

Case Summary of Case 3


La-141	1.5700e+000	5.8090e+010	7.2954e-005	2.6993e+000					
La-142	5.1300e-001	1.8981e+010	2.3838e-005	8.8200e-001					
Mo-99	4.2800e+001	1.5836e+012	1.9888e-003	7.3586e+001					
Nb-95	3.4100e+000	1.2617e+011	1.5845e-004	5.8628e+000					
Nd-147	1.2700e+000	4.6990e+010	5.9013e-005	2.1835e+000					
Np-239	8.9600e+001	3.3152e+012	4.1635e-003	1.5405e+002					
Pr-143	2.9100e+000	1.0767e+011	1.3522e-004	5.0031e+000					
Pu-238	2.4600e-002	9.1020e+008	1.1431e-006	4.2295e-002					
Pu-239	2.3300e-003	8.6210e+007	1.0827e-007	4.0059e-003					
Pu-240	4.2600e-003	1.5762e+008	1.9795e-007	7.3242e-003					
Pu-241	9.4100e-001	3.4817e+010	4.3726e-005	1.6179e+000					
Rb-86	4.6300e+000	1.7131e+011	2.1514e-004	7.9603e+000					
Rh-105	2.4900e+001	9.2130e+011	1.1570e-003	4.2810e+001					
Ru-103	3.8300e+001	1.4171e+012	1.7797e-003	6.5849e+001					
Ru-105	1.4400e+001	5.3280e+011	6.6913e-004	2.4758e+001					
Ru-106	1.6800e+001	6.2160e+011	7.8065e-004	2.8884e+001					
Sb-127	4.1200e+001	1.5244e+012	1.9145e-003	7.0835e+001					
Sb-129	8.1300e+001	3.0081e+012	3.7778e-003	1.3978e+002					
Sr-89	1.8500e+002	6.8450e+012	8.5964e-003	3.1807e+002					
Sr-90	2.9100e+001	1.0767e+012	1.3522e-003	5.0031e+001					
Sr-91	1.7500e+002	6.4750e+012	8.1318e-003	3.0088e+002					
Sr-92	8.9300e+001	3.3041e+012	4.1495e-003	1.5353e+002					
Tc-99m	3.9200e+001	1.4504e+012	1.8215e-003	6.7396e+001					
Te-127	4.1900e+001	1.5503e+012	1.9470e-003	7.2038e+001					
Te-127m	7.2200e+000	2.6714e+011	3.3549e-004	1.2413e+001					
Te-129	1.0400e+002	3.8480e+012	4.8326e-003	1.7881e+002					
Te-129m	2.9700e+001	1.0989e+012	1.3801e-003	5.1063e+001					
Te-131m	8.7900e+001	3.2523e+012	4.0845e-003	1.5113e+002					
Te-132	6.5700e+002	2.4309e+013	3.0529e-002	1.1296e+003					
Xe-133	4.6700e+005	1.7279e+016	2.1700e+001	8.0291e+005					
Xe-135	1.4500e+005	5.3650e+015	6.7378e+000	2.4930e+005					
Y-90	1.1300e+000	4.1810e+010	5.2508e-005	1.9428e+000					
Y-91	2.4900e+000	9.2130e+010	1.1570e-004	4.2810e+000					
Y-92	5.3200e+001	1.9684e+012	2.4721e-003	9.1466e+001					
Y-93	1.4500e+000	5.3650e+010	6.7378e-005	2.4930e+000					
Zr-95	3.4000e+000	1.2580e+011	1.5799e-004	5.8456e+000					
Zr-97	2.8100e+000	1.0397e+011	1.3057e-004	4.8312e+000					
<b>Buildup: The material reference is Shield 2.</b>									
<b>Integration Parameters</b>									
X Direction				20					
Y Direction				20					
Z Direction				20					
<b>Results</b>									
Energy (MeV)	Activity (Photons/sec)	Fluence Rate MeV/cm <sup>2</sup> /sec No Buildup	Fluence Rate MeV/cm <sup>2</sup> /sec With Buildup	Exposure Rate mR/hr No Buildup	Exposure Rate mR/hr With Buildup	Absorbed Dose Rate mrad/hr No Buildup	Absorbed Dose Rate mrad/hr With Buildup	Absorbed Dose Rate mGy/hr No Buildup	Absorbed Dose Rate mGy/hr With Buildup
0.015	1.377e+15	0.000e+00	3.664e-22	0.000e+00	3.143e-23	0.000e+00	2.744e-23	0.000e+00	2.744e-25
0.02	1.749e+11	1.815e-270	7.326e-26	6.287e-272	2.538e-27	5.488e-272	2.215e-27	5.488e-274	2.215e-29
0.03	8.640e+15	1.062e-83	8.000e-21	1.052e-85	7.929e-23	9.185e-86	6.922e-23	9.185e-88	6.922e-25
0.04	5.622e+11	1.417e-43	1.381e-24	6.265e-46	6.106e-27	5.469e-46	5.330e-27	5.469e-48	5.330e-29

Case Summary of Case 3

0.05	3.196e+12	5.141e-27	2.566e-23	1.370e-29	6.834e-26	1.196e-29	5.967e-26	1.196e-31	5.967e-28
0.06	8.551e+11	1.619e-20	6.379e-19	3.217e-23	1.267e-21	2.808e-23	1.106e-21	2.808e-25	1.106e-23
0.08	6.346e+15	9.820e-11	6.930e-09	1.554e-13	1.097e-11	1.357e-13	9.574e-12	1.357e-15	9.574e-14
0.1	8.302e+12	3.483e-11	4.905e-09	5.329e-14	7.503e-12	4.652e-14	6.551e-12	4.652e-16	6.551e-14
0.15	1.011e+15	1.616e-06	4.146e-04	2.662e-09	6.827e-07	2.324e-09	5.960e-07	2.324e-11	5.960e-09
0.2	5.484e+15	1.766e-04	4.892e-02	3.118e-07	8.634e-05	2.722e-07	7.537e-05	2.722e-09	7.537e-07
0.3	2.023e+14	2.562e-04	4.991e-02	4.860e-07	9.468e-05	4.243e-07	8.266e-05	4.243e-09	8.266e-07
0.4	4.873e+14	6.881e-03	8.720e-01	1.341e-05	1.699e-03	1.170e-05	1.483e-03	1.170e-07	1.483e-05
0.5	2.967e+14	2.500e-02	2.178e+00	4.907e-05	4.275e-03	4.284e-05	3.732e-03	4.284e-07	3.732e-05
0.6	3.621e+14	1.240e-01	7.846e+00	2.419e-04	1.531e-02	2.112e-04	1.337e-02	2.112e-06	1.337e-04
0.8	5.777e+14	1.636e+00	6.269e+01	3.113e-03	1.192e-01	2.717e-03	1.041e-01	2.717e-05	1.041e-03
1.0	3.236e+14	4.332e+00	1.137e+02	7.985e-03	2.096e-01	6.971e-03	1.830e-01	6.971e-05	1.830e-03
1.5	5.651e+14	1.015e+02	1.415e+03	1.707e-01	2.381e+00	1.491e-01	2.078e+00	1.491e-03	2.078e-02
2.0	1.479e+15	1.337e+03	1.276e+04	2.067e+00	1.973e+01	1.804e+00	1.723e+01	1.804e-02	1.723e-01
3.0	8.967e+13	5.649e+02	3.395e+03	7.664e-01	4.605e+00	6.691e-01	4.020e+00	6.691e-03	4.020e-02
4.0	4.983e+08	9.934e-03	4.508e-02	1.229e-05	5.576e-05	1.073e-05	4.868e-05	1.073e-07	4.868e-07
<b>Total</b>	<b>2.725e+16</b>	<b>2.009e+03</b>	<b>1.776e+04</b>	<b>3.015e+00</b>	<b>2.707e+01</b>	<b>2.632e+00</b>	<b>2.363e+01</b>	<b>2.632e-02</b>	<b>2.363e-01</b>

Case Summary of Case 4

MicroShield 10.04				
Date		By		Checked
File Name	Run Date	Run Time	Duration	
QA8.msdd	February 7, 2020	3:04:51 PM	00:00:02	
Project Info				
Case Title	Case 4			
Description	CR Dose Rate From Containment Shine T= 8 hrs			
Geometry	13 - Rectangular Volume			
Source Dimensions				
Length	4.5e+3 cm (147 ft .0 in)			
Width	3.6e+3 cm (117 ft 6.0 in)			
Height	1.3e+3 cm (44 ft)			
Dose Points				
A	X	Y	Z	
#1	9.1e+3 cm (299 ft .0 in)	670.56 cm (22 ft)	1.8e+3 cm (58 ft 9.0 in)	
Shield				
Shield N	Dimension	Material	Density (g/cm <sup>3</sup> )	
Source	2.15e+10 cm <sup>3</sup>	Air	0.00122	
Shield 1	4526.28 cm	Air	0.00122	
Shield 2	76.2 cm	Concrete	2.3	
Air Gap		Air	0.00122	



Source Input: Grouping Method - Standard Indices				
Number of Groups: 25				
Lower Energy Cutoff: 0.015				
Photons < 0.015: Included				
Library: Grove				
Nuclide	Ci	Bq	µCi/cm <sup>3</sup>	Bq/cm <sup>3</sup>
Am-241	5.3900e-004	1.9943e+007	2.5046e-008	9.2670e-004
Ba-139	5.3900e+000	1.9943e+011	2.5046e-004	9.2670e+000
Ba-140	2.9800e+002	1.1026e+013	1.3847e-002	5.1235e+002
Ce-141	6.9200e+000	2.5604e+011	3.2155e-004	1.1897e+001
Ce-143	5.4900e+000	2.0313e+011	2.5511e-004	9.4389e+000
Ce-144	5.9700e+000	2.2089e+011	2.7741e-004	1.0264e+001
Cm-242	1.3700e-001	5.0690e+009	6.3660e-006	2.3554e-001
Cm-244	7.9600e-003	2.9452e+008	3.6988e-007	1.3686e-002
Co-58	1.1800e-001	4.3660e+009	5.4831e-006	2.0288e-001
Co-60	1.4200e-001	5.2540e+009	6.5984e-006	2.4414e-001
Cs-134	5.0800e+002	1.8796e+013	2.3605e-002	8.7340e+002
Cs-136	1.3600e+002	5.0320e+012	6.3195e-003	2.3382e+002
Cs-137	4.0300e+002	1.4911e+013	1.8726e-002	6.9287e+002
I-131	4.2700e+003	1.5799e+014	1.9842e-001	7.3414e+003
I-132	1.3200e+003	4.8840e+013	6.1337e-002	2.2695e+003
I-133	6.9500e+003	2.5715e+014	3.2295e-001	1.1949e+004
I-134	1.8000e+001	6.6600e+011	8.3641e-004	3.0947e+001
I-135	3.7300e+003	1.3801e+014	1.7332e-001	6.4129e+003
Kr-85	8.0900e+003	2.9933e+014	3.7592e-001	1.3909e+004
Kr-85m	3.5000e+004	1.2950e+015	1.6264e+000	6.0175e+004
Kr-87	3.0900e+003	1.1433e+014	1.4358e-001	5.3126e+003
Kr-88	4.7600e+004	1.7612e+015	2.2118e+000	8.1838e+004
La-140	3.5300e+001	1.3061e+012	1.6403e-003	6.0691e+001



Case Summary of Case 4

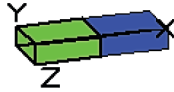
La-141	6.7400e-001	2.4938e+010	3.1319e-005	1.1588e+000					
La-142	7.4000e-002	2.7380e+009	3.4386e-006	1.2723e-001					
Mo-99	3.5800e+001	1.3246e+012	1.6635e-003	6.1551e+001					
Nb-95	2.9700e+000	1.0989e+011	1.3801e-004	5.1063e+000					
Nd-147	1.1000e+000	4.0700e+010	5.1114e-005	1.8912e+000					
Np-239	7.4300e+001	2.7491e+012	3.4525e-003	1.2774e+002					
Pr-143	2.5600e+000	9.4720e+010	1.1896e-004	4.4014e+000					
Pu-238	2.1400e-002	7.9180e+008	9.9440e-007	3.6793e-002					
Pu-239	2.0300e-003	7.5110e+007	9.4329e-008	3.4902e-003					
Pu-240	3.7100e-003	1.3727e+008	1.7239e-007	6.3786e-003					
Pu-241	8.1900e-001	3.0303e+010	3.8057e-005	1.4081e+000					
Rb-86	3.8100e+000	1.4097e+011	1.7704e-004	6.5505e+000					
Rh-105	2.0700e+001	7.6590e+011	9.6187e-004	3.5589e+001					
Ru-103	3.3300e+001	1.2321e+012	1.5474e-003	5.7252e+001					
Ru-105	6.7400e+000	2.4938e+011	3.1319e-004	1.1588e+001					
Ru-106	1.4600e+001	5.4020e+011	6.7842e-004	2.5102e+001					
Sb-127	3.4800e+001	1.2876e+012	1.6171e-003	5.9831e+001					
Sb-129	3.7300e+001	1.3801e+012	1.7332e-003	6.4129e+001					
Sr-89	1.6000e+002	5.9200e+012	7.4348e-003	2.7509e+002					
Sr-90	2.5400e+001	9.3980e+011	1.1803e-003	4.3670e+001					
Sr-91	1.1400e+002	4.2180e+012	5.2973e-003	1.9600e+002					
Sr-92	2.8000e+001	1.0360e+012	1.3011e-003	4.8140e+001					
Tc-99m	3.3500e+001	1.2395e+012	1.5567e-003	5.7596e+001					
Te-127	3.6200e+001	1.3394e+012	1.6821e-003	6.2238e+001					
Te-127m	6.2900e+000	2.3273e+011	2.9228e-004	1.0814e+001					
Te-129	5.7400e+001	2.1238e+012	2.6672e-003	9.8687e+001					
Te-129m	2.5800e+001	9.5460e+011	1.1989e-003	4.4358e+001					
Te-131m	6.9800e+001	2.5826e+012	3.2434e-003	1.2001e+002					
Te-132	5.5200e+002	2.0424e+013	2.5650e-002	9.4905e+002					
Xe-133	9.0500e+005	3.3485e+016	4.2053e+001	1.5560e+006					
Xe-135	2.1400e+005	7.9180e+015	9.9440e+000	3.6793e+005					
Y-90	2.0000e+000	7.4000e+010	9.2935e-005	3.4386e+000					
Y-91	2.2800e+000	8.4360e+010	1.0595e-004	3.9200e+000					
Y-92	4.5600e+001	1.6872e+012	2.1189e-003	7.8400e+001					
Y-93	9.5700e-001	3.5409e+010	4.4469e-005	1.6454e+000					
Zr-95	2.9600e+000	1.0952e+011	1.3754e-004	5.0891e+000					
Zr-97	2.0800e+000	7.6960e+010	9.6652e-005	3.5761e+000					
<b>Buildup: The material reference is Shield 2.</b>									
<b>Integration Parameters</b>									
X Direction				20					
Y Direction				20					
Z Direction				20					
<b>Results</b>									
Energy (MeV)	Activity (Photons/sec)	Fluence Rate MeV/cm <sup>2</sup> /sec No Buildup	Fluence Rate MeV/cm <sup>2</sup> /sec With Buildup	Exposure Rate mR/hr No Buildup	Exposure Rate mR/hr With Buildup	Absorbed Dose Rate mrad/hr No Buildup	Absorbed Dose Rate mrad/hr With Buildup	Absorbed Dose Rate mGy/hr No Buildup	Absorbed Dose Rate mGy/hr With Buildup
0.015	2.342e+15	0.000e+00	6.232e-22	0.000e+00	5.346e-23	0.000e+00	4.667e-23	0.000e+00	4.667e-25
0.02	1.475e+11	1.530e-270	6.177e-26	5.301e-272	2.140e-27	4.628e-272	1.868e-27	4.628e-274	1.868e-29
0.03	1.653e+16	2.031e-83	1.530e-20	2.013e-85	1.517e-22	1.757e-85	1.324e-22	1.757e-87	1.324e-24
0.04	4.597e+11	1.158e-43	1.129e-24	5.123e-46	4.992e-27	4.472e-46	4.358e-27	4.472e-48	4.358e-29

Case Summary of Case 4

0.05	2.685e+12	4.320e-27	2.156e-23	1.151e-29	5.742e-26	1.005e-29	5.013e-26	1.005e-31	5.013e-28
0.06	7.010e+11	1.328e-20	5.230e-19	2.637e-23	1.039e-21	2.302e-23	9.068e-22	2.302e-25	9.068e-24
0.08	1.229e+16	1.902e-10	1.343e-08	3.010e-13	2.125e-11	2.628e-13	1.855e-11	2.628e-15	1.855e-13
0.1	6.489e+12	2.723e-11	3.834e-09	4.166e-14	5.866e-12	3.637e-14	5.121e-12	3.637e-16	5.121e-14
0.15	1.059e+15	1.694e-06	4.345e-04	2.790e-09	7.155e-07	2.436e-09	6.247e-07	2.436e-11	6.247e-09
0.2	7.627e+15	2.457e-04	6.803e-02	4.336e-07	1.201e-04	3.785e-07	1.048e-04	3.785e-09	1.048e-06
0.3	2.089e+14	2.646e-04	5.155e-02	5.020e-07	9.779e-05	4.382e-07	8.537e-05	4.382e-09	8.537e-07
0.4	2.945e+14	4.159e-03	5.271e-01	8.104e-06	1.027e-03	7.075e-06	8.966e-04	7.075e-08	8.966e-06
0.5	2.707e+14	2.281e-02	1.987e+00	4.477e-05	3.901e-03	3.909e-05	3.406e-03	3.909e-07	3.406e-05
0.6	3.555e+14	1.217e-01	7.703e+00	2.375e-04	1.503e-02	2.074e-04	1.313e-02	2.074e-06	1.313e-04
0.8	3.736e+14	1.058e+00	4.054e+01	2.013e-03	7.711e-02	1.757e-03	6.731e-02	1.757e-05	6.731e-04
1.0	2.271e+14	3.040e+00	7.983e+01	5.604e-03	1.471e-01	4.892e-03	1.285e-01	4.892e-05	1.285e-03
1.5	4.044e+14	7.262e+01	1.013e+03	1.222e-01	1.704e+00	1.067e-01	1.487e+00	1.067e-03	1.487e-02
2.0	1.092e+15	9.862e+02	9.415e+03	1.525e+00	1.456e+01	1.331e+00	1.271e+01	1.331e-02	1.271e-01
3.0	2.962e+13	1.866e+02	1.121e+03	2.532e-01	1.521e+00	2.210e-01	1.328e+00	2.210e-03	1.328e-02
4.0	7.187e+07	1.433e-03	6.502e-03	1.773e-06	8.044e-06	1.548e-06	7.022e-06	1.548e-08	7.022e-08
<b>Total</b>	<b>4.312e+16</b>	<b>1.250e+03</b>	<b>1.168e+04</b>	<b>1.908e+00</b>	<b>1.803e+01</b>	<b>1.666e+00</b>	<b>1.574e+01</b>	<b>1.666e-02</b>	<b>1.574e-01</b>

Case Summary of Case 5

MicroShield 10.04				
Date		By	Checked	
File Name	Run Date	Run Time	Duration	
QA16.msd	February 2, 2020	12:12:24 PM	00:00:02	
Project Info				
Case Title	Case 5			
Description	CR Dose Rate From Containment Shine T= 16 hrs			
Geometry	13 - Rectangular Volume			
Source Dimensions				
Length	4.5e+3 cm (147 ft .0 in)			
Width	3.6e+3 cm (117 ft 6.0 in)			
Height	1.3e+3 cm (44 ft)			
Dose Points				
A	X	Y	Z	
#1	9.1e+3 cm (299 ft .0 in)	670.56 cm (22 ft)	1.8e+3 cm (58 ft 9.0 in)	
Shield				
Shield N	Dimension	Material	Density (g/cm <sup>3</sup> )	
Source	2.15e+10 cm <sup>3</sup>	Air	0.00122	
Shield 1	4526.28 cm	Air	0.00122	
Shield 2	76.2 cm	Concrete	2.3	
Air Gap		Air	0.00122	



Source Input: Grouping Method - Standard Indices				
Number of Groups: 25				
Lower Energy Cutoff: 0.015				
Photons < 0.015: Included				
Library: Grove				
Nuclide	Ci	Bq	µCi/cm <sup>3</sup>	Bq/cm <sup>3</sup>
Am-241	4.5500e-004	1.6835e+007	2.1143e-008	7.8228e-004
Ba-139	8.1200e-002	3.0044e+009	3.7731e-006	1.3961e-001
Ba-140	2.4600e+002	9.1020e+012	1.1431e-002	4.2295e+002
Ce-141	5.7900e+000	2.1423e+011	2.6905e-004	9.9547e+000
Ce-143	3.9100e+000	1.4467e+011	1.8169e-004	6.7224e+000
Ce-144	5.0200e+000	1.8574e+011	2.3327e-004	8.6308e+000
Cm-242	1.1500e-001	4.2550e+009	5.3437e-006	1.9772e-001
Cm-244	6.7000e-003	2.4790e+008	3.1133e-007	1.1519e-002
Co-58	9.9400e-002	3.6778e+009	4.6188e-006	1.7090e-001
Co-60	1.2000e-001	4.4400e+009	5.5761e-006	2.0631e-001
Cs-134	3.9600e+002	1.4652e+013	1.8401e-002	6.8084e+002
Cs-136	1.0400e+002	3.8480e+012	4.8326e-003	1.7881e+002
Cs-137	3.1400e+002	1.1618e+013	1.4591e-002	5.3986e+002
I-131	4.6300e+003	1.7131e+014	2.1514e-001	7.9603e+003
I-132	5.6900e+002	2.1053e+013	2.6440e-002	9.7828e+002
I-133	5.9300e+003	2.1941e+014	2.7555e-001	1.0195e+004
I-134	3.5900e-002	1.3283e+009	1.6682e-006	6.1722e-002
I-135	1.8000e+003	6.6600e+013	8.3641e-002	3.0947e+003
Kr-85	1.2200e+004	4.5140e+014	5.6690e-001	2.0975e+004
Kr-85m	1.5300e+004	5.6610e+014	7.1095e-001	2.6305e+004
Kr-87	5.9400e+001	2.1978e+012	2.7602e-003	1.0213e+002
Kr-88	1.0200e+004	3.7740e+014	4.7397e-001	1.7537e+004
La-140	5.7600e+001	2.1312e+012	2.6765e-003	9.9031e+001

Case Summary of Case 5

La-141	1.3800e-001	5.1060e+009	6.4125e-006	2.3726e-001
La-142	1.7100e-003	6.3270e+007	7.9459e-008	2.9400e-003
Mo-99	2.7700e+001	1.0249e+012	1.2871e-003	4.7624e+001
Nb-95	2.5000e+000	9.2500e+010	1.1617e-004	4.2982e+000
Nd-147	9.0400e-001	3.3448e+010	4.2006e-005	1.5542e+000
Np-239	5.6700e+001	2.0979e+012	2.6347e-003	9.7484e+001
Pr-143	2.1900e+000	8.1030e+010	1.0176e-004	3.7652e+000
Pu-238	1.8100e-002	6.6970e+008	8.4106e-007	3.1119e-002
Pu-239	1.7100e-003	6.3270e+007	7.9459e-008	2.9400e-003
Pu-240	3.1200e-003	1.1544e+008	1.4498e-007	5.3642e-003
Pu-241	6.9000e-001	2.5530e+010	3.2062e-005	1.1863e+000
Rb-86	2.9300e+000	1.0841e+011	1.3615e-004	5.0375e+000
Rh-105	1.5400e+001	5.6980e+011	7.1560e-004	2.6477e+001
Ru-103	2.7900e+001	1.0323e+012	1.2964e-003	4.7968e+001
Ru-105	1.6300e+000	6.0310e+010	7.5742e-005	2.8024e+000
Ru-106	1.2300e+001	4.5510e+011	5.7155e-004	2.1147e+001
Sb-127	2.7600e+001	1.0212e+012	1.2825e-003	4.7452e+001
Sb-129	8.6900e+000	3.2153e+011	4.0380e-004	1.4941e+001
Sr-89	1.3400e+002	4.9580e+012	6.2266e-003	2.3038e+002
Sr-90	2.1300e+001	7.8810e+011	9.8975e-004	3.6621e+001
Sr-91	5.3600e+001	1.9832e+012	2.4906e-003	9.2154e+001
Sr-92	3.0400e+000	1.1248e+011	1.4126e-004	5.2266e+000
Tc-99m	2.6900e+001	9.9530e+011	1.2500e-003	4.6249e+001
Te-127	2.9800e+001	1.1026e+012	1.3847e-003	5.1235e+001
Te-127m	5.2900e+000	1.9573e+011	2.4581e-004	9.0950e+000
Te-129	2.9500e+001	1.0915e+012	1.3708e-003	5.0719e+001
Te-129m	2.1600e+001	7.9920e+011	1.0037e-003	3.7137e+001
Te-131m	4.8900e+001	1.8093e+012	2.2722e-003	8.4073e+001
Te-132	4.3300e+002	1.6021e+013	2.0120e-002	7.4445e+002
Xe-133	1.3100e+006	4.8470e+016	6.0872e+001	2.2523e+006
Xe-135	1.7600e+005	6.5120e+015	8.1782e+000	3.0259e+005
Y-90	3.3000e+000	1.2210e+011	1.5334e-004	5.6737e+000
Y-91	2.0300e+000	7.5110e+010	9.4329e-005	3.4902e+000
Y-92	1.4300e+001	5.2910e+011	6.6448e-004	2.4586e+001
Y-93	4.6500e-001	1.7205e+010	2.1607e-005	7.9947e-001
Zr-95	2.4800e+000	9.1760e+010	1.1524e-004	4.2638e+000
Zr-97	1.2600e+000	4.6620e+010	5.8549e-005	2.1663e+000

**Buildup: The material reference is Shield 2.  
 Integration Parameters**

X Direction	20
Y Direction	20
Z Direction	20

**Results**

Energy (MeV)	Activity (Photons/sec)	Fluence Rate MeV/cm <sup>2</sup> /sec No Buildup	Fluence Rate MeV/cm <sup>2</sup> /sec With Buildup	Exposure Rate mR/hr No Buildup	Exposure Rate mR/hr With Buildup	Absorbed Dose Rate mrad/hr No Buildup	Absorbed Dose Rate mrad/hr With Buildup	Absorbed Dose Rate mGy/hr No Buildup	Absorbed Dose Rate mGy/hr With Buildup
0.015	3.091e+15	0.000e+00	8.226e-22	0.000e+00	7.056e-23	0.000e+00	6.160e-23	0.000e+00	6.160e-25
0.02	1.166e+11	1.210e-270	4.885e-26	4.192e-272	1.692e-27	3.659e-272	1.477e-27	3.659e-274	1.477e-29
0.03	2.361e+16	2.901e-83	2.186e-20	2.875e-85	2.167e-22	2.510e-85	1.892e-22	2.510e-87	1.892e-24

Case Summary of Case 5

0.04	3.563e+11	8.976e-44	8.748e-25	3.970e-46	3.869e-27	3.466e-46	3.378e-27	3.466e-48	3.378e-29
0.05	2.107e+12	3.389e-27	1.691e-23	9.028e-30	4.505e-26	7.881e-30	3.933e-26	7.881e-32	3.933e-28
0.06	5.354e+11	1.014e-20	3.994e-19	2.014e-23	7.933e-22	1.758e-23	6.926e-22	1.758e-25	6.926e-24
0.08	1.779e+16	2.753e-10	1.943e-08	4.357e-13	3.075e-11	3.804e-13	2.685e-11	3.804e-15	2.685e-13
0.1	3.050e+12	1.280e-11	1.802e-09	1.958e-14	2.757e-12	1.709e-14	2.407e-12	1.709e-16	2.407e-14
0.15	4.607e+14	7.368e-07	1.890e-04	1.213e-09	3.112e-07	1.059e-09	2.717e-07	1.059e-11	2.717e-09
0.2	6.005e+15	1.934e-04	5.356e-02	3.414e-07	9.454e-05	2.980e-07	8.253e-05	2.980e-09	8.253e-07
0.3	9.977e+13	1.264e-04	2.462e-02	2.397e-07	4.670e-05	2.093e-07	4.077e-05	2.093e-09	4.077e-07
0.4	1.951e+14	2.755e-03	3.491e-01	5.367e-06	6.802e-04	4.686e-06	5.938e-04	4.686e-08	5.938e-06
0.5	2.150e+14	1.812e-02	1.579e+00	3.556e-05	3.098e-03	3.105e-05	2.705e-03	3.105e-07	2.705e-05
0.6	2.649e+14	9.066e-02	5.739e+00	1.770e-04	1.120e-02	1.545e-04	9.779e-03	1.545e-06	9.779e-05
0.8	1.214e+14	3.439e-01	1.317e+01	6.541e-04	2.506e-02	5.710e-04	2.188e-02	5.710e-06	2.188e-04
1.0	7.482e+13	1.001e+00	2.629e+01	1.846e-03	4.847e-02	1.611e-03	4.231e-02	1.611e-05	4.231e-04
1.5	1.135e+14	2.038e+01	2.842e+02	3.429e-02	4.781e-01	2.993e-02	4.174e-01	2.993e-04	4.174e-03
2.0	2.376e+14	2.147e+02	2.050e+03	3.320e-01	3.170e+00	2.899e-01	2.767e+00	2.899e-03	2.767e-02
3.0	3.295e+12	2.076e+01	1.247e+02	2.816e-02	1.692e-01	2.459e-02	1.477e-01	2.459e-04	1.477e-03
4.0	1.661e+06	3.311e-05	1.503e-04	4.096e-08	1.859e-07	3.576e-08	1.623e-07	3.576e-10	1.623e-09
<b>Total</b>	<b>5.229e+16</b>	<b>2.573e+02</b>	<b>2.506e+03</b>	<b>3.972e-01</b>	<b>3.906e+00</b>	<b>3.468e-01</b>	<b>3.410e+00</b>	<b>3.468e-03</b>	<b>3.410e-02</b>

Case Summary of Case 6

MicroShield 10.04				
Date		By	Checked	
File Name	Run Date	Run Time	Duration	
QA24.msd	February 2, 2020	12:14:27 PM	00:00:02	
Project Info				
Case Title	Case 6			
Description	CR Dose Rate From Containment Shine T= 24 hrs			
Geometry	13 - Rectangular Volume			
Source Dimensions				
Length	4.5e+3 cm (147 ft .0 in)			
Width	3.6e+3 cm (117 ft 6.0 in)			
Height	1.3e+3 cm (44 ft)			
Dose Points				
A	X	Y	Z	
#1	9.1e+3 cm (299 ft .0 in)	670.56 cm (22 ft)	1.8e+3 cm (58 ft 9.0 in)	
Shield				
Shield N	Dimension	Material	Density (g/cm <sup>3</sup> )	
Source	2.15e+10 cm <sup>3</sup>	Air	0.00122	
Shield 1	4526.28 cm	Air	0.00122	
Shield 2	76.2 cm	Concrete	2.3	
Air Gap		Air	0.00122	

Source Input: Grouping Method - Standard Indices				
Number of Groups: 25				
Lower Energy Cutoff: 0.015				
Photons < 0.015: Included				
Library: Grove				
Nuclide	Ci	Bq	µCi/cm <sup>3</sup>	Bq/cm <sup>3</sup>
Am-241	4.1900e-004	1.5503e+007	1.9470e-008	7.2038e-004
Ba-139	1.3300e-003	4.9210e+007	6.1801e-008	2.2867e-003
Ba-140	2.2200e+002	8.2140e+012	1.0316e-002	3.8168e+002
Ce-141	5.2800e+000	1.9536e+011	2.4535e-004	9.0778e+000
Ce-143	3.0300e+000	1.1211e+011	1.4080e-004	5.2094e+000
Ce-144	4.6100e+000	1.7057e+011	2.1421e-004	7.9259e+000
Cm-242	1.0500e-001	3.8850e+009	4.8791e-006	1.8053e-001
Cm-244	6.1500e-003	2.2755e+008	2.8577e-007	1.0574e-002
Co-58	9.1000e-002	3.3670e+009	4.2285e-006	1.5646e-001
Co-60	1.1000e-001	4.0700e+009	5.1114e-006	1.8912e-001
Cs-134	3.4800e+002	1.2876e+013	1.6171e-002	5.9831e+002
Cs-136	9.0200e+001	3.3374e+012	4.1913e-003	1.5508e+002
Cs-137	2.7600e+002	1.0212e+013	1.2825e-002	4.7452e+002
I-131	4.6800e+003	1.7316e+014	2.1747e-001	8.0463e+003
I-132	4.4700e+002	1.6539e+013	2.0771e-002	7.6852e+002
I-133	4.7200e+003	1.7464e+014	2.1933e-001	8.1150e+003
I-134	6.6900e-005	2.4753e+006	3.1087e-009	1.1502e-004
I-135	8.0800e+002	2.9896e+013	3.7546e-002	1.3892e+003
Kr-85	1.3800e+004	5.1060e+014	6.4125e-001	2.3726e+004
Kr-85m	5.0100e+003	1.8537e+014	2.3280e-001	8.6136e+003
Kr-87	8.5800e-001	3.1746e+010	3.9869e-005	1.4752e+000

Case Summary of Case 6

Kr-88	1.6300e+003	6.0310e+013	7.5742e-002	2.8024e+003					
La-140	7.5000e+001	2.7750e+012	3.4850e-003	1.2895e+002					
La-141	3.1000e-002	1.1470e+009	1.4405e-006	5.3298e-002					
La-142	4.3000e-005	1.5910e+006	1.9981e-009	7.3929e-005					
Mo-99	2.3400e+001	8.6580e+011	1.0873e-003	4.0231e+001					
Nb-95	2.2900e+000	8.4730e+010	1.0641e-004	3.9372e+000					
Nd-147	8.1300e-001	3.0081e+010	3.7778e-005	1.3978e+000					
Np-239	4.7200e+001	1.7464e+012	2.1933e-003	8.1150e+001					
Pr-143	2.0300e+000	7.5110e+010	9.4329e-005	3.4902e+000					
Pu-238	1.6600e-002	6.1420e+008	7.7136e-007	2.8540e-002					
Pu-239	1.5700e-003	5.8090e+007	7.2954e-008	2.6993e-003					
Pu-240	2.8700e-003	1.0619e+008	1.3336e-007	4.9344e-003					
Pu-241	6.3300e-001	2.3421e+010	2.9414e-005	1.0883e+000					
Rb-86	2.5500e+000	9.4350e+010	1.1849e-004	4.3842e+000					
Rh-105	1.2200e+001	4.5140e+011	5.6690e-004	2.0975e+001					
Ru-103	2.5400e+001	9.3980e+011	1.1803e-003	4.3670e+001					
Ru-105	4.2900e-001	1.5873e+010	1.9934e-005	7.3758e-001					
Ru-106	1.1300e+001	4.1810e+011	5.2508e-004	1.9428e+001					
Sb-127	2.3900e+001	8.8430e+011	1.1106e-003	4.1091e+001					
Sb-129	2.2100e+000	8.1770e+010	1.0269e-004	3.7996e+000					
Sr-89	1.2300e+002	4.5510e+012	5.7155e-003	2.1147e+002					
Sr-90	1.9600e+001	7.2520e+011	9.1076e-004	3.3698e+001					
Sr-91	2.7400e+001	1.0138e+012	1.2732e-003	4.7109e+001					
Sr-92	3.6100e-001	1.3357e+010	1.6775e-005	6.2066e-001					
Tc-99m	2.3400e+001	8.6580e+011	1.0873e-003	4.0231e+001					
Te-127	2.6700e+001	9.8790e+011	1.2407e-003	4.5905e+001					
Te-127m	4.8600e+000	1.7982e+011	2.2583e-004	8.3557e+000					
Te-129	2.0200e+001	7.4740e+011	9.3864e-004	3.4730e+001					
Te-129m	1.9700e+001	7.2890e+011	9.1541e-004	3.3870e+001					
Te-131m	3.7300e+001	1.3801e+012	1.7332e-003	6.4129e+001					
Te-132	3.7000e+002	1.3690e+013	1.7193e-002	6.3614e+002					
Xe-133	1.4100e+006	5.2170e+016	6.5519e+001	2.4242e+006					
Xe-135	1.0900e+005	4.0330e+015	5.0649e+000	1.8740e+005					
Y-90	4.4100e+000	1.6317e+011	2.0492e-004	7.5821e+000					
Y-91	1.9100e+000	7.0670e+010	8.8753e-005	3.2838e+000					
Y-92	3.5200e+000	1.3024e+011	1.6356e-004	6.0519e+000					
Y-93	2.4700e-001	9.1390e+009	1.1477e-005	4.2466e-001					
Zr-95	2.2700e+000	8.3990e+010	1.0548e-004	3.9028e+000					
Zr-97	8.3400e-001	3.0858e+010	3.8754e-005	1.4339e+000					
<b>Buildup: The material reference is Shield 2.</b>									
<b>Integration Parameters</b>									
X Direction			20						
Y Direction			20						
Z Direction			20						
<b>Results</b>									
Energy (MeV)	Activity (Photons/sec)	Fluence Rate MeV/cm <sup>2</sup> /sec No Buildup	Fluence Rate MeV/cm <sup>2</sup> /sec With Buildup	Exposure Rate mR/hr No Buildup	Exposure Rate mR/hr With Buildup	Absorbed Dose Rate mrad/hr No Buildup	Absorbed Dose Rate mrad/hr With Buildup	Absorbed Dose Rate mGy/hr No Buildup	Absorbed Dose Rate mGy/hr With Buildup

Case Summary of Case 6

0.015	3.252e+15	0.000e+00	8.654e-22	0.000e+00	7.423e-23	0.000e+00	6.480e-23	0.000e+00	6.480e-25
0.02	1.007e+11	1.044e-270	4.215e-26	3.617e-272	1.460e-27	3.158e-272	1.275e-27	3.158e-274	1.275e-29
0.03	2.525e+16	3.103e-83	2.338e-20	3.075e-85	2.317e-22	2.685e-85	2.023e-22	2.685e-87	2.023e-24
0.04	3.078e+11	7.755e-44	7.558e-25	3.430e-46	3.343e-27	2.994e-46	2.918e-27	2.994e-48	2.918e-29
0.05	1.800e+12	2.896e-27	1.445e-23	7.715e-30	3.850e-26	6.735e-30	3.361e-26	6.735e-32	3.361e-28
0.06	4.620e+11	8.749e-21	3.446e-19	1.738e-23	6.846e-22	1.517e-23	5.976e-22	1.517e-25	5.976e-24
0.08	1.915e+16	2.964e-10	2.092e-08	4.690e-13	3.310e-11	4.094e-13	2.890e-11	4.094e-15	2.890e-13
0.1	2.044e+12	8.579e-12	1.208e-09	1.312e-14	1.848e-12	1.146e-14	1.613e-12	1.146e-16	1.613e-14
0.15	1.557e+14	2.490e-07	6.385e-05	4.100e-10	1.052e-07	3.579e-10	9.180e-08	3.579e-12	9.180e-10
0.2	3.693e+15	1.189e-04	3.294e-02	2.099e-07	5.814e-05	1.833e-07	5.075e-05	1.833e-09	5.075e-07
0.3	4.371e+13	5.536e-05	1.079e-02	1.050e-07	2.046e-05	9.168e-08	1.786e-05	9.168e-10	1.786e-07
0.4	1.693e+14	2.390e-03	3.029e-01	4.657e-06	5.902e-04	4.066e-06	5.153e-04	4.066e-08	5.153e-06
0.5	1.692e+14	1.426e-02	1.242e+00	2.799e-05	2.439e-03	2.444e-05	2.129e-03	2.444e-07	2.129e-05
0.6	1.782e+14	6.098e-02	3.860e+00	1.190e-04	7.535e-03	1.039e-04	6.578e-03	1.039e-06	6.578e-05
0.8	6.192e+13	1.754e-01	6.720e+00	3.336e-04	1.278e-02	2.913e-04	1.116e-02	2.913e-06	1.116e-04
1.0	3.105e+13	4.156e-01	1.091e+01	7.660e-04	2.011e-02	6.687e-04	1.756e-02	6.687e-06	1.756e-04
1.5	3.673e+13	6.597e+00	9.198e+01	1.110e-02	1.548e-01	9.689e-03	1.351e-01	9.689e-05	1.351e-03
2.0	4.058e+13	3.667e+01	3.501e+02	5.670e-02	5.414e-01	4.950e-02	4.726e-01	4.950e-04	4.726e-03
3.0	5.686e+11	3.582e+00	2.152e+01	4.860e-03	2.920e-02	4.243e-03	2.549e-02	4.243e-05	2.549e-04
4.0	4.176e+04	8.327e-07	3.778e-06	1.030e-09	4.674e-09	8.993e-10	4.081e-09	8.993e-12	4.081e-11
<b>Total</b>	<b>5.224e+16</b>	<b>4.752e+01</b>	<b>4.867e+02</b>	<b>7.392e-02</b>	<b>7.689e-01</b>	<b>6.453e-02</b>	<b>6.712e-01</b>	<b>6.453e-04</b>	<b>6.712e-03</b>



**Attachment 13.9 - RADTRAD Output File "QDC39MS03\_spray\_sens.o0"**

```
#####
RADTRAD Version 3.03 (Spring 2001) run on 2/03/2020 at 6:56:43
#####
```

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

```
Plant file =
C:\Users\jhead\Desktop\RADTRAD\Rev4\QDC39MS03_spray_sens.psf
Inventory file = C:\Users\jhead\Desktop\RADTRAD\DQLOCA_ATRIUM_DEF.nif
Release file = c:\program files
(x86)\radtrad3.03\defaults\bwr_dba.rft
Dose Conversion file = c:\program files
(x86)\radtrad3.03\defaults\fgr11&12.inp
```

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

```
Radtrad 3.03 4/15/2001
Quad Cities MSIV Leakage - unsprayed - sprayed flowrate sensitivity
Nuclide Inventory File:
C:\Users\jhead\Desktop\RADTRAD\DQLOCA_ATRIUM_DEF.nif
Plant Power Level:
3.0161E+03
Compartments:
9
Compartment 1:
Sprayed Drywell
3
9.5000E+04
1
0
0
0
0
Compartment 2:
MSIV Failed Control Vol 1
3
2.0024E+02
0
```

0  
0  
0  
0

Compartment 3:

Intact Control Volume 2

3  
1.5293E+02  
0  
0  
0  
0  
0

Compartment 4:

Intact Control Volume 3

3  
4.9110E+01  
0  
0  
0  
0  
0

Compartment 5:

Intact Control Volume 4

3  
1.6375E+02  
0  
0  
0  
0  
0

Compartment 6:

Intact Control Volume 5

3  
4.9110E+01  
0  
0  
0  
0  
0

Compartment 7:

Environment

2  
0.0000E+00  
0  
0  
0  
0  
0

Compartment 8:

Control Room

1  
1.8400E+05  
0  
0  
0  
0

0

Compartment 9:

Unsprayed Drywell

3

6.3000E+04

0

0

0

0

0

Pathways:

13

Pathway 1:

Drywell to MSIV Failed Control Vol 1

1

2

2

Pathway 2:

MSIV Failed Control Vol 1 to Environment

2

7

2

Pathway 3:

Drywell to Intact Control Volume 2

1

3

2

Pathway 4:

Intact Control Volume 2 to Intact Control Volume 3

3

4

2

Pathway 5:

Intact Control Volume 3 to Environment

4

7

2

Pathway 6:

Drywell to Intact Control Volume 4

1

5

2

Pathway 7:

Intact Control Volume 4 to Intact Control Volume 5

5

6

2

Pathway 8:

Intact Control Volume 5 to Environment

6

7

2

Pathway 9:

Filtered Intake to Control Room

7

8

2

Pathway 10:

Unfiltered Inleakage to Control Room

7  
8  
2

Pathway 11:

Control Room Exhaust to Environment

8  
7  
2

Pathway 12:

Sprayed Drywell to Unsprayed Drywell

1  
9  
2

Pathway 13:

Unsprayed Drywell to Sprayed Drywell

9  
1  
2

End of Plant Model File

Scenario Description Name:

Plant Model Filename:

Source Term:

1  
1 1.0000E+00

c:\program files (x86)\radtrad3.03\defaults\fgr11&12.inp

c:\program files (x86)\radtrad3.03\defaults\bwr\_dba.rft  
0.0000E+00

1  
9.5000E-01 4.8500E-02 1.5000E-03 1.0000E+00

Overlying Pool:

0  
0.0000E+00  
0  
0  
0  
0

Compartments:

9

Compartment 1:

1  
1  
1  
0.0000E+00  
6  
0.0000E+00 0.0000E+00  
1.6670E-01 1.5000E+01  
2.2000E+00 1.5000E+00  
2.3000E+00 1.5000E+00  
4.0000E+00 0.0000E+00  
7.2000E+02 0.0000E+00  
1  
0.0000E+00  
6

0.0000E+00	0.0000E+00
1.6670E-01	1.5000E+01
2.2000E+00	1.5000E+01
2.3000E+00	0.0000E+00
4.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00

1  
0.0000E+00  
0  
0  
0  
0  
0

Compartment 2:

0  
1  
0  
0  
0  
0  
0  
0  
0  
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

Compartment 5:

0  
1  
0  
0  
0  
0  
0  
0  
0  
0

Compartment 6:

0  
1  
0

0  
0  
0  
0  
0  
0  
0

Compartment 7:

0  
1  
0  
0  
0  
0  
0  
0  
0

Compartment 8:

0  
1  
0  
0  
0  
0  
0  
0  
0  
0

Compartment 9:

0  
1  
0  
0  
0  
0  
0  
0  
0  
0

Pathways:

13

Pathway 1:

0  
0  
0  
0  
0  
1  
5  
0  
0  
0  
0  
0  
0  
0  
0  
0

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	5.9500E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	3.4900E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	1.7500E-01	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway 2:

0				
0				
0				
0				
0				
1				
10				
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	1.6670E+00	8.7820E+01	6.8400E+00	0.0000E+00
2.0000E+00	9.7900E-01	8.7820E+01	6.8400E+00	0.0000E+00
8.0000E+00	9.7900E-01	8.7820E+01	9.1100E+00	0.0000E+00
2.4000E+01	4.8900E-01	8.7820E+01	1.5690E+01	0.0000E+00
4.8000E+01	4.8900E-01	8.7820E+01	3.1540E+01	0.0000E+00
7.2000E+01	4.8900E-01	8.7820E+01	5.2530E+01	0.0000E+00
9.6000E+01	4.8900E-01	8.7820E+01	7.2070E+01	0.0000E+00
2.4000E+02	4.8900E-01	8.7820E+01	9.7260E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0				
0				
0				
0				
0				
0				

Pathway 3:

0				
0				
0				
0				
0				
1				
5				
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	5.9500E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	3.4900E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	1.7500E-01	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0				
0				
0				
0				
0				
0				

Pathway 4:

0				
0				
0				
0				
0				
1				
10				
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	1.6670E+00	7.6750E+01	4.1600E+00	0.0000E+00
2.0000E+00	9.7900E-01	7.6750E+01	4.1600E+00	0.0000E+00
8.0000E+00	9.7900E-01	7.6750E+01	5.5700E+00	0.0000E+00
2.4000E+01	4.8900E-01	7.6750E+01	9.7400E+00	0.0000E+00
4.8000E+01	4.8900E-01	7.6750E+01	2.0390E+01	0.0000E+00

7.2000E+01	4.8900E-01	7.6750E+01	3.6240E+01	0.0000E+00
9.6000E+01	4.8900E-01	7.6750E+01	5.4010E+01	0.0000E+00
2.4000E+02	4.8900E-01	7.6750E+01	9.3310E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

0  
0  
0  
0  
0  
0

Pathway 5:

0  
0  
0  
0  
0  
1  
10

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	1.6670E+00	8.0220E+01	1.4970E+01	0.0000E+00
2.0000E+00	9.7900E-01	8.0220E+01	1.4970E+01	0.0000E+00
8.0000E+00	9.7900E-01	8.0220E+01	1.9630E+01	0.0000E+00
2.4000E+01	4.8900E-01	8.0220E+01	3.2260E+01	0.0000E+00
4.8000E+01	4.8900E-01	8.0220E+01	5.7570E+01	0.0000E+00
7.2000E+01	4.8900E-01	8.0220E+01	8.0730E+01	0.0000E+00
9.6000E+01	4.8900E-01	8.0220E+01	9.2810E+01	0.0000E+00
2.4000E+02	4.8900E-01	8.0220E+01	9.7840E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

0  
0  
0  
0  
0  
0

Pathway 6:

0  
0  
0  
0  
0  
1  
5

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	2.9700E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	1.7500E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	8.7000E-02	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

0  
0  
0  
0  
0  
0

Pathway 7:

0  
0  
0



0  
0  
1  
10  
0.0000E+00 0.0000E+00 0.0000E+00 0.0000E+00 0.0000E+00  
3.3300E-02 8.3300E-01 8.9010E+01 4.7500E+00 0.0000E+00  
2.0000E+00 4.8900E-01 8.9010E+01 4.7500E+00 0.0000E+00  
8.0000E+00 4.8900E-01 8.9010E+01 6.3500E+00 0.0000E+00  
2.4000E+01 2.4500E-01 8.9010E+01 1.1060E+01 0.0000E+00  
4.8000E+01 2.4500E-01 8.9010E+01 2.2950E+01 0.0000E+00  
7.2000E+01 2.4500E-01 8.9010E+01 4.0200E+01 0.0000E+00  
9.6000E+01 2.4500E-01 8.9010E+01 5.8780E+01 0.0000E+00  
2.4000E+02 2.4500E-01 8.9010E+01 9.4930E+01 0.0000E+00  
7.2000E+02 0.0000E+00 0.0000E+00 0.0000E+00 0.0000E+00

0  
0  
0  
0  
0  
0  
0

Pathway 8:

0  
0  
0  
0  
0  
1  
10  
0.0000E+00 0.0000E+00 0.0000E+00 0.0000E+00 0.0000E+00  
3.3300E-02 8.3300E-01 8.9030E+01 1.4970E+01 0.0000E+00  
2.0000E+00 4.8900E-01 8.9030E+01 1.4970E+01 0.0000E+00  
8.0000E+00 4.8900E-01 8.9030E+01 1.9630E+01 0.0000E+00  
2.4000E+01 2.4500E-01 8.9030E+01 3.2260E+01 0.0000E+00  
4.8000E+01 2.4500E-01 8.9030E+01 5.7570E+01 0.0000E+00  
7.2000E+01 2.4500E-01 8.9030E+01 8.0730E+01 0.0000E+00  
9.6000E+01 2.4500E-01 8.9030E+01 9.2810E+01 0.0000E+00  
2.4000E+02 2.4500E-01 8.9030E+01 9.7840E+01 0.0000E+00  
7.2000E+02 0.0000E+00 0.0000E+00 0.0000E+00 0.0000E+00

0  
0  
0  
0  
0  
0  
0

Pathway 9:

0  
0  
0  
0  
0  
1  
8  
0.0000E+00 0.0000E+00 0.0000E+00 0.0000E+00 0.0000E+00  
3.3300E-02 2.2000E+03 0.0000E+00 0.0000E+00 0.0000E+00  
6.6670E-01 1.8000E+03 9.9000E+01 9.9000E+01 9.9000E+01  
2.0000E+00 1.8000E+03 9.9000E+01 9.9000E+01 9.9000E+01  
8.0000E+00 1.8000E+03 9.9000E+01 9.9000E+01 9.9000E+01

2.4000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
9.6000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

0  
0  
0  
0  
0  
0

Pathway 10:

0  
0  
0  
0  
0  
1  
8

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	4.0000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
8.0000E+00	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
9.6000E+01	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

0  
0  
0  
0  
0

Pathway 11:

0  
0  
0  
0  
0  
1  
8

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	6.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
8.0000E+00	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
9.6000E+01	2.2000E+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

Pathway 12:

0  
0  
0

0

0

1

3

0.0000E+00 2.1000E+03 0.0000E+00 0.0000E+00 0.0000E+00

2.0000E+00 2.1000E+06 0.0000E+00 0.0000E+00 0.0000E+00

7.2000E+02 0.0000E+00 0.0000E+00 0.0000E+00 0.0000E+00

0

0

0

0

0

0

Pathway 13:

0

0

0

0

0

1

3

0.0000E+00 2.1000E+03 0.0000E+00 0.0000E+00 0.0000E+00

2.0000E+00 2.1000E+06 0.0000E+00 0.0000E+00 0.0000E+00

7.2000E+02 0.0000E+00 0.0000E+00 0.0000E+00 0.0000E+00

0

0

0

0

0

0

Dose Locations:

3

Location 1:

Exclusion Area Boundary

7

1

2

0.0000E+00 1.3600E-03

7.2000E+02 0.0000E+00

1

2

0.0000E+00 3.5000E-04

7.2000E+02 0.0000E+00

0

Location 2:

Low Population Zone

7

1

6

0.0000E+00 1.0400E-04

2.0000E+00 4.1400E-05

8.0000E+00 2.6200E-05

2.4000E+01 9.9600E-06

9.6000E+01 2.5200E-06

7.2000E+02 0.0000E+00

1

4

0.0000E+00	3.5000E-04
8.0000E+00	1.8000E-04
2.4000E+01	2.3000E-04
7.2000E+02	0.0000E+00

0

Location 3:

Control Room

8

0

1

2

0.0000E+00	3.5000E-04
------------	------------

7.2000E+02	0.0000E+00
------------	------------

1

4

0.0000E+00	1.0000E+00
------------	------------

2.4000E+01	6.0000E-01
------------	------------

9.6000E+01	4.0000E-01
------------	------------

7.2000E+02	0.0000E+00
------------	------------

Effective Volume Location:

1

6

0.0000E+00	1.0200E-03
------------	------------

2.0000E+00	8.2300E-04
------------	------------

8.0000E+00	3.5500E-04
------------	------------

2.4000E+01	2.3200E-04
------------	------------

9.6000E+01	1.3800E-04
------------	------------

7.2000E+02	0.0000E+00
------------	------------

Simulation Parameters:

7

0.0000E+00	1.0000E-01
------------	------------

1.0000E+00	1.0000E-02
------------	------------

2.0000E+00	5.0000E-01
------------	------------

8.0000E+00	1.0000E+00
------------	------------

2.4000E+01	2.0000E+00
------------	------------

9.6000E+01	5.0000E+00
------------	------------

7.2000E+02	0.0000E+00
------------	------------

Output Filename:

C:\Users\jhead\Desktop\RADTRAD\Rev4\QDC39MS03\_spray\_sens.o0

1

1

1

0

0

End of Scenario File

#####  
 RADTRAD Version 3.03 (Spring 2001) run on 2/03/2020 at 6:56:43  
 #####

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

Number of Nuclides = 60

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

Number of compartments = 9

Compartment information

Compartment number 1 (Source term fraction = 1.0000E+00  
 )

Name: Sprayed Drywell

Compartment volume = 9.5000E+04 (Cubic feet)

Compartment type is Normal

Removal devices within compartment:

Spray(s)

Pathways into and out of compartment 1

Inlet Pathway Number 13: Unsprayed Drywell to Sprayed Drywell

Exit Pathway Number 1: Drywell to MSIV Failed Control Vol 1

Exit Pathway Number 3: Drywell to Intact Control Volume 2

Exit Pathway Number 6: Drywell to Intact Control Volume 4

Exit Pathway Number 12: Sprayed Drywell to Unsprayed Drywell

Compartment number 2

Name: MSIV Failed Control Vol 1

Compartment volume = 2.0024E+02 (Cubic feet)

Compartment type is Normal

Pathways into and out of compartment 2

Inlet Pathway Number 1: Drywell to MSIV Failed Control Vol 1

Exit Pathway Number 2: MSIV Failed Control Vol 1 to Environment

Compartment number 3

Name: Intact Control Volume 2

Compartment volume = 1.5293E+02 (Cubic feet)

Compartment type is Normal

Pathways into and out of compartment 3

Inlet Pathway Number 3: Drywell to Intact Control Volume 2

Exit Pathway Number 4: Intact Control Volume 2 to Intact Control

Volume 3

Compartment number 4

Name: Intact Control Volume 3

Compartment volume = 4.9110E+01 (Cubic feet)

Compartment type is Normal

Pathways into and out of compartment 4

Inlet Pathway Number 4: Intact Control Volume 2 to Intact Control  
 Volume 3

Exit Pathway Number 5: Intact Control Volume 3 to Environment

Compartment number 5

Name: Intact Control Volume 4

Compartment volume = 1.6375E+02 (Cubic feet)

Compartment type is Normal

Pathways into and out of compartment 5

Inlet Pathway Number 6: Drywell to Intact Control Volume 4

Exit Pathway Number 7: Intact Control Volume 4 to Intact Control Volume 5

Compartment number 6

Name: Intact Control Volume 5

Compartment volume = 4.9110E+01 (Cubic feet)

Compartment type is Normal

Pathways into and out of compartment 6

Inlet Pathway Number 7: Intact Control Volume 4 to Intact Control Volume 5

Exit Pathway Number 8: Intact Control Volume 5 to Environment

Compartment number 7

Name: Environment

Compartment type is Environment

Pathways into and out of compartment 7

Inlet Pathway Number 2: MSIV Failed Control Vol 1 to Environment

Inlet Pathway Number 5: Intact Control Volume 3 to Environment

Inlet Pathway Number 8: Intact Control Volume 5 to Environment

Inlet Pathway Number 11: Control Room Exhaust to Environment

Exit Pathway Number 9: Filtered Intake to Control Room

Exit Pathway Number 10: Unfiltered Inleakage to Control Room

Compartment number 8

Name: Control Room

Compartment volume = 1.8400E+05 (Cubic feet)

Compartment type is Control Room

Pathways into and out of compartment 8

Inlet Pathway Number 9: Filtered Intake to Control Room

Inlet Pathway Number 10: Unfiltered Inleakage to Control Room

Exit Pathway Number 11: Control Room Exhaust to Environment

Compartment number 9

Name: Unsprayed Drywell

Compartment volume = 6.3000E+04 (Cubic feet)

Compartment type is Normal

Pathways into and out of compartment 9

Inlet Pathway Number 12: Sprayed Drywell to Unsprayed Drywell

Exit Pathway Number 13: Unsprayed Drywell to Sprayed Drywell

Total number of pathways = 13

#####  
 RADTRAD Version 3.03 (Spring 2001) run on 2/03/2020 at 6:56:43  
 #####

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

Radioactive Decay is enabled  
 Calculation of Daughters is enabled

Release Fractions and Timings

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

Inventory Power = 3016. MWt

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

Te-129	4	8.222E+03	4.176E+03	2.750E-15	5.090E-13	2.090E-11
Te-129m	4	1.664E+03	2.903E+06	3.337E-15	1.563E-10	6.484E-09
Te-131m	4	5.404E+03	1.080E+05	7.463E-14	3.669E-08	1.758E-09
Te-132	4	3.813E+04	2.815E+05	1.030E-14	6.280E-08	2.550E-09
I-131	2	2.666E+04	6.947E+05	1.820E-14	2.920E-07	8.890E-09
I-132	2	3.879E+04	8.280E+03	1.120E-13	1.740E-09	1.030E-10
I-133	2	5.504E+04	7.488E+04	2.940E-14	4.860E-08	1.580E-09
I-134	2	6.100E+04	3.156E+03	1.300E-13	2.880E-10	3.550E-11
I-135	2	5.238E+04	2.380E+04	8.294E-14	8.460E-09	3.320E-10
Xe-133	1	5.272E+04	4.532E+05	1.560E-15	0.000E+00	0.000E+00
Xe-135	1	1.787E+04	3.272E+04	1.190E-14	0.000E+00	0.000E+00
Cs-134	3	6.730E+03	6.507E+07	7.570E-14	1.110E-08	1.250E-08
Cs-136	3	1.837E+03	1.132E+06	1.060E-13	1.730E-09	1.980E-09
Cs-137	3	5.338E+03	9.467E+08	2.725E-14	7.930E-09	8.630E-09
Ba-139	6	4.841E+04	4.962E+03	2.170E-15	2.400E-12	4.640E-11
Ba-140	6	4.874E+04	1.101E+06	8.580E-15	2.560E-10	1.010E-09
La-140	9	5.205E+04	1.450E+05	1.170E-13	6.870E-11	1.310E-09
La-141	9	4.443E+04	1.415E+04	2.390E-15	9.400E-12	1.570E-10
La-142	9	4.343E+04	5.550E+03	1.440E-13	8.740E-12	6.840E-11
Ce-141	8	4.476E+04	2.808E+06	3.430E-15	2.550E-11	2.420E-09
Ce-143	8	4.178E+04	1.188E+05	1.290E-14	6.230E-12	9.160E-10
Ce-144	8	3.846E+04	2.456E+07	2.773E-15	2.920E-10	1.010E-07
Pr-143	9	4.045E+04	1.172E+06	2.100E-17	1.680E-18	2.190E-09
Nd-147	9	1.800E+04	9.487E+05	6.190E-15	1.820E-11	1.850E-09
Np-239	8	5.272E+05	2.035E+05	7.690E-15	7.620E-12	6.780E-10
Pu-238	8	1.379E+02	2.769E+09	4.880E-18	3.860E-10	7.790E-05
Pu-239	8	1.303E+01	7.594E+11	4.240E-18	3.750E-10	8.330E-05
Pu-240	8	2.387E+01	2.063E+11	4.750E-18	3.760E-10	8.330E-05
Pu-241	8	5.272E+03	4.544E+08	7.250E-20	9.150E-12	1.340E-06
Am-241	9	8.653E+00	1.364E+10	8.180E-16	1.600E-09	1.200E-04
Cm-242	9	2.202E+03	1.407E+07	5.690E-18	9.410E-10	4.670E-06
Cm-244	9	1.280E+02	5.715E+08	4.910E-18	1.010E-09	6.700E-05

Nuclide	Daughter	Fraction	Daughter	Fraction	Daughter	Fraction
Kr-85m	Kr-85	0.21	none	0.00	none	0.00
Kr-87	Rb-87	1.00	none	0.00	none	0.00
Kr-88	Rb-88	1.00	none	0.00	none	0.00
Sr-90	Y-90	1.00	none	0.00	none	0.00
Sr-91	Y-91m	0.58	Y-91	0.42	none	0.00
Sr-92	Y-92	1.00	none	0.00	none	0.00
Y-93	Zr-93	1.00	none	0.00	none	0.00
Zr-95	Nb-95m	0.01	Nb-95	0.99	none	0.00
Zr-97	Nb-97m	0.95	Nb-97	0.05	none	0.00
Mo-99	Tc-99m	0.88	Tc-99	0.12	none	0.00
Tc-99m	Tc-99	1.00	none	0.00	none	0.00
Ru-103	Rh-103m	1.00	none	0.00	none	0.00
Ru-105	Rh-105	1.00	none	0.00	none	0.00
Ru-106	Rh-106	1.00	none	0.00	none	0.00
Sb-127	Te-127m	0.18	Te-127	0.82	none	0.00
Sb-129	Te-129m	0.22	Te-129	0.77	none	0.00
Te-127m	Te-127	0.98	none	0.00	none	0.00
Te-129	I-129	1.00	none	0.00	none	0.00
Te-129m	Te-129	0.65	I-129	0.35	none	0.00
Te-131m	Te-131	0.22	I-131	0.78	none	0.00
Te-132	I-132	1.00	none	0.00	none	0.00
I-131	Xe-131m	0.01	none	0.00	none	0.00
I-133	Xe-133m	0.03	Xe-133	0.97	none	0.00



I-135	Xe-135m	0.15	Xe-135	0.85	none	0.00
Xe-135	Cs-135	1.00	none	0.00	none	0.00
Cs-137	Ba-137m	0.95	none	0.00	none	0.00
Ba-140	La-140	1.00	none	0.00	none	0.00
La-141	Ce-141	1.00	none	0.00	none	0.00
Ce-143	Pr-143	1.00	none	0.00	none	0.00
Ce-144	Pr-144m	0.02	Pr-144	0.98	none	0.00
Nd-147	Pm-147	1.00	none	0.00	none	0.00
Np-239	Pu-239	1.00	none	0.00	none	0.00
Pu-238	U-234	1.00	none	0.00	none	0.00
Pu-239	U-235	1.00	none	0.00	none	0.00
Pu-240	U-236	1.00	none	0.00	none	0.00
Pu-241	U-237	0.00	Am-241	1.00	none	0.00
Am-241	Np-237	1.00	none	0.00	none	0.00
Cm-242	Pu-238	1.00	none	0.00	none	0.00
Cm-244	Pu-240	1.00	none	0.00	none	0.00

## Iodine fractions

Aerosol = 9.5000E-01  
 Elemental = 4.8500E-02  
 Organic = 1.5000E-03

## COMPARTMENT DATA

Compartment number 1: Sprayed Drywell

## Sprays: Aerosol Removal Data

Time (hr)	Removal Coef. (hr <sup>-1</sup> )
0.0000E+00	0.0000E+00
1.6670E-01	1.5000E+01
2.2000E+00	1.5000E+00
2.3000E+00	1.5000E+00
4.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00

## Sprays: Elemental Removal Data

Time (hr)	Removal Coef. (hr <sup>-1</sup> )
0.0000E+00	0.0000E+00
1.6670E-01	1.5000E+01
2.2000E+00	1.5000E+01
2.3000E+00	0.0000E+00
4.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00

Compartment number 2: MSIV Failed Control Vol 1

Compartment number 3: Intact Control Volume 2

Compartment number 4: Intact Control Volume 3

Compartment number 5: Intact Control Volume 4

Compartment number 6: Intact Control Volume 5

Compartment number 7: Environment

Compartment number 8: Control Room

Compartment number 9: Unsprayed Drywell

PATHWAY DATA

Pathway number 1: Drywell to MSIV Failed Control Vol 1

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	5.9500E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	3.4900E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	1.7500E-01	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 2: MSIV Failed Control Vol 1 to Environment

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	1.6670E+00	8.7820E+01	6.8400E+00	0.0000E+00
2.0000E+00	9.7900E-01	8.7820E+01	6.8400E+00	0.0000E+00
8.0000E+00	9.7900E-01	8.7820E+01	9.1100E+00	0.0000E+00
2.4000E+01	4.8900E-01	8.7820E+01	1.5690E+01	0.0000E+00
4.8000E+01	4.8900E-01	8.7820E+01	3.1540E+01	0.0000E+00
7.2000E+01	4.8900E-01	8.7820E+01	5.2530E+01	0.0000E+00
9.6000E+01	4.8900E-01	8.7820E+01	7.2070E+01	0.0000E+00
2.4000E+02	4.8900E-01	8.7820E+01	9.7260E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 3: Drywell to Intact Control Volume 2

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	5.9500E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	3.4900E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	1.7500E-01	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 4: Intact Control Volume 2 to Intact Control Volume 3

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	1.6670E+00	7.6750E+01	4.1600E+00	0.0000E+00
2.0000E+00	9.7900E-01	7.6750E+01	4.1600E+00	0.0000E+00
8.0000E+00	9.7900E-01	7.6750E+01	5.5700E+00	0.0000E+00
2.4000E+01	4.8900E-01	7.6750E+01	9.7400E+00	0.0000E+00

4.8000E+01	4.8900E-01	7.6750E+01	2.0390E+01	0.0000E+00
7.2000E+01	4.8900E-01	7.6750E+01	3.6240E+01	0.0000E+00
9.6000E+01	4.8900E-01	7.6750E+01	5.4010E+01	0.0000E+00
2.4000E+02	4.8900E-01	7.6750E+01	9.3310E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 5: Intact Control Volume 3 to Environment

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	1.6670E+00	8.0220E+01	1.4970E+01	0.0000E+00
2.0000E+00	9.7900E-01	8.0220E+01	1.4970E+01	0.0000E+00
8.0000E+00	9.7900E-01	8.0220E+01	1.9630E+01	0.0000E+00
2.4000E+01	4.8900E-01	8.0220E+01	3.2260E+01	0.0000E+00
4.8000E+01	4.8900E-01	8.0220E+01	5.7570E+01	0.0000E+00
7.2000E+01	4.8900E-01	8.0220E+01	8.0730E+01	0.0000E+00
9.6000E+01	4.8900E-01	8.0220E+01	9.2810E+01	0.0000E+00
2.4000E+02	4.8900E-01	8.0220E+01	9.7840E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 6: Drywell to Intact Control Volume 4

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	2.9700E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	1.7500E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	8.7000E-02	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 7: Intact Control Volume 4 to Intact Control Volume 5

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	8.3300E-01	8.9010E+01	4.7500E+00	0.0000E+00
2.0000E+00	4.8900E-01	8.9010E+01	4.7500E+00	0.0000E+00
8.0000E+00	4.8900E-01	8.9010E+01	6.3500E+00	0.0000E+00
2.4000E+01	2.4500E-01	8.9010E+01	1.1060E+01	0.0000E+00
4.8000E+01	2.4500E-01	8.9010E+01	2.2950E+01	0.0000E+00
7.2000E+01	2.4500E-01	8.9010E+01	4.0200E+01	0.0000E+00
9.6000E+01	2.4500E-01	8.9010E+01	5.8780E+01	0.0000E+00
2.4000E+02	2.4500E-01	8.9010E+01	9.4930E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 8: Intact Control Volume 5 to Environment

Pathway Filter: Removal Data

Time (hr)	Flow Rate	Filter Efficiencies (%)
-----------	-----------	-------------------------

	(cfm)	Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	8.3300E-01	8.9030E+01	1.4970E+01	0.0000E+00
2.0000E+00	4.8900E-01	8.9030E+01	1.4970E+01	0.0000E+00
8.0000E+00	4.8900E-01	8.9030E+01	1.9630E+01	0.0000E+00
2.4000E+01	2.4500E-01	8.9030E+01	3.2260E+01	0.0000E+00
4.8000E+01	2.4500E-01	8.9030E+01	5.7570E+01	0.0000E+00
7.2000E+01	2.4500E-01	8.9030E+01	8.0730E+01	0.0000E+00
9.6000E+01	2.4500E-01	8.9030E+01	9.2810E+01	0.0000E+00
2.4000E+02	2.4500E-01	8.9030E+01	9.7840E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 9: Filtered Intake to Control Room

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
2.0000E+00	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
8.0000E+00	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
2.4000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
9.6000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 10: Unfiltered Inleakage to Control Room

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	4.0000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
8.0000E+00	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
9.6000E+01	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 11: Control Room Exhaust to Environment

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	6.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
8.0000E+00	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
9.6000E+01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 12: Sprayed Drywell to Unsprayed Drywell

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	2.1000E+03	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	2.1000E+06	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 13: Unsprayed Drywell to Sprayed Drywell

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	2.1000E+03	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	2.1000E+06	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

LOCATION DATA

Location Exclusion Area Boundary is in compartment 7

Location X/Q Data

Time (hr)	X/Q (s * m <sup>-3</sup> )
0.0000E+00	1.3600E-03
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 Low Population Zone is in compartment 7

Location X/Q Data

Time (hr)	X/Q (s * m <sup>-3</sup> )
0.0000E+00	1.0400E-04
2.0000E+00	4.1400E-05
8.0000E+00	2.6200E-05
2.4000E+01	9.9600E-06
9.6000E+01	2.5200E-06
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
8.0000E+00	1.8000E-04
2.4000E+01	2.3000E-04
7.2000E+02	0.0000E+00

Location Control Room is in compartment 8

Location X/Q Data

Time (hr)	X/Q (s * m <sup>-3</sup> )
0.0000E+00	1.0200E-03
2.0000E+00	8.2300E-04
8.0000E+00	3.5500E-04
2.4000E+01	2.3200E-04

9.6000E+01	1.3800E-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 Occupancy Factor Data

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

## USER SPECIFIED TIME STEP DATA - SUPPLEMENTAL TIME STEPS

Time	Time step
0.0000E+00	1.0000E-01
1.0000E+00	1.0000E-02
2.0000E+00	5.0000E-01
8.0000E+00	1.0000E+00
2.4000E+01	2.0000E+00
9.6000E+01	5.0000E+00
7.2000E+02	0.0000E+00

#####  
 RADTRAD Version 3.03 (Spring 2001) run on 2/03/2020 at 6:56:43  
 #####

```

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

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

Exclusion Area Boundary Doses:

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

Low Population Zone Doses:

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

Control Room Doses:

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

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =	0.0333	Ci	kg	Atoms	Decay
------------	--------	----	----	-------	-------

Sprayed Drywell Transport Group Inventory:

Time (h) =	0.0333	Atmosphere	Sump	
Noble gases (atoms)		9.3660E+22	0.0000E+00	
Elemental I (atoms)		6.2043E+20	0.0000E+00	
Organic I (atoms)		1.9188E+19	0.0000E+00	
Aerosols (kg)		6.5728E-01	0.0000E+00	
Dose Effective (Ci/cc)		I-131 (Thyroid)		1.3741E-04
Dose Effective (Ci/cc)		I-131 (ICRP2 Thyroid)		1.7573E-04
Total I (Ci)				2.2772E+06

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

		Pathway	
Time (h) =	0.0333	Filtered	Transported

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

Drywell to Intact Control Volume 2 Transport Group Inventory:

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

Drywell to Intact Control Volume 4 Transport Group Inventory:

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

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 0.0333	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.0833E+21
Elemental I (atoms)	0.0000E+00	1.3811E+19
Organic I (atoms)	0.0000E+00	4.2713E+17
Aerosols (kg)	0.0000E+00	1.4620E-02

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 0.0333	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.5284E+19
Elemental I (atoms)	0.0000E+00	3.0020E+17
Organic I (atoms)	0.0000E+00	9.2845E+15
Aerosols (kg)	0.0000E+00	3.1779E-04

Exclusion Area Boundary Doses:

Time (h) = 0.1667	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.1449E-03	1.2124E-01	6.0306E-03
Accumulated dose (rem)	1.1449E-03	1.2124E-01	6.0306E-03

Low Population Zone Doses:

Time (h) = 0.1667	Whole Body	Thyroid	TEDE
Delta dose (rem)	8.7554E-05	9.2709E-03	4.6116E-04
Accumulated dose (rem)	8.7554E-05	9.2709E-03	4.6116E-04

Control Room Doses:

Time (h) = 0.1667	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.7623E-06	7.7934E-03	3.1794E-04



Accumulated dose (rem) 3.7623E-06 7.7934E-03 3.1794E-04

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =	Ci	kg	Atoms	Decay
0.1667				
Kr-85	2.0720E+04	5.2812E-02	3.7416E+23	3.1771E+17
Kr-85m	3.0067E+05	3.6536E-05	2.5885E+20	4.6567E+18
Kr-87	5.6483E+05	1.9941E-05	1.3803E+20	8.9726E+18
Kr-88	8.2480E+05	6.5777E-05	4.5014E+20	1.2848E+19
Rb-86	2.3285E+03	2.8617E-05	2.0039E+20	3.5708E+16
I-131	1.2153E+06	9.8028E-03	4.5064E+22	1.8639E+19
I-132	1.7110E+06	1.6576E-04	7.5625E+20	2.6631E+19
I-133	2.4967E+06	2.2040E-03	9.9794E+21	3.8365E+19
I-134	2.4392E+06	9.1435E-05	4.1092E+20	3.9377E+19
I-135	2.3482E+06	6.6865E-04	2.9827E+21	3.6250E+19
Xe-133	2.4047E+06	1.2847E-02	5.8170E+22	3.6866E+19
Xe-135	8.3040E+05	3.2517E-04	1.4505E+21	1.2568E+19
Cs-134	3.0702E+05	2.3729E-01	1.0664E+24	4.7077E+18
Cs-136	8.3757E+04	1.1428E-03	5.0604E+21	1.2845E+18
Cs-137	2.4349E+05	2.7994E+00	1.2305E+25	3.7336E+18

Sprayed Drywell Transport Group Inventory:

Time (h) =	Atmosphere	Sump	
0.1667			
Noble gases (atoms)	4.3463E+23	0.0000E+00	
Elemental I (atoms)	2.8709E+21	0.0000E+00	
Organic I (atoms)	8.8790E+19	0.0000E+00	
Aerosols (kg)	3.0501E+00	0.0000E+00	
Dose Effective (Ci/cc) I-131 (Thyroid)			6.3621E-04
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			8.1087E-04
Total I (Ci)			1.0210E+07

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

Time (h) =	Pathway	
	Filtered	Transported
0.1667		
Noble gases (atoms)	0.0000E+00	1.3448E+19
Elemental I (atoms)	0.0000E+00	8.9005E+16
Organic I (atoms)	0.0000E+00	2.7527E+15
Aerosols (kg)	0.0000E+00	9.4375E-05

Drywell to Intact Control Volume 2 Transport Group Inventory:

Time (h) =	Pathway	
	Filtered	Transported
0.1667		
Noble gases (atoms)	0.0000E+00	1.3448E+19
Elemental I (atoms)	0.0000E+00	8.9005E+16
Organic I (atoms)	0.0000E+00	2.7527E+15
Aerosols (kg)	0.0000E+00	9.4375E-05

Drywell to Intact Control Volume 4 Transport Group Inventory:

Time (h) =	Pathway	
	Filtered	Transported
0.1667		
Noble gases (atoms)	0.0000E+00	6.7128E+18
Elemental I (atoms)	0.0000E+00	4.4428E+16
Organic I (atoms)	0.0000E+00	1.3740E+15
Aerosols (kg)	0.0000E+00	4.7108E-05

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 0.1667	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.9547E+22
Elemental I (atoms)	0.0000E+00	3.2795E+20
Organic I (atoms)	0.0000E+00	1.0143E+19
Aerosols (kg)	0.0000E+00	3.4771E-01

## Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 0.1667	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.1416E+21
Elemental I (atoms)	0.0000E+00	3.4021E+19
Organic I (atoms)	0.0000E+00	1.0522E+18
Aerosols (kg)	0.0000E+00	3.6082E-02

## Exclusion Area Boundary Doses:

Time (h) = 0.5000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.3987E-02	1.8252E+00	9.6824E-02
Accumulated dose (rem)	2.5132E-02	1.9464E+00	1.0285E-01

## Low Population Zone Doses:

Time (h) = 0.5000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.8343E-03	1.3957E-01	7.4042E-03
Accumulated dose (rem)	1.9218E-03	1.4884E-01	7.8653E-03

## Control Room Doses:

Time (h) = 0.5000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.1324E-04	3.6142E-01	1.4677E-02
Accumulated dose (rem)	2.1700E-04	3.6921E-01	1.4995E-02

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 0.5000	Ci	kg	Atoms	Decay
Kr-85	5.4484E+04	1.3887E-01	9.8389E+23	2.2188E+18
Kr-85m	7.5090E+05	9.1245E-05	6.4646E+20	3.1458E+19
Kr-87	1.2385E+06	4.3724E-05	3.0266E+20	5.5825E+19
Kr-88	1.9994E+06	1.5945E-04	1.0912E+21	8.5160E+19
Rb-86	1.0072E+03	1.2379E-05	8.6684E+19	8.5796E+16
I-131	5.2943E+05	4.2705E-03	1.9632E+22	4.4904E+19
I-132	7.3931E+05	7.1623E-05	3.2676E+20	6.3829E+19
I-133	1.0767E+06	9.5050E-04	4.3038E+21	9.2070E+19
I-134	8.1727E+05	3.0636E-05	1.3768E+20	8.6214E+19
I-135	9.8885E+05	2.8157E-04	1.2561E+21	8.6211E+19
Xe-133	6.3169E+06	3.3748E-02	1.5281E+23	2.5738E+20
Xe-135	2.1864E+06	8.5616E-04	3.8192E+21	8.8792E+19
Cs-134	1.3287E+05	1.0270E-01	4.6154E+23	1.1313E+19
Cs-136	3.6223E+04	4.9423E-04	2.1885E+21	3.0860E+18
Cs-137	1.0538E+05	1.2115E+00	5.3256E+24	8.9727E+18

## Sprayed Drywell Transport Group Inventory:

Time (h) =	0.5000	Atmosphere	Sump
Noble gases (atoms)	1.1426E+24	0.0000E+00	
Elemental I (atoms)	1.2349E+21	7.5496E+21	
Organic I (atoms)	2.3192E+20	0.0000E+00	
Aerosols (kg)	1.3200E+00	8.0349E+00	
Dose Effective (Ci/cc)	I-131 (Thyroid)		2.7601E-04
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		3.4947E-04
Total I (Ci)			4.1516E+06

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.1374E+20
Elemental I (atoms)	0.0000E+00	2.7814E+17
Organic I (atoms)	0.0000E+00	2.3187E+16
Aerosols (kg)	0.0000E+00	2.9567E-04

Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.1374E+20
Elemental I (atoms)	0.0000E+00	2.7814E+17
Organic I (atoms)	0.0000E+00	2.3187E+16
Aerosols (kg)	0.0000E+00	2.9567E-04

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.6775E+19
Elemental I (atoms)	0.0000E+00	1.3884E+17
Organic I (atoms)	0.0000E+00	1.1574E+16
Aerosols (kg)	0.0000E+00	1.4759E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.0352E+23
Elemental I (atoms)	0.0000E+00	9.9548E+20
Organic I (atoms)	0.0000E+00	8.2265E+19
Aerosols (kg)	0.0000E+00	1.0582E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.0978E+23
Elemental I (atoms)	0.0000E+00	3.7778E+20
Organic I (atoms)	0.0000E+00	2.2359E+19
Aerosols (kg)	0.0000E+00	4.0232E-01

Exclusion Area Boundary Doses:

Time (h) =	0.6667	Whole Body	Thyroid	TEDE
------------	--------	------------	---------	------

Delta dose (rem)	3.1352E-02	1.6055E+00	9.6900E-02
Accumulated dose (rem)	5.6484E-02	3.5519E+00	1.9975E-01

## Low Population Zone Doses:

Time (h) =	0.6667	Whole Body	Thyroid	TEDE
Delta dose (rem)		2.3975E-03	1.2278E-01	7.4100E-03
Accumulated dose (rem)		4.3194E-03	2.7162E-01	1.5275E-02

## Control Room Doses:

Time (h) =	0.6667	Whole Body	Thyroid	TEDE
Delta dose (rem)		3.6536E-04	4.8499E-01	1.9817E-02
Accumulated dose (rem)		5.8236E-04	8.5420E-01	3.4812E-02

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =	Ci	kg	Atoms	Decay
Co-58	4.4405E+01	1.3965E-06	1.4500E+19	9.0095E+14
Co-60	5.3161E+01	4.7029E-05	4.7202E+20	1.0786E+15
Kr-85	1.8004E+05	4.5889E-01	3.2512E+24	5.5807E+18
Kr-85m	2.4181E+06	2.9383E-04	2.0818E+21	7.7155E+19
Kr-87	3.7371E+06	1.3193E-04	9.1325E+20	1.2863E+20
Kr-88	6.3435E+06	5.0589E-04	3.4620E+21	2.0587E+20
Rb-86	1.3045E+03	1.6032E-05	1.1226E+20	1.1418E+17
Sr-89	6.0231E+04	2.0732E-03	1.4028E+22	1.2221E+18
Sr-90	9.4775E+03	6.9479E-02	4.6490E+23	1.9228E+17
Sr-91	7.2807E+04	2.0085E-05	1.3292E+20	1.4858E+18
Sr-92	6.8221E+04	5.4275E-06	3.5528E+19	1.4129E+18
Y-90	1.0761E+02	1.9780E-07	1.3235E+18	2.0108E+15
Y-91	7.7953E+02	3.1786E-05	2.1035E+20	1.5790E+16
Y-92	2.0955E+03	2.1777E-07	1.4255E+18	1.9872E+16
Y-93	5.9180E+02	1.7738E-07	1.1486E+18	1.2073E+16
Zr-95	1.1092E+03	5.1632E-05	3.2730E+20	2.2505E+16
Zr-97	1.0496E+03	5.4906E-07	3.4088E+18	2.1366E+16
Nb-95	1.1095E+03	2.8375E-05	1.7987E+20	2.2510E+16
Mo-99	1.4442E+04	3.0112E-05	1.8317E+20	2.9326E+17
Tc-99m	1.2899E+04	2.4532E-06	1.4923E+19	2.6046E+17
Ru-103	1.2515E+04	3.8776E-04	2.2672E+21	2.5392E+17
Ru-105	7.9156E+03	1.1776E-06	6.7537E+18	1.6262E+17
Ru-106	5.4608E+03	1.6322E-03	9.2732E+21	1.1079E+17
Rh-105	8.2268E+03	9.7467E-06	5.5901E+19	1.6678E+17
Sb-127	1.3743E+04	5.1460E-05	2.4402E+20	2.7898E+17
Sb-129	4.5176E+04	8.0335E-06	3.7503E+19	9.2845E+17
Te-127	1.3712E+04	5.1955E-06	2.4636E+19	2.7733E+17
Te-127m	2.3501E+03	2.4915E-04	1.1814E+21	4.7680E+16
Te-129	4.6519E+04	2.2213E-06	1.0370E+19	9.2624E+17
Te-129m	9.6706E+03	3.2101E-04	1.4986E+21	1.9619E+17
Te-131m	3.0919E+04	3.8774E-05	1.7825E+20	6.2846E+17
Te-132	2.2022E+05	7.2537E-04	3.3093E+21	4.4711E+18
I-131	8.4096E+05	6.7833E-03	3.1183E+22	6.2966E+19
I-132	1.1889E+06	1.1518E-04	5.2549E+20	8.9524E+19
I-133	1.7016E+06	1.5021E-03	6.8016E+21	1.2871E+20
I-134	1.1384E+06	4.2674E-05	1.9178E+20	1.1232E+20
I-135	1.5442E+06	4.3972E-04	1.9615E+21	1.1966E+20
Xe-133	2.0875E+07	1.1152E-01	5.0497E+23	6.4727E+20
Xe-135	7.3604E+06	2.8822E-03	1.2857E+22	2.2618E+20

Cs-134	1.7213E+05	1.3304E-01	5.9789E+23	1.5058E+19
Cs-136	4.6907E+04	6.4001E-04	2.8340E+21	4.1065E+18
Cs-137	1.3652E+05	1.5695E+00	6.8990E+24	1.1942E+19
Ba-139	8.0450E+04	4.9184E-06	2.1309E+19	1.6999E+18
Ba-140	1.1310E+05	1.5448E-03	6.6452E+21	2.2950E+18
La-140	1.3943E+03	2.5085E-06	1.0790E+19	2.5016E+16
La-141	9.1796E+02	1.6232E-07	6.9326E+17	1.8890E+16
La-142	7.4795E+02	5.2249E-08	2.2159E+17	1.5736E+16
Ce-141	2.6003E+03	9.1259E-05	3.8977E+20	5.2756E+16
Ce-143	2.3934E+03	3.6040E-06	1.5178E+19	4.8640E+16
Ce-144	2.2344E+03	7.0054E-04	2.9297E+21	4.5332E+16
Pr-143	9.4036E+02	1.3965E-05	5.8809E+19	1.9072E+16
Nd-147	4.1766E+02	5.1627E-06	2.1150E+19	8.4754E+15
Np-239	3.0378E+04	1.3095E-04	3.2995E+20	6.1694E+17
Pu-238	8.0132E+00	4.6807E-04	1.1844E+21	1.6258E+14
Pu-239	7.5711E-01	1.2181E-02	3.0692E+22	1.5360E+13
Pu-240	1.3870E+00	6.0867E-03	1.5273E+22	2.8139E+13
Pu-241	3.0628E+02	2.9732E-03	7.4295E+21	6.2139E+15
Am-241	2.0112E-01	5.8599E-05	1.4643E+20	4.0804E+12
Cm-242	5.1157E+01	1.5435E-05	3.8410E+19	1.0379E+15
Cm-244	2.9742E+00	3.6763E-05	9.0735E+19	6.0343E+13

## Sprayed Drywell Transport Group Inventory:

Time (h) =	0.6667	Atmosphere	Sump	
Noble gases (atoms)	3.7755E+24	0.0000E+00		
Elemental I (atoms)	1.9580E+21	1.1945E+22		
Organic I (atoms)	3.5375E+20	0.0000E+00		
Aerosols (kg)	1.8111E+00	1.2217E+01		
Dose Effective (Ci/cc)	I-131 (Thyroid)		4.3758E-04	
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		5.5260E-04	
Total I (Ci)			6.4142E+06	

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

		Pathway	
Time (h) =	0.6667	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.7017E+20	
Elemental I (atoms)	0.0000E+00	3.8827E+17	
Organic I (atoms)	0.0000E+00	4.1627E+16	
Aerosols (kg)	0.0000E+00	4.0045E-04	

## Drywell to Intact Control Volume 2 Transport Group Inventory:

		Pathway	
Time (h) =	0.6667	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.7017E+20	
Elemental I (atoms)	0.0000E+00	3.8827E+17	
Organic I (atoms)	0.0000E+00	4.1627E+16	
Aerosols (kg)	0.0000E+00	4.0045E-04	

## Drywell to Intact Control Volume 4 Transport Group Inventory:

		Pathway	
Time (h) =	0.6667	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.3486E+20	
Elemental I (atoms)	0.0000E+00	1.9381E+17	
Organic I (atoms)	0.0000E+00	2.0778E+16	

Aerosols (kg) 0.0000E+00 1.9989E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 0.6667	Filtered	Transported
Noble gases (atoms)	0.0000E+00	9.5562E+23
Elemental I (atoms)	0.0000E+00	1.3842E+21
Organic I (atoms)	0.0000E+00	1.4735E+20
Aerosols (kg)	0.0000E+00	1.4280E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 0.6667	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.6171E+23
Elemental I (atoms)	0.0000E+00	6.0694E+20
Organic I (atoms)	0.0000E+00	4.8326E+19
Aerosols (kg)	0.0000E+00	6.4249E-01

Exclusion Area Boundary Doses:

Time (h) = 2.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.5813E+00	3.5151E+01	4.2418E+00
Accumulated dose (rem)	2.6377E+00	3.8703E+01	4.4415E+00

Low Population Zone Doses:

Time (h) = 2.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.9739E-01	2.6880E+00	3.2437E-01
Accumulated dose (rem)	2.0171E-01	2.9596E+00	3.3965E-01

Control Room Doses:

Time (h) = 2.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.4275E-02	4.6063E+00	2.1994E-01
Accumulated dose (rem)	2.4857E-02	5.4605E+00	2.5475E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 2.0000	Ci	kg	Atoms	Decay
Co-58	5.0851E+01	1.5992E-06	1.6604E+19	9.7346E+15
Co-60	6.0909E+01	5.3884E-05	5.4082E+20	1.1657E+16
Kr-85	9.2660E+05	2.3618E+00	1.6733E+25	1.0811E+20
Kr-85m	1.0125E+07	1.2303E-03	8.7169E+21	1.2954E+21
Kr-87	9.2989E+06	3.2829E-04	2.2724E+21	1.5303E+21
Kr-88	2.3579E+07	1.8804E-03	1.2868E+22	3.1875E+21
Rb-86	1.3607E+03	1.6723E-05	1.1710E+20	3.5390E+17
Sr-89	6.8959E+04	2.3736E-03	1.6061E+22	1.3203E+19
Sr-90	1.0859E+04	7.9607E-02	5.3267E+23	2.0782E+18
Sr-91	7.5687E+04	2.0879E-05	1.3817E+20	1.5284E+19
Sr-92	5.5579E+04	4.4218E-06	2.8944E+19	1.2893E+19
Y-90	1.2405E+02	2.2800E-07	1.5256E+18	2.2915E+16
Y-91	8.9277E+02	3.6404E-05	2.4091E+20	1.7079E+17
Y-92	1.9925E+03	2.0707E-07	1.3555E+18	3.3236E+17
Y-93	6.1878E+02	1.8547E-07	1.2010E+18	1.2455E+17
Zr-95	1.2701E+03	5.9123E-05	3.7479E+20	2.4316E+17

Zr-97	1.1386E+03	5.9563E-07	3.6979E+18	2.2456E+17
Nb-95	1.2713E+03	3.2511E-05	2.0609E+20	2.4329E+17
Mo-99	1.6317E+04	3.4022E-05	2.0695E+20	3.1468E+18
Tc-99m	1.4738E+04	2.8028E-06	1.7049E+19	2.8197E+18
Ru-103	1.4325E+04	4.4386E-04	2.5951E+21	2.7429E+18
Ru-105	7.3652E+03	1.0957E-06	6.2841E+18	1.5829E+18
Ru-106	6.2562E+03	1.8700E-03	1.0624E+22	1.1974E+18
Rh-105	9.3941E+03	1.1130E-05	6.3833E+19	1.8012E+18
Sb-127	1.5589E+04	5.8375E-05	2.7681E+20	2.9998E+18
Sb-129	4.1792E+04	7.4319E-06	3.4694E+19	9.0115E+18
Te-127	1.5691E+04	5.9455E-06	2.8193E+19	3.0012E+18
Te-127m	2.6927E+03	2.8547E-04	1.3537E+21	5.1532E+17
Te-129	4.7599E+04	2.2729E-06	1.0611E+19	9.6471E+18
Te-129m	1.1079E+04	3.6778E-04	1.7169E+21	2.1205E+18
Te-131m	3.4351E+04	4.3079E-05	1.9804E+20	6.6861E+18
Te-132	2.4936E+05	8.2135E-04	3.7472E+21	4.8031E+19
I-131	9.0723E+05	7.3179E-03	3.3641E+22	2.2117E+20
I-132	1.2834E+06	1.2433E-04	5.6724E+20	3.1411E+20
I-133	1.7631E+06	1.5564E-03	7.0472E+21	4.4241E+20
I-134	4.2970E+05	1.6108E-05	7.2391E+19	2.4434E+20
I-135	1.4544E+06	4.1414E-04	1.8474E+21	3.9116E+20
Xe-133	1.0709E+08	5.7214E-01	2.5906E+24	1.2514E+22
Xe-135	3.8692E+07	1.5151E-02	6.7587E+22	4.4890E+21
Cs-134	1.7991E+05	1.3905E-01	6.2491E+23	4.6721E+19
Cs-136	4.8886E+04	6.6701E-04	2.9535E+21	1.2723E+19
Cs-137	1.4269E+05	1.6405E+00	7.2111E+24	3.7055E+19
Ba-139	4.7144E+04	2.8822E-06	1.2487E+19	1.3319E+19
Ba-140	1.2919E+05	1.7647E-03	7.5909E+21	2.4765E+19
La-140	1.6097E+03	2.8961E-06	1.2458E+19	2.9264E+17
La-141	8.3137E+02	1.4701E-07	6.2787E+17	1.8145E+17
La-142	4.7058E+02	3.2873E-08	1.3941E+17	1.2730E+17
Ce-141	2.9786E+03	1.0454E-04	4.4648E+20	5.7012E+17
Ce-143	2.6665E+03	4.0154E-06	1.6910E+19	5.1821E+17
Ce-144	2.5597E+03	8.0255E-04	3.3563E+21	4.8991E+17
Pr-143	1.0775E+03	1.6001E-05	6.7384E+19	2.0617E+17
Nd-147	4.7686E+02	5.8946E-06	2.4148E+19	9.1436E+16
Np-239	3.4242E+04	1.4760E-04	3.7192E+20	6.6122E+18
Pu-238	9.1815E+00	5.3631E-04	1.3570E+21	1.7571E+15
Pu-239	8.6763E-01	1.3959E-02	3.5172E+22	1.6603E+14
Pu-240	1.5891E+00	6.9740E-03	1.7499E+22	3.0413E+14
Pu-241	3.5092E+02	3.4066E-03	8.5125E+21	6.7159E+16
Am-241	2.3048E-01	6.7152E-05	1.6780E+20	4.4104E+13
Cm-242	5.8600E+01	1.7681E-05	4.3999E+19	1.1216E+16
Cm-244	3.4078E+00	4.2122E-05	1.0396E+20	6.5218E+14

## Sprayed Drywell Transport Group Inventory:

Time (h) =	2.0000	Atmosphere	Sump	
Noble gases (atoms)	1.9415E+25	0.0000E+00		
Elemental I (atoms)	2.0418E+21	5.2662E+22		
Organic I (atoms)	1.1387E+21	0.0000E+00		
Aerosols (kg)	1.9030E+00	4.9870E+01		
Dose Effective (Ci/cc)	I-131 (Thyroid)		4.6500E-04	
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		5.7733E-04	
Total I (Ci)			5.8378E+06	

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
2.0000		
Noble gases (atoms)	0.0000E+00	6.2364E+21
Elemental I (atoms)	0.0000E+00	1.4083E+18
Organic I (atoms)	0.0000E+00	4.2180E+17
Aerosols (kg)	0.0000E+00	1.3437E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
2.0000		
Noble gases (atoms)	0.0000E+00	6.2364E+21
Elemental I (atoms)	0.0000E+00	1.4083E+18
Organic I (atoms)	0.0000E+00	4.2180E+17
Aerosols (kg)	0.0000E+00	1.3437E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
2.0000		
Noble gases (atoms)	0.0000E+00	3.1130E+21
Elemental I (atoms)	0.0000E+00	7.0298E+17
Organic I (atoms)	0.0000E+00	2.1054E+17
Aerosols (kg)	0.0000E+00	6.7074E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
2.0000		
Noble gases (atoms)	0.0000E+00	2.2013E+25
Elemental I (atoms)	0.0000E+00	4.9844E+21
Organic I (atoms)	0.0000E+00	1.4891E+21
Aerosols (kg)	0.0000E+00	4.7572E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
2.0000		
Noble gases (atoms)	0.0000E+00	1.2731E+25
Elemental I (atoms)	0.0000E+00	3.6478E+21
Organic I (atoms)	0.0000E+00	9.1397E+20
Aerosols (kg)	0.0000E+00	3.5375E+00

Exclusion Area Boundary Doses:

Time (h) =	Whole Body	Thyroid	TEDE
2.2000			
Delta dose (rem)	5.1346E-01	4.7936E+00	7.4483E-01
Accumulated dose (rem)	3.1512E+00	4.3496E+01	5.1864E+00

Low Population Zone Doses:

Time (h) =	Whole Body	Thyroid	TEDE
2.2000			
Delta dose (rem)	1.5630E-02	1.4592E-01	2.2674E-02
Accumulated dose (rem)	2.1734E-01	3.1055E+00	3.6232E-01

Control Room Doses:



Time (h) =	2.2000	Whole Body	Thyroid	TEDE
Delta dose (rem)		9.9011E-03	7.5804E-01	4.4192E-02
Accumulated dose (rem)		3.4759E-02	6.2185E+00	2.9894E-01

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =	2.2000	Ci	kg	Atoms	Decay
Co-58		8.1589E+00	2.5658E-07	2.6641E+18	1.0111E+16
Co-60		9.7735E+00	8.6462E-06	8.6781E+19	1.2107E+16
Kr-85		8.2324E+05	2.0983E+00	1.4866E+25	1.3004E+20
Kr-85m		8.7216E+06	1.0598E-03	7.5085E+21	1.5314E+21
Kr-87		7.4084E+06	2.6154E-04	1.8104E+21	1.7389E+21
Kr-88		1.9950E+07	1.5910E-03	1.0888E+22	3.7322E+21
Rb-86		2.2178E+02	2.7256E-06	1.9086E+19	3.6412E+17
Sr-89		1.1064E+04	3.8083E-04	2.5769E+21	1.3713E+19
Sr-90		1.7424E+03	1.2774E-02	8.5473E+22	2.1585E+18
Sr-91		1.1969E+04	3.3018E-06	2.1850E+19	1.5840E+19
Sr-92		8.4735E+03	6.7414E-07	4.4128E+18	1.3296E+19
Y-90		2.6501E+01	4.8710E-08	3.2593E+17	2.3989E+16
Y-91		1.4414E+02	5.8774E-06	3.8895E+19	1.7741E+17
Y-92		9.0874E+02	9.4440E-08	6.1819E+17	3.6161E+17
Y-93		9.7936E+01	2.9355E-08	1.9008E+17	1.2910E+17
Zr-95		2.0379E+02	9.4861E-06	6.0133E+19	2.5255E+17
Zr-97		1.8121E+02	9.4793E-08	5.8851E+17	2.3295E+17
Nb-95		2.0399E+02	5.2167E-06	3.3069E+19	2.5269E+17
Mo-99		2.6128E+03	5.4477E-06	3.3138E+19	3.2674E+18
Tc-99m		2.3637E+03	4.4952E-07	2.7344E+18	2.9281E+18
Ru-103		2.2982E+03	7.1211E-05	4.1635E+20	2.8489E+18
Ru-105		1.1455E+03	1.7041E-07	9.7736E+17	1.6367E+18
Ru-106		1.0039E+03	3.0006E-04	1.7047E+21	1.2436E+18
Rh-105		1.5060E+03	1.7843E-06	1.0234E+19	1.8706E+18
Sb-127		2.4977E+03	9.3529E-06	4.4350E+19	3.1150E+18
Sb-129		6.4942E+03	1.1549E-06	5.3912E+18	9.3167E+18
Te-127		2.5172E+03	9.5382E-07	4.5228E+18	3.1168E+18
Te-127m		4.3208E+02	4.5807E-05	2.1721E+20	5.3524E+17
Te-129		7.5011E+03	3.5818E-07	1.6721E+18	9.9880E+18
Te-129m		1.7777E+03	5.9012E-05	2.7549E+20	2.2024E+18
Te-131m		5.4866E+03	6.8806E-06	3.1631E+19	6.9397E+18
Te-132		3.9941E+04	1.3156E-04	6.0021E+20	4.9874E+19
I-131		1.6498E+05	1.3308E-03	6.1177E+21	2.2836E+20
I-132		2.1423E+05	2.0754E-05	9.4684E+19	3.2369E+20
I-133		3.1874E+05	2.8138E-04	1.2740E+21	4.5634E+20
I-134		6.6766E+04	2.5028E-06	1.1248E+19	2.4754E+20
I-135		2.5920E+05	7.3808E-05	3.2925E+20	4.0259E+20
Xe-133		9.5017E+07	5.0762E-01	2.2985E+24	1.5046E+22
Xe-135		3.3586E+07	1.3152E-02	5.8667E+22	5.3905E+21
Cs-134		2.9331E+04	2.2670E-02	1.0188E+23	4.8073E+19
Cs-136		7.9666E+03	1.0870E-04	4.8132E+20	1.3090E+19
Cs-137		2.3264E+04	2.6746E-01	1.1757E+24	3.8128E+19
Ba-139		6.8410E+03	4.1823E-07	1.8120E+18	1.3654E+19
Ba-140		2.0721E+04	2.8304E-04	1.2175E+21	2.5721E+19
La-140		3.8274E+02	6.8860E-07	2.9620E+18	3.0750E+17
La-141		1.2878E+02	2.2771E-08	9.7256E+16	1.8751E+17
La-142		6.9015E+01	4.8212E-09	2.0446E+16	1.3066E+17
Ce-141		4.7785E+02	1.6771E-05	7.1628E+19	5.9215E+17
Ce-143		4.2608E+02	6.4161E-07	2.7020E+18	5.3790E+17
Ce-144		4.1073E+02	1.2878E-04	5.3854E+20	5.0884E+17

Pr-143	1.7308E+02	2.5704E-06	1.0825E+19	2.1414E+17
Nd-147	7.6478E+01	9.4535E-07	3.8728E+18	9.4963E+16
Np-239	5.4811E+03	2.3626E-05	5.9532E+19	6.8652E+18
Pu-238	1.4733E+00	8.6057E-05	2.1775E+20	1.8250E+15
Pu-239	1.3922E-01	2.2399E-03	5.6439E+21	1.7245E+14
Pu-240	2.5499E-01	1.1191E-03	2.8080E+21	3.1588E+14
Pu-241	5.6309E+01	5.4662E-04	1.3659E+21	6.9755E+16
Am-241	3.6985E-02	1.0776E-05	2.6927E+19	4.5809E+13
Cm-242	9.4027E+00	2.8370E-06	7.0599E+18	1.1650E+16
Cm-244	5.4681E-01	6.7589E-06	1.6682E+19	6.7738E+14

## Sprayed Drywell Transport Group Inventory:

Time (h) =	2.2000	Atmosphere	Sump	
Noble gases (atoms)	1.7244E+25	0.0000E+00		
Elemental I (atoms)	3.3054E+20	5.5602E+22		
Organic I (atoms)	1.0219E+21	0.0000E+00		
Aerosols (kg)	3.0995E-01	5.2615E+01		
Dose Effective (Ci/cc)	I-131 (Thyroid)		8.4342E-05	
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		1.0431E-04	
Total I (Ci)			1.0239E+06	

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
2.2000		
Noble gases (atoms)	0.0000E+00	7.0206E+21
Elemental I (atoms)	0.0000E+00	1.4515E+18
Organic I (atoms)	0.0000E+00	4.6821E+17
Aerosols (kg)	0.0000E+00	1.3841E-03

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
2.2000		
Noble gases (atoms)	0.0000E+00	7.0206E+21
Elemental I (atoms)	0.0000E+00	1.4515E+18
Organic I (atoms)	0.0000E+00	4.6821E+17
Aerosols (kg)	0.0000E+00	1.3841E-03

## Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
2.2000		
Noble gases (atoms)	0.0000E+00	3.5062E+21
Elemental I (atoms)	0.0000E+00	7.2465E+17
Organic I (atoms)	0.0000E+00	2.3382E+17
Aerosols (kg)	0.0000E+00	6.9097E-04

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
2.2000		
Noble gases (atoms)	0.0000E+00	4.7407E+27
Elemental I (atoms)	0.0000E+00	2.6496E+23
Organic I (atoms)	0.0000E+00	2.8077E+23
Aerosols (kg)	0.0000E+00	2.4748E+02

## Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 2.2000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.8312E+28
Elemental I (atoms)	0.0000E+00	6.2208E+23
Organic I (atoms)	0.0000E+00	1.5144E+24
Aerosols (kg)	0.0000E+00	5.2439E+02

## Exclusion Area Boundary Doses:

Time (h) = 2.3000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.6890E-01	2.4051E+00	3.8462E-01
Accumulated dose (rem)	3.4201E+00	4.5901E+01	5.5710E+00

## Low Population Zone Doses:

Time (h) = 2.3000	Whole Body	Thyroid	TEDE
Delta dose (rem)	8.1858E-03	7.3214E-02	1.1708E-02
Accumulated dose (rem)	2.2553E-01	3.1787E+00	3.7403E-01

## Control Room Doses:

Time (h) = 2.3000	Whole Body	Thyroid	TEDE
Delta dose (rem)	5.0880E-03	3.6767E-01	2.1810E-02
Accumulated dose (rem)	3.9847E-02	6.5862E+00	3.2076E-01

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 2.3000	Ci	kg	Atoms	Decay
Co-58	3.3160E+00	1.0428E-07	1.0828E+18	1.0155E+16
Co-60	3.9724E+00	3.5142E-06	3.5271E+19	1.2160E+16
Kr-85	8.2321E+05	2.0982E+00	1.4866E+25	1.4101E+20
Kr-85m	8.5875E+06	1.0435E-03	7.3930E+21	1.6466E+21
Kr-87	7.0151E+06	2.4766E-04	1.7143E+21	1.8349E+21
Kr-88	1.9469E+07	1.5526E-03	1.0625E+22	3.9947E+21
Rb-86	9.0125E+01	1.1076E-06	7.7562E+18	3.6532E+17
Sr-89	4.4966E+03	1.5478E-04	1.0473E+21	1.3773E+19
Sr-90	7.0820E+02	5.1918E-03	3.4740E+22	2.1679E+18
Sr-91	4.8293E+03	1.3322E-06	8.8163E+18	1.5905E+19
Sr-92	3.3571E+03	2.6708E-07	1.7483E+18	1.3341E+19
Y-90	1.1527E+01	2.1186E-08	1.4176E+17	2.4133E+16
Y-91	5.8681E+01	2.3928E-06	1.5835E+19	1.7819E+17
Y-92	4.2877E+02	4.4560E-08	2.9168E+17	3.6648E+17
Y-93	3.9533E+01	1.1849E-08	7.6730E+16	1.2963E+17
Zr-95	8.2825E+01	3.8554E-06	2.4440E+19	2.5365E+17
Zr-97	7.3352E+01	3.8371E-08	2.3822E+17	2.3393E+17
Nb-95	8.2909E+01	2.1203E-06	1.3441E+19	2.5380E+17
Mo-99	1.0608E+03	2.2118E-06	1.3455E+19	3.2815E+18
Tc-99m	9.6045E+02	1.8266E-07	1.1111E+18	2.9408E+18
Ru-103	9.3404E+02	2.8941E-05	1.6921E+20	2.8613E+18
Ru-105	4.5837E+02	6.8189E-08	3.9109E+17	1.6429E+18
Ru-106	4.0801E+02	1.2195E-04	6.9286E+20	1.2491E+18
Rh-105	6.1183E+02	7.2487E-07	4.1574E+18	1.8787E+18
Sb-127	1.0144E+03	3.7986E-06	1.8012E+19	3.1286E+18
Sb-129	2.5975E+03	4.6191E-07	2.1564E+18	9.3516E+18
Te-127	1.0230E+03	3.8763E-07	1.8381E+18	3.1304E+18

Te-127m	1.7562E+02	1.8618E-05	8.8284E+19	5.3758E+17
Te-129	3.0205E+03	1.4423E-07	6.7330E+17	1.0027E+19
Te-129m	7.2254E+02	2.3985E-05	1.1197E+20	2.2120E+18
Te-131m	2.2249E+03	2.7901E-06	1.2826E+19	6.9694E+18
Te-132	1.6219E+04	5.3425E-05	2.4374E+20	5.0090E+19
I-131	7.9813E+04	6.4379E-04	2.9595E+21	2.2943E+20
I-132	1.0108E+05	9.7928E-06	4.4677E+19	3.2505E+20
I-133	1.5374E+05	1.3571E-04	6.1450E+20	4.5840E+20
I-134	2.9854E+04	1.1191E-06	5.0294E+18	2.4795E+20
I-135	1.2413E+05	3.5346E-05	1.5767E+20	4.0425E+20
Xe-133	9.4961E+07	5.0732E-01	2.2971E+24	1.6312E+22
Xe-135	3.3330E+07	1.3052E-02	5.8221E+22	5.8361E+21
Cs-134	1.1921E+04	9.2141E-03	4.1409E+22	4.8232E+19
Cs-136	3.2373E+03	4.4170E-05	1.9559E+20	1.3133E+19
Cs-137	9.4556E+03	1.0871E-01	4.7785E+23	3.8254E+19
Ba-139	2.6441E+03	1.6165E-07	7.0034E+17	1.3690E+19
Ba-140	8.4199E+03	1.1501E-04	4.9473E+20	2.5833E+19
La-140	1.6979E+02	3.0547E-07	1.3140E+18	3.0957E+17
La-141	5.1426E+01	9.0934E-09	3.8838E+16	1.8820E+17
La-142	2.6818E+01	1.8734E-09	7.9449E+15	1.3102E+17
Ce-141	1.9421E+02	6.8159E-06	2.9111E+19	5.9474E+17
Ce-143	1.7281E+02	2.6023E-07	1.0959E+18	5.4020E+17
Ce-144	1.6694E+02	5.2340E-05	2.1889E+20	5.1107E+17
Pr-143	7.0371E+01	1.0450E-06	4.4009E+18	2.1508E+17
Nd-147	3.1076E+01	3.8413E-07	1.5737E+18	9.5377E+16
Np-239	2.2250E+03	9.5910E-06	2.4167E+19	6.8948E+18
Pu-238	5.9880E-01	3.4977E-05	8.8503E+19	1.8330E+15
Pu-239	5.6587E-02	9.1040E-04	2.2940E+21	1.7320E+14
Pu-240	1.0364E-01	4.5483E-04	1.1413E+21	3.1726E+14
Pu-241	2.2887E+01	2.2217E-04	5.5517E+20	7.0059E+16
Am-241	1.5033E-02	4.3800E-06	1.0945E+19	4.6009E+13
Cm-242	3.8216E+00	1.1531E-06	2.8694E+18	1.1701E+16
Cm-244	2.2225E-01	2.7471E-06	6.7802E+18	6.8034E+14

## Sprayed Drywell Transport Group Inventory:

Time (h) =	2.3000	Atmosphere	Sump	
Noble gases (atoms)	1.7241E+25	0.0000E+00		
Elemental I (atoms)	1.3412E+20	5.5926E+22		
Organic I (atoms)	1.0201E+21	0.0000E+00		
Aerosols (kg)	1.2598E-01	5.2918E+01		
Dose Effective (Ci/cc)	I-131 (Thyroid)		4.0753E-05	
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		5.0328E-05	
Total I (Ci)			4.8862E+05	

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

		Pathway	
Time (h) =	2.3000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	7.4007E+21	
Elemental I (atoms)	0.0000E+00	1.4563E+18	
Organic I (atoms)	0.0000E+00	4.9073E+17	
Aerosols (kg)	0.0000E+00	1.3885E-03	

## Drywell to Intact Control Volume 2 Transport Group Inventory:

		Pathway	
Time (h) =	2.3000	Filtered	Transported

Noble gases (atoms)	0.0000E+00	7.4007E+21
Elemental I (atoms)	0.0000E+00	1.4563E+18
Organic I (atoms)	0.0000E+00	4.9073E+17
Aerosols (kg)	0.0000E+00	1.3885E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 2.3000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.6968E+21
Elemental I (atoms)	0.0000E+00	7.2703E+17
Organic I (atoms)	0.0000E+00	2.4511E+17
Aerosols (kg)	0.0000E+00	6.9320E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 2.3000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	7.0277E+27
Elemental I (atoms)	0.0000E+00	2.9355E+23
Organic I (atoms)	0.0000E+00	4.1630E+23
Aerosols (kg)	0.0000E+00	2.7429E+02

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 2.3000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.0599E+28
Elemental I (atoms)	0.0000E+00	6.5080E+23
Organic I (atoms)	0.0000E+00	1.6500E+24
Aerosols (kg)	0.0000E+00	5.5132E+02

Exclusion Area Boundary Doses:

Time (h) = 4.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	5.2207E+00	3.7281E+01	6.9668E+00
Accumulated dose (rem)	8.6408E+00	8.3182E+01	1.2538E+01

Low Population Zone Doses:

Time (h) = 4.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.5892E-01	1.1349E+00	2.1208E-01
Accumulated dose (rem)	3.8445E-01	4.3136E+00	5.8611E-01

Control Room Doses:

Time (h) = 4.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.0326E-01	5.3925E+00	3.5237E-01
Accumulated dose (rem)	1.4311E-01	1.1979E+01	6.7313E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 4.0000	Ci	kg	Atoms	Decay
Co-58	7.1617E-01	2.2523E-08	2.3385E+17	1.0522E+16
Co-60	8.5851E-01	7.5948E-07	7.6229E+18	1.2600E+16
Kr-85	8.2276E+05	2.0971E+00	1.4858E+25	3.2736E+20
Kr-85m	6.5977E+06	8.0171E-04	5.6800E+21	3.3560E+21

Kr-87	2.7757E+06	9.7991E-05	6.7829E+20	2.8703E+21
Kr-88	1.2850E+07	1.0248E-03	7.0129E+21	7.6020E+21
Rb-86	1.9427E+01	2.3876E-07	1.6719E+18	3.7530E+17
Sr-89	9.7089E+02	3.3419E-05	2.2613E+20	1.4271E+19
Sr-90	1.5306E+02	1.1221E-03	7.5082E+21	2.2464E+18
Sr-91	9.2199E+02	2.5434E-07	1.6832E+18	1.6416E+19
Sr-92	4.6971E+02	3.7369E-08	2.4461E+17	1.3659E+19
Y-90	5.2396E+00	9.6305E-09	6.4440E+16	2.5902E+16
Y-91	1.3018E+01	5.3082E-07	3.5128E+18	1.8476E+17
Y-92	2.3265E+02	2.4178E-08	1.5827E+17	4.4347E+17
Y-93	7.6033E+00	2.2789E-09	1.4757E+16	1.3382E+17
Zr-95	1.7887E+01	8.3261E-07	5.2780E+18	2.6283E+17
Zr-97	1.4786E+01	7.7344E-09	4.8018E+16	2.4185E+17
Nb-95	1.7919E+01	4.5824E-07	2.9048E+18	2.6299E+17
Mo-99	2.2522E+02	4.6958E-07	2.8564E+18	3.3983E+18
Tc-99m	2.0642E+02	3.9257E-08	2.3880E+17	3.0465E+18
Ru-103	2.0162E+02	6.2471E-06	3.6525E+19	2.9648E+18
Ru-105	7.5973E+01	1.1302E-08	6.4822E+16	1.6890E+18
Ru-106	8.8170E+01	2.6354E-05	1.4972E+20	1.2943E+18
Rh-105	1.3075E+02	1.5491E-07	8.8845E+17	1.9462E+18
Sb-127	2.1646E+02	8.1057E-07	3.8436E+18	3.2404E+18
Sb-129	4.2737E+02	7.5999E-08	3.5479E+17	9.6120E+18
Te-127	2.2057E+02	8.3576E-08	3.9630E+17	3.2433E+18
Te-127m	3.7956E+01	4.0239E-06	1.9081E+19	5.5704E+17
Te-129	5.4609E+02	2.6076E-08	1.2173E+17	1.0334E+19
Te-129m	1.5609E+02	5.1814E-06	2.4188E+19	2.2921E+18
Te-131m	4.6233E+02	5.7979E-07	2.6653E+18	7.2123E+18
Te-132	3.4530E+03	1.1374E-05	5.1890E+19	5.1877E+19
I-131	3.6121E+04	2.9135E-04	1.3394E+21	2.4106E+20
I-132	2.9664E+04	2.8738E-06	1.3111E+19	3.3734E+20
I-133	6.6141E+04	5.8386E-05	2.6437E+20	4.8032E+20
I-134	3.5444E+03	1.3287E-07	5.9712E+17	2.5056E+20
I-135	4.7287E+04	1.3465E-05	6.0065E+19	4.2106E+20
Xe-133	9.4024E+07	5.0232E-01	2.2744E+24	3.7708E+22
Xe-135	2.9269E+07	1.1461E-02	5.1127E+22	1.2914E+22
Cs-134	2.5764E+03	1.9913E-03	8.9491E+21	4.9553E+19
Cs-136	6.9704E+02	9.5106E-06	4.2113E+19	1.3491E+19
Cs-137	2.0436E+03	2.3494E-02	1.0328E+23	3.9302E+19
Ba-139	2.4305E+02	1.4859E-08	6.4378E+16	1.3908E+19
Ba-140	1.8128E+03	2.4761E-05	1.0651E+20	2.6765E+19
La-140	8.8056E+01	1.5842E-07	6.8146E+17	3.3760E+17
La-141	8.2352E+00	1.4562E-09	6.2194E+15	1.9331E+17
La-142	2.6989E+00	1.8853E-10	7.9956E+14	1.3330E+17
Ce-141	4.1925E+01	1.4714E-06	6.2843E+18	6.1625E+17
Ce-143	3.6039E+01	5.4270E-08	2.2854E+17	5.5910E+17
Ce-144	3.6073E+01	1.1310E-05	4.7299E+19	5.2957E+17
Pr-143	1.5287E+01	2.2701E-07	9.5601E+17	2.2289E+17
Nd-147	6.6863E+00	8.2650E-08	3.3859E+17	9.8815E+16
Np-239	4.7096E+02	2.0301E-06	5.1153E+18	7.1395E+18
Pu-238	1.2942E-01	7.5596E-06	1.9128E+19	1.8994E+15
Pu-239	1.2233E-02	1.9680E-04	4.9589E+20	1.7947E+14
Pu-240	2.2400E-02	9.8301E-05	2.4666E+20	3.2875E+14
Pu-241	4.9463E+00	4.8017E-05	1.1998E+20	7.2596E+16
Am-241	3.2505E-03	9.4708E-07	2.3666E+18	4.7675E+13
Cm-242	8.2570E-01	2.4913E-07	6.1996E+17	1.2124E+16
Cm-244	4.8034E-02	5.9372E-07	1.4654E+18	7.0497E+14

## Sprayed Drywell Transport Group Inventory:

Time (h) =	4.0000	Atmosphere	Sump	
Noble gases (atoms)	1.7196E+25	0.0000E+00		
Elemental I (atoms)	1.3085E+20	5.5926E+22		
Organic I (atoms)	9.9343E+20	0.0000E+00		
Aerosols (kg)	2.7223E-02	5.3084E+01		
Dose Effective (Ci/cc)	I-131 (Thyroid)			1.8096E-05
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)			2.1881E-05
Total I (Ci)				1.8276E+05

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

		Pathway	
Time (h) =	4.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.3853E+22	
Elemental I (atoms)	0.0000E+00	1.5063E+18	
Organic I (atoms)	0.0000E+00	8.6813E+17	
Aerosols (kg)	0.0000E+00	1.4130E-03	

## Drywell to Intact Control Volume 2 Transport Group Inventory:

		Pathway	
Time (h) =	4.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.3853E+22	
Elemental I (atoms)	0.0000E+00	1.5063E+18	
Organic I (atoms)	0.0000E+00	8.6813E+17	
Aerosols (kg)	0.0000E+00	1.4130E-03	

## Drywell to Intact Control Volume 4 Transport Group Inventory:

		Pathway	
Time (h) =	4.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	6.9322E+21	
Elemental I (atoms)	0.0000E+00	7.5210E+17	
Organic I (atoms)	0.0000E+00	4.3435E+17	
Aerosols (kg)	0.0000E+00	7.0545E-04	

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

		Pathway	
Time (h) =	4.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.5853E+28	
Elemental I (atoms)	0.0000E+00	5.9441E+23	
Organic I (atoms)	0.0000E+00	2.6872E+24	
Aerosols (kg)	0.0000E+00	4.2126E+02	

## Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

		Pathway	
Time (h) =	4.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	6.9424E+28	
Elemental I (atoms)	0.0000E+00	9.4725E+23	
Organic I (atoms)	0.0000E+00	3.9208E+24	
Aerosols (kg)	0.0000E+00	6.9463E+02	

## Exclusion Area Boundary Doses:

Time (h) =	8.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		1.1122E+01	5.9611E+01	1.3641E+01
Accumulated dose (rem)		1.9763E+01	1.4279E+02	2.6179E+01

## Low Population Zone Doses:

Time (h) =	8.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		3.3856E-01	1.8146E+00	4.1525E-01
Accumulated dose (rem)		7.2301E-01	6.1283E+00	1.0014E+00

## Control Room Doses:

Time (h) =	8.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		2.7846E-01	8.3661E+00	6.5074E-01
Accumulated dose (rem)		4.2157E-01	2.0345E+01	1.3239E+00

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =	8.0000	Ci	kg	Atoms	Decay
Co-58		7.1419E-01	2.2460E-08	2.3320E+17	1.0903E+16
Co-60		8.5747E-01	7.5857E-07	7.6137E+18	1.3058E+16
Kr-85		8.2167E+05	2.0943E+00	1.4838E+25	7.6543E+20
Kr-85m		3.5484E+06	4.3118E-04	3.0549E+21	5.9754E+21
Kr-87		3.1326E+05	1.1059E-05	7.6552E+19	3.4716E+21
Kr-88		4.8343E+06	3.8554E-04	2.6384E+21	1.1971E+22
Rb-86		1.9285E+01	2.3701E-07	1.6597E+18	3.8561E+17
Sr-89		9.6756E+02	3.3304E-05	2.2535E+20	1.4787E+19
Sr-90		1.5288E+02	1.1208E-03	7.4995E+21	2.3279E+18
Sr-91		6.8782E+02	1.8975E-07	1.2557E+18	1.6842E+19
Sr-92		1.6866E+02	1.3418E-08	8.7832E+16	1.3816E+19
Y-90		1.1497E+01	2.1132E-08	1.4140E+17	3.0329E+16
Y-91		1.3639E+01	5.5615E-07	3.6804E+18	1.9187E+17
Y-92		2.5694E+02	2.6703E-08	1.7479E+17	5.8336E+17
Y-93		5.7714E+00	1.7299E-09	1.1202E+16	1.3736E+17
Zr-95		1.7834E+01	8.3016E-07	5.2624E+18	2.7235E+17
Zr-97		1.2534E+01	6.5566E-09	4.0706E+16	2.4911E+17
Nb-95		1.7897E+01	4.5770E-07	2.9014E+18	2.7253E+17
Mo-99		2.1570E+02	4.4975E-07	2.7358E+18	3.5158E+18
Tc-99m		2.0193E+02	3.8403E-08	2.3361E+17	3.1547E+18
Ru-103		2.0080E+02	6.2216E-06	3.6376E+19	3.0720E+18
Ru-105		4.0641E+01	6.0460E-09	3.4676E+16	1.7191E+18
Ru-106		8.8041E+01	2.6316E-05	1.4951E+20	1.3412E+18
Rh-105		1.2499E+02	1.4809E-07	8.4934E+17	2.0145E+18
Sb-127		2.0982E+02	7.8570E-07	3.7257E+18	3.3540E+18
Sb-129		2.2469E+02	3.9956E-08	1.8653E+17	9.7800E+18
Te-127		2.1830E+02	8.2718E-08	3.9223E+17	3.3598E+18
Te-127m		3.7913E+01	4.0193E-06	1.9059E+19	5.7725E+17
Te-129		3.4595E+02	1.6519E-08	7.7117E+16	1.0562E+19
Te-129m		1.5561E+02	5.1656E-06	2.4114E+19	2.3751E+18
Te-131m		4.2103E+02	5.2800E-07	2.4273E+18	7.4475E+18
Te-132		3.3289E+03	1.0965E-05	5.0025E+19	5.3684E+19
I-131		3.5565E+04	2.8687E-04	1.3188E+21	2.6015E+20
I-132		1.1276E+04	1.0924E-06	4.9837E+18	3.4727E+20
I-133		5.7813E+04	5.1035E-05	2.3108E+20	5.1329E+20
I-134		1.4979E+02	5.6149E-09	2.5234E+16	2.5113E+20
I-135		3.1048E+04	8.8408E-06	3.9437E+19	4.4163E+20
Xe-133		9.1855E+07	4.9073E-01	2.2220E+24	8.7223E+22



Xe-135	2.1555E+07	8.4404E-03	3.7651E+22	2.6348E+22
Cs-134	2.5730E+03	1.9887E-03	8.9374E+21	5.0925E+19
Cs-136	6.9013E+02	9.4163E-06	4.1696E+19	1.3861E+19
Cs-137	2.0412E+03	2.3467E-02	1.0316E+23	4.0390E+19
Ba-139	3.2479E+01	1.9856E-09	8.6027E+15	1.3964E+19
Ba-140	1.7943E+03	2.4510E-05	1.0543E+20	2.7726E+19
La-140	2.0212E+02	3.6364E-07	1.5642E+18	4.1449E+17
La-141	4.0624E+00	7.1833E-10	3.0680E+15	1.9645E+17
La-142	4.4630E-01	3.1177E-11	1.3222E+14	1.3396E+17
Ce-141	4.1749E+01	1.4652E-06	6.2580E+18	6.3855E+17
Ce-143	3.3097E+01	4.9839E-08	2.0989E+17	5.7751E+17
Ce-144	3.6017E+01	1.1292E-05	4.7225E+19	5.4878E+17
Pr-143	1.5433E+01	2.2918E-07	9.6513E+17	2.3108E+17
Nd-147	6.6087E+00	8.1692E-08	3.3467E+17	1.0236E+17
Np-239	4.4791E+02	1.9307E-06	4.8648E+18	7.3843E+18
Pu-238	1.2927E-01	7.5510E-06	1.9106E+19	1.9683E+15
Pu-239	1.2225E-02	1.9668E-04	4.9557E+20	1.8599E+14
Pu-240	2.2374E-02	9.8188E-05	2.4638E+20	3.4068E+14
Pu-241	4.9406E+00	4.7961E-05	1.1984E+20	7.5230E+16
Am-241	3.2504E-03	9.4705E-07	2.3665E+18	4.9407E+13
Cm-242	8.2417E-01	2.4867E-07	6.1881E+17	1.2564E+16
Cm-244	4.7978E-02	5.9303E-07	1.4637E+18	7.3055E+14

## Sprayed Drywell Transport Group Inventory:

Time (h) =	8.0000	Atmosphere	Sump	
Noble gases (atoms)	1.7103E+25	0.0000E+00		
Elemental I (atoms)	1.2435E+20	5.5926E+22		
Organic I (atoms)	9.4409E+20	0.0000E+00		
Aerosols (kg)	2.7184E-02	5.3084E+01		
Dose Effective (Ci/cc)	I-131 (Thyroid)		1.7157E-05	
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		2.0077E-05	
Total I (Ci)			1.3585E+05	

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.8974E+22
Elemental I (atoms)	0.0000E+00	1.6187E+18
Organic I (atoms)	0.0000E+00	1.7217E+18
Aerosols (kg)	0.0000E+00	1.4370E-03

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.8974E+22
Elemental I (atoms)	0.0000E+00	1.6187E+18
Organic I (atoms)	0.0000E+00	1.7217E+18
Aerosols (kg)	0.0000E+00	1.4370E-03

## Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.4514E+22
Elemental I (atoms)	0.0000E+00	8.0848E+17

Organic I (atoms)	0.0000E+00	8.6238E+17
Aerosols (kg)	0.0000E+00	7.1748E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 8.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.3684E+29
Elemental I (atoms)	0.0000E+00	1.2709E+24
Organic I (atoms)	0.0000E+00	7.8235E+24
Aerosols (kg)	0.0000E+00	5.6563E+02

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 8.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.6041E+29
Elemental I (atoms)	0.0000E+00	1.6238E+24
Organic I (atoms)	0.0000E+00	9.0571E+24
Aerosols (kg)	0.0000E+00	8.3891E+02

Exclusion Area Boundary Doses:

Time (h) = 24.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.8180E+01	1.3978E+02	2.2940E+01
Accumulated dose (rem)	3.7943E+01	2.8257E+02	4.9119E+01

Low Population Zone Doses:

Time (h) = 24.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.5024E-01	1.3849E+00	3.9739E-01
Accumulated dose (rem)	1.0732E+00	7.5131E+00	1.3987E+00

Control Room Doses:

Time (h) = 24.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.7597E-01	8.4866E+00	5.8212E-01
Accumulated dose (rem)	6.9754E-01	2.8831E+01	1.9060E+00

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 24.0000	Ci	kg	Atoms	Decay
Co-58	7.0579E-01	2.2196E-08	2.3046E+17	1.2416E+16
Co-60	8.5273E-01	7.5438E-07	7.5716E+18	1.4880E+16
Kr-85	8.1726E+05	2.0831E+00	1.4758E+25	2.5117E+21
Kr-85m	2.9691E+05	3.6079E-05	2.5561E+20	8.7685E+21
Kr-87	5.0824E+01	1.7943E-09	1.2420E+16	3.5481E+21
Kr-88	9.6848E+04	7.7236E-06	5.2855E+19	1.4552E+22
Rb-86	1.8714E+01	2.2999E-07	1.6105E+18	4.2610E+17
Sr-89	9.5367E+02	3.2826E-05	2.2212E+20	1.6834E+19
Sr-90	1.5207E+02	1.1148E-03	7.4595E+21	2.6528E+18
Sr-91	2.1290E+02	5.8731E-08	3.8867E+17	1.7705E+19
Sr-92	2.8016E+00	2.2289E-10	1.4590E+15	1.3902E+19
Y-90	3.3909E+01	6.2326E-08	4.1704E+17	7.8135E+16
Y-91	1.4793E+01	6.0321E-07	3.9919E+18	2.2238E+17
Y-92	2.6850E+01	2.7904E-09	1.8265E+16	8.2571E+17
Y-93	1.9147E+00	5.7390E-10	3.7162E+15	1.4481E+17

Zr-95	1.7612E+01	8.1982E-07	5.1969E+18	3.1011E+17
Zr-97	6.4683E+00	3.3836E-09	2.1006E+16	2.6865E+17
Nb-95	1.7799E+01	4.5517E-07	2.8854E+18	3.1055E+17
Mo-99	1.8138E+02	3.7817E-07	2.3004E+18	3.9378E+18
Tc-99m	1.8177E+02	3.4568E-08	2.1027E+17	3.5483E+18
Ru-103	1.9740E+02	6.1163E-06	3.5761E+19	3.4963E+18
Ru-105	3.3256E+00	4.9473E-10	2.8375E+15	1.7508E+18
Ru-106	8.7465E+01	2.6144E-05	1.4853E+20	1.5282E+18
Rh-105	9.4644E+01	1.1213E-07	6.4311E+17	2.2485E+18
Sb-127	1.8511E+02	6.9315E-07	3.2868E+18	3.7742E+18
Sb-129	1.7153E+01	3.0503E-09	1.4240E+16	9.9519E+18
Te-127	2.0691E+02	7.8401E-08	3.7177E+17	3.8018E+18
Te-127m	3.7702E+01	3.9970E-06	1.8953E+19	6.5782E+17
Te-129	1.5631E+02	7.4641E-09	3.4845E+16	1.0950E+19
Te-129m	1.5292E+02	5.0760E-06	2.3697E+19	2.7039E+18
Te-131m	2.8938E+02	3.6290E-07	1.6683E+18	8.1957E+18
Te-132	2.8735E+03	9.4649E-06	4.3181E+19	6.0281E+19
I-131	3.3416E+04	2.6954E-04	1.2391E+21	3.3363E+20
I-132	3.4758E+03	3.3673E-07	1.5363E+18	3.5730E+20
I-133	3.3741E+04	2.9786E-05	1.3487E+20	6.0855E+20
I-134	4.7763E-04	1.7904E-14	8.0464E+10	2.5116E+20
I-135	5.7684E+03	1.6426E-06	7.3272E+18	4.7363E+20
Xe-133	8.3668E+07	4.4699E-01	2.0239E+24	2.7410E+23
Xe-135	6.3373E+06	2.4816E-03	1.1070E+22	5.2839E+22
Cs-134	2.5578E+03	1.9770E-03	8.8847E+21	5.6392E+19
Cs-136	6.6269E+02	9.0419E-06	4.0038E+19	1.5302E+19
Cs-137	2.0303E+03	2.3342E-02	1.0261E+23	4.4728E+19
Ba-139	1.0348E-02	6.3266E-13	2.7410E+12	1.3973E+19
Ba-140	1.7213E+03	2.3512E-05	1.0114E+20	3.1471E+19
La-140	5.7698E+02	1.0381E-06	4.4652E+18	1.2426E+18
La-141	2.4039E-01	4.2506E-11	1.8155E+14	1.9934E+17
La-142	3.3352E-04	2.3299E-14	9.8808E+10	1.3409E+17
Ce-141	4.0961E+01	1.4376E-06	6.1398E+18	7.2668E+17
Ce-143	2.3525E+01	3.5425E-08	1.4919E+17	6.3726E+17
Ce-144	3.5768E+01	1.1214E-05	4.6899E+19	6.2526E+17
Pr-143	1.5773E+01	2.3424E-07	9.8644E+17	2.6434E+17
Nd-147	6.3029E+00	7.7911E-08	3.1918E+17	1.1611E+17
Np-239	3.6616E+02	1.5783E-06	3.9769E+18	8.2487E+18
Pu-238	1.2860E-01	7.5117E-06	1.9007E+19	2.2430E+15
Pu-239	1.2181E-02	1.9598E-04	4.9381E+20	2.1199E+14
Pu-240	2.2256E-02	9.7669E-05	2.4507E+20	3.8823E+14
Pu-241	4.9140E+00	4.7703E-05	1.1920E+20	8.5730E+16
Am-241	3.2476E-03	9.4622E-07	2.3644E+18	5.6330E+13
Cm-242	8.1748E-01	2.4665E-07	6.1379E+17	1.4313E+16
Cm-244	4.7721E-02	5.8985E-07	1.4558E+18	8.3252E+14

## Sprayed Drywell Transport Group Inventory:

Time (h) =	24.0000	Atmosphere	Sump	
Noble gases (atoms)	1.6794E+25	0.0000E+00		
Elemental I (atoms)	1.0785E+20	5.5926E+22		
Organic I (atoms)	8.1886E+20	0.0000E+00		
Aerosols (kg)	2.7020E-02	5.3084E+01		
Dose Effective (Ci/cc)	I-131 (Thyroid)		1.4579E-05	
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		1.6000E-05	
Total I (Ci)			7.6402E+04	

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
	Filtered	Transported
Time (h) = 24.0000		
Noble gases (atoms)	0.0000E+00	8.8745E+22
Elemental I (atoms)	0.0000E+00	2.0266E+18
Organic I (atoms)	0.0000E+00	4.8184E+18
Aerosols (kg)	0.0000E+00	1.5325E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
	Filtered	Transported
Time (h) = 24.0000		
Noble gases (atoms)	0.0000E+00	8.8745E+22
Elemental I (atoms)	0.0000E+00	2.0266E+18
Organic I (atoms)	0.0000E+00	4.8184E+18
Aerosols (kg)	0.0000E+00	1.5325E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
	Filtered	Transported
Time (h) = 24.0000		
Noble gases (atoms)	0.0000E+00	4.4485E+22
Elemental I (atoms)	0.0000E+00	1.0130E+18
Organic I (atoms)	0.0000E+00	2.4151E+18
Aerosols (kg)	0.0000E+00	7.6541E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
	Filtered	Transported
Time (h) = 24.0000		
Noble gases (atoms)	0.0000E+00	4.9649E+29
Elemental I (atoms)	0.0000E+00	3.7252E+24
Organic I (atoms)	0.0000E+00	2.6457E+25
Aerosols (kg)	0.0000E+00	1.1408E+03

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
	Filtered	Transported
Time (h) = 24.0000		
Noble gases (atoms)	0.0000E+00	5.2006E+29
Elemental I (atoms)	0.0000E+00	4.0780E+24
Organic I (atoms)	0.0000E+00	2.7690E+25
Aerosols (kg)	0.0000E+00	1.4140E+03

Exclusion Area Boundary Doses:

	Whole Body	Thyroid	TEDE
Time (h) = 48.0000			
Delta dose (rem)	5.3990E+00	8.2540E+01	8.0678E+00
Accumulated dose (rem)	4.3342E+01	3.6511E+02	5.7186E+01

Low Population Zone Doses:

	Whole Body	Thyroid	TEDE
Time (h) = 48.0000			
Delta dose (rem)	3.9539E-02	3.9723E-01	5.2383E-02
Accumulated dose (rem)	1.1128E+00	7.9103E+00	1.4511E+00

Control Room Doses:

Time (h) = 48.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.2751E-02	1.8268E+00	9.1843E-02
Accumulated dose (rem)	7.3029E-01	3.0658E+01	1.9978E+00

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 48.0000	Ci	kg	Atoms	Decay
Co-58	6.9613E-01	2.1892E-08	2.2731E+17	1.4657E+16
Co-60	8.4904E-01	7.5111E-07	7.5388E+18	1.7600E+16
Kr-85	8.1387E+05	2.0744E+00	1.4697E+25	5.1187E+21
Kr-85m	7.2150E+03	8.7672E-07	6.2114E+18	9.0176E+21
Kr-87	1.0545E-04	3.7227E-15	2.5769E+10	3.5481E+21
Kr-88	2.7571E+02	2.1987E-08	1.5047E+17	1.4605E+22
Rb-86	1.7960E+01	2.2073E-07	1.5456E+18	4.8470E+17
Sr-89	9.3693E+02	3.2250E-05	2.1822E+20	1.9856E+19
Sr-90	1.5145E+02	1.1103E-03	7.4294E+21	3.1380E+18
Sr-91	3.6809E+01	1.0154E-08	6.7197E+16	1.8025E+19
Sr-92	6.0218E-03	4.7908E-13	3.1360E+12	1.3903E+19
Y-90	6.0900E+01	1.1194E-07	7.4899E+17	2.2897E+17
Y-91	1.5055E+01	6.1389E-07	4.0626E+18	2.7028E+17
Y-92	3.1336E-01	3.2565E-11	2.1317E+14	8.4519E+17
Y-93	3.6733E-01	1.1010E-10	7.1294E+14	1.4781E+17
Zr-95	1.7353E+01	8.0777E-07	5.1205E+18	3.6600E+17
Zr-97	2.4075E+00	1.2593E-09	7.8185E+15	2.8179E+17
Nb-95	1.7719E+01	4.5314E-07	2.8725E+18	3.6729E+17
Mo-99	1.4041E+02	2.9275E-07	1.7808E+18	4.4493E+18
Tc-99m	1.4369E+02	2.7326E-08	1.6622E+17	4.0417E+18
Ru-103	1.9317E+02	5.9855E-06	3.4995E+19	4.1205E+18
Ru-105	7.8154E-02	1.1627E-11	6.6682E+13	1.7536E+18
Ru-106	8.6954E+01	2.5991E-05	1.4766E+20	1.8070E+18
Rh-105	5.9179E+01	7.0113E-08	4.0213E+17	2.4902E+18
Sb-127	1.5399E+02	5.7665E-07	2.7344E+18	4.3147E+18
Sb-129	3.6327E-01	6.4600E-11	3.0157E+14	9.9658E+18
Te-127	1.8281E+02	6.9270E-08	3.2847E+17	4.4047E+18
Te-127m	3.7507E+01	3.9763E-06	1.8855E+19	7.7802E+17
Te-129	1.2954E+02	6.1857E-09	2.8877E+16	1.1280E+19
Te-129m	1.4922E+02	4.9533E-06	2.3124E+19	3.1868E+18
Te-131m	1.6554E+02	2.0760E-07	9.5436E+17	8.9044E+18
Te-132	2.3136E+03	7.6207E-06	3.4767E+19	6.8539E+19
I-131	3.0548E+04	2.4641E-04	1.1328E+21	4.3579E+20
I-132	2.7616E+03	2.6754E-07	1.2206E+18	3.6587E+20
I-133	1.5104E+04	1.3333E-05	6.0372E+19	6.8267E+20
I-135	4.6380E+02	1.3207E-07	5.8913E+17	4.8036E+20
Xe-133	7.3022E+07	3.9011E-01	1.7664E+24	5.2415E+23
Xe-135	1.0135E+06	3.9688E-04	1.7704E+21	6.2123E+22
Cs-134	2.5453E+03	1.9673E-03	8.8412E+21	6.4548E+19
Cs-136	6.2604E+02	8.5418E-06	3.7823E+19	1.7361E+19
Cs-137	2.0221E+03	2.3248E-02	1.0219E+23	5.1205E+19
Ba-139	5.9089E-08	3.6125E-18	1.5651E+07	1.3973E+19
Ba-140	1.6236E+03	2.2178E-05	9.5400E+19	3.6815E+19
La-140	9.4867E+02	1.7068E-06	7.3417E+18	3.6869E+18
La-141	3.4740E-03	6.1429E-13	2.6236E+12	1.9951E+17
La-142	6.8405E-09	4.7786E-19	2.0266E+06	1.3409E+17
Ce-141	3.9938E+01	1.4017E-06	5.9865E+18	8.5597E+17
Ce-143	1.4154E+01	2.1313E-08	8.9757E+16	6.9622E+17
Ce-144	3.5539E+01	1.1143E-05	4.6599E+19	7.3923E+17

Pr-143	1.5844E+01	2.3529E-07	9.9085E+17	3.1494E+17
Nd-147	5.8937E+00	7.2854E-08	2.9846E+17	1.3560E+17
Np-239	2.7171E+02	1.1712E-06	2.9511E+18	9.2607E+18
Pu-238	1.2810E-01	7.4827E-06	1.8934E+19	2.6533E+15
Pu-239	1.2158E-02	1.9560E-04	4.9285E+20	2.5089E+14
Pu-240	2.2167E-02	9.7281E-05	2.4410E+20	4.5923E+14
Pu-241	4.8938E+00	4.7507E-05	1.1871E+20	1.0141E+17
Am-241	3.2562E-03	9.4872E-07	2.3707E+18	6.6723E+13
Cm-242	8.1077E-01	2.4463E-07	6.0876E+17	1.6915E+16
Cm-244	4.7526E-02	5.8745E-07	1.4499E+18	9.8475E+14

## Sprayed Drywell Transport Group Inventory:

Time (h) = 48.0000	Atmosphere	Sump	
Noble gases (atoms)	1.6465E+25	0.0000E+00	
Elemental I (atoms)	9.3200E+19	5.5926E+22	
Organic I (atoms)	7.0760E+20	0.0000E+00	
Aerosols (kg)	2.6892E-02	5.3084E+01	
Dose Effective (Ci/cc)	I-131 (Thyroid)		1.2301E-05
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		1.2908E-05
Total I (Ci)			4.8878E+04

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 48.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.3286E+23
Elemental I (atoms)	0.0000E+00	2.2926E+18
Organic I (atoms)	0.0000E+00	6.8380E+18
Aerosols (kg)	0.0000E+00	1.6040E-03

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 48.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.3286E+23
Elemental I (atoms)	0.0000E+00	2.2926E+18
Organic I (atoms)	0.0000E+00	6.8380E+18
Aerosols (kg)	0.0000E+00	1.6040E-03

## Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 48.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	6.6417E+22
Elemental I (atoms)	0.0000E+00	1.1452E+18
Organic I (atoms)	0.0000E+00	3.4192E+18
Aerosols (kg)	0.0000E+00	8.0096E-04

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 48.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.0259E+30
Elemental I (atoms)	0.0000E+00	6.9172E+24
Organic I (atoms)	0.0000E+00	5.0692E+25
Aerosols (kg)	0.0000E+00	1.9988E+03

## Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 48.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.0494E+30
Elemental I (atoms)	0.0000E+00	7.2700E+24
Organic I (atoms)	0.0000E+00	5.1925E+25
Aerosols (kg)	0.0000E+00	2.2721E+03

## Exclusion Area Boundary Doses:

Time (h) = 72.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.7846E+00	6.9228E+01	6.0325E+00
Accumulated dose (rem)	4.7126E+01	4.3434E+02	6.3219E+01

## Low Population Zone Doses:

Time (h) = 72.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.7717E-02	3.3317E-01	3.8535E-02
Accumulated dose (rem)	1.1405E+00	8.2435E+00	1.4897E+00

## Control Room Doses:

Time (h) = 72.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.9772E-02	1.3488E+00	6.3561E-02
Accumulated dose (rem)	7.5006E-01	3.2007E+01	2.0614E+00

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 72.0000	Ci	kg	Atoms	Decay
Co-58	6.8661E-01	2.1593E-08	2.2420E+17	1.6867E+16
Co-60	8.4536E-01	7.4785E-07	7.5061E+18	2.0308E+16
Kr-85	8.1049E+05	2.0658E+00	1.4636E+25	7.7148E+21
Kr-85m	1.7533E+02	2.1304E-08	1.5094E+17	9.0236E+21
Kr-87	2.1878E-10	7.7238E-21	5.3464E+04	3.5481E+21
Kr-88	7.8487E-01	6.2593E-11	4.2835E+14	1.4605E+22
Rb-86	1.7236E+01	2.1183E-07	1.4834E+18	5.4095E+17
Sr-89	9.2049E+02	3.1684E-05	2.1439E+20	2.2824E+19
Sr-90	1.5084E+02	1.1058E-03	7.3994E+21	3.6211E+18
Sr-91	6.3639E+00	1.7556E-09	1.1618E+16	1.8081E+19
Sr-92	1.2943E-05	1.0297E-15	6.7405E+09	1.3903E+19
Y-90	8.1489E+01	1.4978E-07	1.0022E+18	4.5541E+17
Y-91	1.4904E+01	6.0774E-07	4.0218E+18	3.1819E+17
Y-92	2.9911E-03	3.1085E-13	2.0347E+12	8.4541E+17
Y-93	7.0470E-02	2.1122E-11	1.3677E+14	1.4838E+17
Zr-95	1.7098E+01	7.9589E-07	5.0452E+18	4.2106E+17
Zr-97	8.9605E-01	4.6873E-10	2.9100E+15	2.8667E+17
Nb-95	1.7637E+01	4.5103E-07	2.8591E+18	4.2378E+17
Mo-99	1.0869E+02	2.2662E-07	1.3785E+18	4.8452E+18
Tc-99m	1.1142E+02	2.1189E-08	1.2889E+17	4.4269E+18
Ru-103	1.8904E+02	5.8574E-06	3.4247E+19	4.7313E+18
Ru-105	1.8367E-03	2.7323E-13	1.5671E+12	1.7537E+18
Ru-106	8.6445E+01	2.5839E-05	1.4680E+20	2.0841E+18
Rh-105	3.6830E+01	4.3635E-08	2.5026E+17	2.6408E+18
Sb-127	1.2811E+02	4.7972E-07	2.2748E+18	4.7643E+18
Sb-129	7.6932E-03	1.3681E-12	6.3866E+12	9.9661E+18
Te-127	1.5903E+02	6.0258E-08	2.8573E+17	4.9320E+18

Te-127m	3.7281E+01	3.9524E-06	1.8742E+19	8.9754E+17
Te-129	1.2591E+02	6.0120E-09	2.8066E+16	1.1587E+19
Te-129m	1.4559E+02	4.8329E-06	2.2561E+19	3.6580E+18
Te-131m	9.4701E+01	1.1876E-07	5.4595E+17	9.3099E+18
Te-132	1.8628E+03	6.1359E-06	2.7993E+19	7.5188E+19
I-131	2.7922E+04	2.2522E-04	1.0354E+21	5.2918E+20
I-132	2.2235E+03	2.1541E-07	9.8274E+17	3.7275E+20
I-133	6.7611E+03	5.9684E-06	2.7025E+19	7.1584E+20
I-135	3.7291E+01	1.0619E-08	4.7368E+16	4.8090E+20
Xe-133	6.3729E+07	3.4046E-01	1.5416E+24	7.4238E+23
Xe-135	1.6201E+05	6.3441E-05	2.8300E+20	6.3608E+22
Cs-134	2.5329E+03	1.9577E-03	8.7980E+21	7.2664E+19
Cs-136	5.9141E+02	8.0694E-06	3.5732E+19	1.9307E+19
Cs-137	2.0140E+03	2.3154E-02	1.0178E+23	5.7656E+19
Ba-140	1.5315E+03	2.0920E-05	8.9989E+19	4.1857E+19
La-140	1.1614E+03	2.0894E-06	8.9878E+18	7.0495E+18
La-141	5.0206E-05	8.8775E-15	3.7916E+10	1.9952E+17
Ce-141	3.8940E+01	1.3666E-06	5.8369E+18	9.8203E+17
Ce-143	8.5156E+00	1.2823E-08	5.4001E+16	7.3169E+17
Ce-144	3.5312E+01	1.1071E-05	4.6301E+19	8.5247E+17
Pr-143	1.5546E+01	2.3086E-07	9.7221E+17	3.6514E+17
Nd-147	5.5112E+00	6.8125E-08	2.7909E+17	1.5382E+17
Np-239	2.0163E+02	8.6913E-07	2.1900E+18	1.0012E+19
Pu-238	1.2761E-01	7.4538E-06	1.8860E+19	3.0620E+15
Pu-239	1.2128E-02	1.9512E-04	4.9165E+20	2.8971E+14
Pu-240	2.2079E-02	9.6894E-05	2.4313E+20	5.2994E+14
Pu-241	4.8737E+00	4.7312E-05	1.1822E+20	1.1702E+17
Am-241	3.2646E-03	9.5118E-07	2.3768E+18	7.7144E+13
Cm-242	8.0412E-01	2.4262E-07	6.0376E+17	1.9496E+16
Cm-244	4.7332E-02	5.8505E-07	1.4440E+18	1.1364E+15

## Sprayed Drywell Transport Group Inventory:

Time (h) =	72.0000	Atmosphere	Sump	
Noble gases (atoms)	1.6178E+25	0.0000E+00		
Elemental I (atoms)	8.2942E+19	5.5926E+22		
Organic I (atoms)	6.2972E+20	0.0000E+00		
Aerosols (kg)	2.6769E-02	5.3084E+01		
Dose Effective (Ci/cc)	I-131 (Thyroid)		1.0803E-05	
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		1.1082E-05	
Total I (Ci)			3.6944E+04	

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.7616E+23
Elemental I (atoms)	0.0000E+00	2.5261E+18
Organic I (atoms)	0.0000E+00	8.6111E+18
Aerosols (kg)	0.0000E+00	1.6752E-03

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.7616E+23
Elemental I (atoms)	0.0000E+00	2.5261E+18
Organic I (atoms)	0.0000E+00	8.6111E+18



Aerosols (kg) 0.0000E+00 1.6752E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 72.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	8.7943E+22
Elemental I (atoms)	0.0000E+00	1.2613E+18
Organic I (atoms)	0.0000E+00	4.3006E+18
Aerosols (kg)	0.0000E+00	8.3634E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 72.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.5455E+30
Elemental I (atoms)	0.0000E+00	9.7197E+24
Organic I (atoms)	0.0000E+00	7.1969E+25
Aerosols (kg)	0.0000E+00	2.8529E+03

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 72.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.5690E+30
Elemental I (atoms)	0.0000E+00	1.0073E+25
Organic I (atoms)	0.0000E+00	7.3202E+25
Aerosols (kg)	0.0000E+00	3.1262E+03

Exclusion Area Boundary Doses:

Time (h) = 96.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.1632E+00	5.9862E+01	5.1200E+00
Accumulated dose (rem)	5.0290E+01	4.9420E+02	6.8339E+01

Low Population Zone Doses:

Time (h) = 96.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.3166E-02	2.8809E-01	3.2583E-02
Accumulated dose (rem)	1.1637E+00	8.5316E+00	1.5222E+00

Control Room Doses:

Time (h) = 96.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.6536E-02	1.1662E+00	5.4650E-02
Accumulated dose (rem)	7.6660E-01	3.3173E+01	2.1160E+00

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 96.0000	Ci	kg	Atoms	Decay
Co-58	6.7722E-01	2.1298E-08	2.2113E+17	1.9047E+16
Co-60	8.4170E-01	7.4461E-07	7.4736E+18	2.3004E+16
Kr-85	8.0713E+05	2.0572E+00	1.4575E+25	1.0300E+22
Kr-85m	4.2604E+00	5.1770E-10	3.6679E+15	9.0238E+21
Kr-88	2.2344E-03	1.7819E-13	1.2194E+12	1.4605E+22
Rb-86	1.6542E+01	2.0330E-07	1.4236E+18	5.9493E+17
Sr-89	9.0433E+02	3.1128E-05	2.1062E+20	2.5741E+19

Sr-90	1.5023E+02	1.1014E-03	7.3695E+21	4.1023E+18
Sr-91	1.1003E+00	3.0352E-10	2.0086E+15	1.8090E+19
Sr-92	2.7821E-08	2.2134E-18	1.4488E+07	1.3903E+19
Y-90	9.7162E+01	1.7859E-07	1.1950E+18	7.3948E+17
Y-91	1.4685E+01	5.9879E-07	3.9627E+18	3.6549E+17
Y-92	2.7438E-05	2.8515E-15	1.8666E+10	8.4541E+17
Y-93	1.3519E-02	4.0522E-12	2.6240E+13	1.4849E+17
Zr-95	1.6846E+01	7.8418E-07	4.9710E+18	4.7531E+17
Zr-97	3.3351E-01	1.7446E-10	1.0831E+15	2.8849E+17
Nb-95	1.7551E+01	4.4884E-07	2.8452E+18	4.8000E+17
Mo-99	8.4138E+01	1.7543E-07	1.0671E+18	5.1518E+18
Tc-99m	8.6261E+01	1.6405E-08	9.9791E+16	4.7253E+18
Ru-103	1.8500E+02	5.7321E-06	3.3514E+19	5.3291E+18
Ru-105	4.3163E-05	6.4211E-15	3.6828E+10	1.7537E+18
Ru-106	8.5940E+01	2.5688E-05	1.4594E+20	2.3597E+18
Rh-105	2.2917E+01	2.7151E-08	1.5572E+17	2.7345E+18
Sb-127	1.0658E+02	3.9909E-07	1.8924E+18	5.1383E+18
Sb-129	1.6293E-04	2.8973E-14	1.3526E+11	9.9661E+18
Te-127	1.3856E+02	5.2503E-08	2.4896E+17	5.3908E+18
Te-127m	3.7031E+01	3.9259E-06	1.8616E+19	1.0163E+18
Te-129	1.2283E+02	5.8654E-09	2.7381E+16	1.1887E+19
Te-129m	1.4205E+02	4.7154E-06	2.2013E+19	4.1177E+18
Te-131m	5.4176E+01	6.7940E-08	3.1232E+17	9.5418E+18
Te-132	1.4999E+03	4.9404E-06	2.2539E+19	8.0541E+19
I-131	2.5518E+04	2.0584E-04	9.4624E+20	6.1454E+20
I-132	1.7902E+03	1.7344E-07	7.9126E+17	3.7829E+20
I-133	3.0265E+03	2.6717E-06	1.2097E+19	7.3070E+20
I-135	2.9983E+00	8.5376E-10	3.8085E+15	4.8094E+20
Xe-133	5.5618E+07	2.9713E-01	1.3454E+24	9.3283E+23
Xe-135	2.5890E+04	1.0138E-05	4.5224E+19	6.3845E+22
Cs-134	2.5205E+03	1.9481E-03	8.7550E+21	8.0741E+19
Cs-136	5.5870E+02	7.6231E-06	3.3755E+19	2.1144E+19
Cs-137	2.0058E+03	2.3061E-02	1.0137E+23	6.4080E+19
Ba-140	1.4447E+03	1.9734E-05	8.4885E+19	4.6612E+19
La-140	1.2711E+03	2.2869E-06	9.8371E+18	1.0918E+19
La-141	7.2556E-07	1.2830E-16	5.4795E+08	1.9952E+17
Ce-141	3.7967E+01	1.3325E-06	5.6911E+18	1.1049E+18
Ce-143	5.1233E+00	7.7149E-09	3.2490E+16	7.5303E+17
Ce-144	3.5086E+01	1.1000E-05	4.6005E+19	9.6498E+17
Pr-143	1.5044E+01	2.2341E-07	9.4083E+17	4.1405E+17
Nd-147	5.1535E+00	6.3703E-08	2.6097E+17	1.7086E+17
Np-239	1.4962E+02	6.4495E-07	1.6251E+18	1.0569E+19
Pu-238	1.2711E-01	7.4250E-06	1.8788E+19	3.4691E+15
Pu-239	1.2093E-02	1.9456E-04	4.9025E+20	3.2842E+14
Pu-240	2.1991E-02	9.6509E-05	2.4216E+20	6.0038E+14
Pu-241	4.8537E+00	4.7118E-05	1.1774E+20	1.3256E+17
Am-241	3.2729E-03	9.5360E-07	2.3829E+18	8.7591E+13
Cm-242	7.9752E-01	2.4063E-07	5.9881E+17	2.2056E+16
Cm-244	4.7139E-02	5.8266E-07	1.4381E+18	1.2873E+15

## Sprayed Drywell Transport Group Inventory:

Time (h) =	96.0000	Atmosphere	Sump	
Noble gases (atoms)	1.5921E+25	0.0000E+00		
Elemental I (atoms)	7.4808E+19	5.5926E+22		
Organic I (atoms)	5.6796E+20	0.0000E+00		
Aerosols (kg)	2.6649E-02	5.3084E+01		
Dose Effective (Ci/cc)	I-131 (Thyroid)			9.6773E-06

Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid) 9.8109E-06  
 Total I (Ci) 3.0338E+04

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.1874E+23
Elemental I (atoms)	0.0000E+00	2.7354E+18
Organic I (atoms)	0.0000E+00	1.0200E+19
Aerosols (kg)	0.0000E+00	1.7461E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.1874E+23
Elemental I (atoms)	0.0000E+00	2.7354E+18
Organic I (atoms)	0.0000E+00	1.0200E+19
Aerosols (kg)	0.0000E+00	1.7461E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.0911E+23
Elemental I (atoms)	0.0000E+00	1.3654E+18
Organic I (atoms)	0.0000E+00	5.0907E+18
Aerosols (kg)	0.0000E+00	8.7156E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.0564E+30
Elemental I (atoms)	0.0000E+00	1.2231E+25
Organic I (atoms)	0.0000E+00	9.1039E+25
Aerosols (kg)	0.0000E+00	3.7031E+03

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.0800E+30
Elemental I (atoms)	0.0000E+00	1.2584E+25
Organic I (atoms)	0.0000E+00	9.2273E+25
Aerosols (kg)	0.0000E+00	3.9764E+03

Exclusion Area Boundary Doses:

Time (h) = 240.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.1997E+01	2.5463E+02	2.0515E+01
Accumulated dose (rem)	6.2287E+01	7.4883E+02	8.8853E+01

Low Population Zone Doses:

Time (h) = 240.0000	Whole Body	Thyroid	TEDE
---------------------	------------	---------	------

Delta dose (rem)	2.2230E-02	3.1005E-01	3.2601E-02
Accumulated dose (rem)	1.1859E+00	8.8417E+00	1.5549E+00

## Control Room Doses:

Time (h) = 240.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.5127E-02	1.9823E+00	9.1419E-02
Accumulated dose (rem)	7.9173E-01	3.5156E+01	2.2075E+00

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 240.0000	Ci	kg	Atoms	Decay
Co-58	6.2351E-01	1.9608E-08	2.0359E+17	3.1513E+16
Co-60	8.2005E-01	7.2546E-07	7.2814E+18	3.8939E+16
Kr-85	7.8723E+05	2.0065E+00	1.4216E+25	2.5589E+22
Kr-85m	8.7723E-10	1.0660E-19	7.5521E+05	9.0238E+21
Rb-86	1.2924E+01	1.5884E-07	1.1123E+18	8.7607E+17
Sr-89	8.1317E+02	2.7990E-05	1.8939E+20	4.2196E+19
Sr-90	1.4663E+02	1.0749E-03	7.1926E+21	6.9489E+18
Sr-91	2.9386E-05	8.1064E-15	5.3646E+10	1.8092E+19
Y-90	1.3639E+02	2.5069E-07	1.6774E+18	3.0678E+18
Y-91	1.3357E+01	5.4466E-07	3.6044E+18	6.3422E+17
Y-93	6.7401E-07	2.0202E-16	1.3082E+09	1.4852E+17
Zr-95	1.5413E+01	7.1748E-07	4.5481E+18	7.8447E+17
Zr-97	8.8662E-04	4.6379E-13	2.8794E+12	2.8957E+17
Nb-95	1.6983E+01	4.3432E-07	2.7532E+18	8.1118E+17
Mo-99	1.8106E+01	3.7751E-08	2.2964E+17	5.9761E+18
Tc-99m	1.8563E+01	3.5303E-09	2.1475E+16	5.5278E+18
Ru-103	1.6248E+02	5.0344E-06	2.9435E+19	8.6566E+18
Ru-106	8.2968E+01	2.4799E-05	1.4089E+20	3.9792E+18
Rh-105	1.3300E+00	1.5758E-09	9.0376E+15	2.8800E+18
Sb-127	3.5331E+01	1.3230E-07	6.2734E+17	6.3759E+18
Te-127	6.9367E+01	2.6284E-08	1.2464E+17	7.2054E+18
Te-127m	3.5230E+01	3.7350E-06	1.7711E+19	1.7098E+18
Te-129	1.0597E+02	5.0601E-09	2.3622E+16	1.3536E+19
Te-129m	1.2255E+02	4.0680E-06	1.8991E+19	6.6505E+18
Te-131m	1.8988E+00	2.3812E-09	1.0947E+16	9.8411E+18
Te-132	4.0865E+02	1.3460E-06	6.1409E+18	9.6637E+19
I-131	1.4858E+04	1.1984E-04	5.5093E+20	9.9258E+20
I-132	4.8776E+02	4.7254E-08	2.1558E+17	3.9495E+20
I-133	2.4351E+01	2.1496E-08	9.7332E+16	7.4264E+20
I-135	8.1004E-07	2.3066E-16	1.0289E+09	4.8095E+20
Xe-133	2.4574E+07	1.3129E-01	5.9445E+23	1.6618E+24
Xe-135	4.3060E-01	1.6862E-10	7.5217E+14	6.3890E+22
Cs-134	2.4474E+03	1.8916E-03	8.5012E+21	1.2838E+20
Cs-136	3.9712E+02	5.4185E-06	2.3993E+19	3.0222E+19
Cs-137	1.9577E+03	2.2507E-02	9.8936E+22	1.0209E+20
Ba-140	1.0177E+03	1.3901E-05	5.9797E+19	6.9987E+19
La-140	1.1489E+03	2.0669E-06	8.8910E+18	3.5005E+19
Ce-141	3.2618E+01	1.1447E-06	4.8892E+18	1.7805E+18
Ce-143	2.4299E-01	3.6590E-10	1.5409E+15	7.8373E+17
Ce-144	3.3760E+01	1.0585E-05	4.4266E+19	1.6251E+18
Pr-143	1.1197E+01	1.6628E-07	7.0027E+17	6.6568E+17
Nd-147	3.4453E+00	4.2588E-08	1.7447E+17	2.5222E+17
Np-239	2.4984E+01	1.0769E-07	2.7136E+17	1.1904E+19
Pu-238	1.2420E-01	7.2546E-06	1.8356E+19	5.8790E+15
Pu-239	1.1840E-02	1.9049E-04	4.7999E+20	5.5801E+14

Pu-240	2.1472E-02	9.4230E-05	2.3645E+20	1.0172E+15
Pu-241	4.7353E+00	4.5969E-05	1.1487E+20	2.2451E+17
Am-241	3.3204E-03	9.6742E-07	2.4174E+18	1.5082E+14
Cm-242	7.5905E-01	2.2902E-07	5.6992E+17	3.6980E+16
Cm-244	4.5997E-02	5.6855E-07	1.4032E+18	2.1804E+15

## Sprayed Drywell Transport Group Inventory:

Time (h) = 240.0000	Atmosphere	Sump	
Noble gases (atoms)	1.4810E+25	0.0000E+00	
Elemental I (atoms)	4.2995E+19	5.5926E+22	
Organic I (atoms)	3.2643E+20	0.0000E+00	
Aerosols (kg)	2.5957E-02	5.3084E+01	
Dose Effective (Ci/cc) I-131 (Thyroid)			5.5257E-06
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			5.5320E-06
Total I (Ci)			1.5370E+04

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 240.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.6252E+23
Elemental I (atoms)	0.0000E+00	3.6481E+18
Organic I (atoms)	0.0000E+00	1.7129E+19
Aerosols (kg)	0.0000E+00	2.1646E-03

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 240.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.6252E+23
Elemental I (atoms)	0.0000E+00	3.6481E+18
Organic I (atoms)	0.0000E+00	1.7129E+19
Aerosols (kg)	0.0000E+00	2.1646E-03

## Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 240.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.3030E+23
Elemental I (atoms)	0.0000E+00	1.8191E+18
Organic I (atoms)	0.0000E+00	8.5354E+18
Aerosols (kg)	0.0000E+00	1.0797E-03

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 240.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.9818E+30
Elemental I (atoms)	0.0000E+00	2.3183E+25
Organic I (atoms)	0.0000E+00	1.7419E+26
Aerosols (kg)	0.0000E+00	8.7260E+03

## Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 240.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.0053E+30

Elemental I (atoms)	0.0000E+00	2.3536E+25
Organic I (atoms)	0.0000E+00	1.7542E+26
Aerosols (kg)	0.0000E+00	8.9993E+03

## Exclusion Area Boundary Doses:

Time (h) = 720.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	8.9380E+00	2.9050E+02	2.0110E+01
Accumulated dose (rem)	7.1225E+01	1.0393E+03	1.0896E+02

## Low Population Zone Doses:

Time (h) = 720.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.6562E-02	3.5373E-01	3.0165E-02
Accumulated dose (rem)	1.2025E+00	9.1954E+00	1.5850E+00

## Control Room Doses:

Time (h) = 720.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.8496E-02	2.2410E+00	1.0468E-01
Accumulated dose (rem)	8.1022E-01	3.7396E+01	2.3121E+00

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 720.0000	Ci	kg	Atoms	Decay
Co-58	4.7338E-01	1.4887E-08	1.5457E+17	6.6355E+16
Co-60	7.5183E-01	6.6511E-07	6.6756E+18	8.9153E+16
Kr-85	7.2439E+05	1.8464E+00	1.3081E+25	7.3880E+22
Rb-86	5.6776E+00	6.9778E-08	4.8862E+17	1.4393E+18
Sr-89	5.7065E+02	1.9642E-05	1.3291E+20	8.5973E+19
Sr-90	1.3522E+02	9.9133E-04	6.6333E+21	1.5954E+19
Y-90	1.3594E+02	2.4985E-07	1.6718E+18	1.1941E+19
Y-91	9.7324E+00	3.9685E-07	2.6263E+18	1.3662E+18
Zr-95	1.1461E+01	5.3347E-07	3.3817E+18	1.6373E+18
Nb-95	1.4673E+01	3.7524E-07	2.3787E+18	1.8251E+18
Mo-99	1.0812E-01	2.2544E-10	1.3713E+15	6.2008E+18
Tc-99m	1.1085E-01	2.1082E-11	1.2824E+14	5.7466E+18
Ru-103	1.0542E+02	3.2665E-06	1.9098E+19	1.7089E+19
Ru-106	7.3784E+01	2.2054E-05	1.2530E+20	8.9842E+18
Rh-105	1.0067E-04	1.1927E-13	6.8404E+11	2.8889E+18
Sb-127	8.9077E-01	3.3356E-09	1.5817E+16	6.9742E+18
Te-127	3.0262E+01	1.1467E-08	5.4374E+16	9.7635E+18
Te-127m	2.8831E+01	3.0565E-06	1.4494E+19	3.7539E+18
Te-129	6.4775E+01	3.0930E-09	1.4439E+16	1.7566E+19
Te-129m	7.4909E+01	2.4866E-06	1.1608E+19	1.2838E+19
Te-131m	2.6755E-05	3.3553E-14	1.5424E+11	9.8519E+18
Te-132	5.3580E+00	1.7649E-08	8.0517E+16	1.0259E+20
I-131	2.4464E+03	1.9733E-05	9.0715E+19	1.4324E+21
I-132	6.3953E+00	6.1957E-10	2.8266E+15	4.0111E+20
I-133	2.5414E-06	2.2435E-15	1.0158E+10	7.4273E+20
Xe-133	1.6144E+06	8.6248E-03	3.9052E+22	2.2009E+24
Cs-134	2.2188E+03	1.7149E-03	7.7071E+21	2.7742E+20
Cs-136	1.2728E+02	1.7366E-06	7.6897E+18	4.5383E+19
Cs-137	1.8056E+03	2.0758E-02	9.1246E+22	2.2232E+20
Ba-140	3.1656E+02	4.3240E-06	1.8600E+19	1.0837E+20
La-140	3.6772E+02	6.6157E-07	2.8457E+18	7.9006E+19
Ce-141	1.9662E+01	6.9004E-07	2.9472E+18	3.4169E+18

Ce-143	9.3838E-06	1.4130E-14	5.9507E+10	7.8526E+17
Ce-144	2.9691E+01	9.3092E-06	3.8931E+19	3.6506E+18
Pr-143	3.7289E+00	5.5376E-08	2.3320E+17	1.1004E+18
Nd-147	9.0013E-01	1.1127E-08	4.5583E+16	3.7345E+17
Np-239	6.4055E-02	2.7611E-10	6.9572E+14	1.2172E+19
Pu-238	1.1493E-01	6.7132E-06	1.6986E+19	1.3519E+16
Pu-239	1.0940E-02	1.7601E-04	4.4348E+20	1.2859E+15
Pu-240	1.9828E-02	8.7016E-05	2.1834E+20	2.3366E+15
Pu-241	4.3613E+00	4.2337E-05	1.0579E+20	5.1513E+17
Am-241	3.4494E-03	1.0050E-06	2.5113E+18	3.6742E+14
Cm-242	6.4372E-01	1.9422E-07	4.8332E+17	8.1718E+16
Cm-244	4.2386E-02	5.2392E-07	1.2931E+18	5.0041E+15

## Sprayed Drywell Transport Group Inventory:

Time (h) = 720.0000	Atmosphere	Sump	
Noble gases (atoms)	1.3120E+25	0.0000E+00	
Elemental I (atoms)	7.0756E+18	5.5926E+22	
Organic I (atoms)	5.3720E+19	0.0000E+00	
Aerosols (kg)	2.3854E-02	5.3084E+01	
Dose Effective (Ci/cc) I-131 (Thyroid)			9.0943E-07
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			9.0951E-07
Total I (Ci)			2.4528E+03

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.1971E+24
Elemental I (atoms)	0.0000E+00	4.7059E+18
Organic I (atoms)	0.0000E+00	2.5160E+19
Aerosols (kg)	0.0000E+00	3.4848E-03

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.1971E+24
Elemental I (atoms)	0.0000E+00	4.7059E+18
Organic I (atoms)	0.0000E+00	2.5160E+19
Aerosols (kg)	0.0000E+00	3.4848E-03

## Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.9547E+23
Elemental I (atoms)	0.0000E+00	2.3450E+18
Organic I (atoms)	0.0000E+00	1.2528E+19
Aerosols (kg)	0.0000E+00	1.7360E-03

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.3796E+31
Elemental I (atoms)	0.0000E+00	3.5877E+25
Organic I (atoms)	0.0000E+00	2.7056E+26

Aerosols (kg)                      0.0000E+00    2.4568E+04

Uns sprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.3820E+31
Elemental I (atoms)	0.0000E+00	3.6230E+25
Organic I (atoms)	0.0000E+00	2.7179E+26
Aerosols (kg)	0.0000E+00	2.4842E+04

930

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

Time (hr)	Sprayed Drywell	MSIV Failed Control V	Intact Control Volume
	I-131 (Curies)	I-131 (Curies)	I-131 (Curies)
0.000	4.4650E+03	0.0000E+00	0.0000E+00
0.033	2.6200E+05	0.0000E+00	0.0000E+00
0.167	1.2153E+06	3.6628E+01	3.6336E+01
0.500	5.2943E+05	1.0490E+02	1.0107E+02
0.667	8.4096E+05	1.4142E+02	1.3500E+02
1.000	8.8113E+05	2.1978E+02	2.0618E+02
1.160	8.8779E+05	2.5389E+02	2.3608E+02
1.410	8.9559E+05	3.0264E+02	2.7757E+02
1.660	9.0135E+05	3.4621E+02	3.1335E+02
1.910	9.0583E+05	3.8508E+02	3.4414E+02
2.000	9.0723E+05	3.9801E+02	3.5414E+02
2.200	1.6498E+05	3.9309E+02	3.4553E+02
2.300	7.9813E+04	3.8411E+02	3.3490E+02
2.600	6.6667E+04	3.5599E+02	3.0269E+02
2.900	5.6569E+04	3.2954E+02	2.7329E+02
3.200	4.8867E+04	3.0478E+02	2.4656E+02
3.500	4.2990E+04	2.8171E+02	2.2235E+02
3.800	3.8505E+04	2.6027E+02	2.0048E+02
4.000	3.6121E+04	2.4686E+02	1.8710E+02
4.300	3.6081E+04	2.2811E+02	1.6882E+02
4.600	3.6039E+04	2.1096E+02	1.5254E+02
4.900	3.5997E+04	1.9526E+02	1.3804E+02
5.200	3.5955E+04	1.8090E+02	1.2513E+02
5.500	3.5913E+04	1.6776E+02	1.1364E+02
5.800	3.5871E+04	1.5574E+02	1.0341E+02
6.100	3.5829E+04	1.4473E+02	9.4292E+01
6.400	3.5787E+04	1.3467E+02	8.6176E+01
6.700	3.5746E+04	1.2546E+02	7.8949E+01
7.000	3.5704E+04	1.1703E+02	7.2512E+01
7.300	3.5662E+04	1.0931E+02	6.6779E+01
7.600	3.5621E+04	1.0225E+02	6.1673E+01
7.900	3.5579E+04	9.5792E+01	5.7125E+01
8.000	3.5565E+04	9.3762E+01	5.5722E+01
8.300	3.5524E+04	8.8022E+01	5.1824E+01
8.600	3.5482E+04	8.2767E+01	4.8351E+01
8.900	3.5441E+04	7.7958E+01	4.5257E+01
9.200	3.5400E+04	7.3556E+01	4.2499E+01
9.500	3.5358E+04	6.9527E+01	4.0042E+01



9.800	3.5317E+04	6.5838E+01	3.7852E+01
10.100	3.5276E+04	6.2461E+01	3.5900E+01
10.400	3.5235E+04	5.9369E+01	3.4160E+01
24.000	3.3416E+04	2.5717E+01	1.9265E+01
48.000	3.0548E+04	2.3083E+01	1.7614E+01
72.000	2.7922E+04	2.1086E+01	1.6100E+01
96.000	2.5518E+04	1.9271E+01	1.4714E+01
240.000	1.4858E+04	1.1220E+01	8.5669E+00
720.000	2.4464E+03	1.8475E+00	1.4106E+00

Time (hr)	Intact Control Volume		
	I-131 (Curies)	I-131 (Curies)	I-131 (Curies)
0.000	0.0000E+00	0.0000E+00	0.0000E+00
0.033	0.0000E+00	0.0000E+00	0.0000E+00
0.167	3.1396E-01	1.8469E+01	4.3559E-02
0.500	3.4945E+00	5.4899E+01	5.6544E-01
0.667	5.4436E+00	7.4927E+01	9.4480E-01
1.000	1.0335E+01	1.1921E+02	2.0021E+00
1.160	1.2897E+01	1.3937E+02	2.6233E+00
1.410	1.6890E+01	1.6927E+02	3.6974E+00
1.660	2.0701E+01	1.9725E+02	4.8601E+00
1.910	2.4230E+01	2.2339E+02	6.0773E+00
2.000	2.5423E+01	2.3236E+02	6.5236E+00
2.200	2.6751E+01	2.3319E+02	7.0858E+00
2.300	2.7199E+01	2.3024E+02	7.3403E+00
2.600	2.7705E+01	2.2031E+02	7.9824E+00
2.900	2.7306E+01	2.1054E+02	8.4657E+00
3.200	2.6343E+01	2.0101E+02	8.8172E+00
3.500	2.5052E+01	1.9176E+02	9.0602E+00
3.800	2.3591E+01	1.8285E+02	9.2142E+00
4.000	2.2576E+01	1.7710E+02	9.2756E+00
4.300	2.1050E+01	1.6882E+02	9.3165E+00
4.600	1.9566E+01	1.6098E+02	9.3071E+00
4.900	1.8157E+01	1.5356E+02	9.2580E+00
5.200	1.6841E+01	1.4653E+02	9.1779E+00
5.500	1.5626E+01	1.3987E+02	9.0739E+00
5.800	1.4515E+01	1.3357E+02	8.9519E+00
6.100	1.3504E+01	1.2760E+02	8.8167E+00
6.400	1.2588E+01	1.2195E+02	8.6722E+00
6.700	1.1763E+01	1.1660E+02	8.5216E+00
7.000	1.1021E+01	1.1154E+02	8.3674E+00
7.300	1.0354E+01	1.0674E+02	8.2116E+00
7.600	9.7566E+00	1.0220E+02	8.0561E+00
7.900	9.2218E+00	9.7895E+01	7.9019E+00
8.000	9.0563E+00	9.6512E+01	7.8510E+00
8.300	8.5912E+00	9.2512E+01	7.6964E+00
8.600	8.1765E+00	8.8723E+01	7.5460E+00
8.900	7.8068E+00	8.5136E+01	7.4002E+00
9.200	7.4770E+00	8.1738E+01	7.2593E+00
9.500	7.1828E+00	7.8520E+01	7.1234E+00
9.800	6.9203E+00	7.5472E+01	6.9926E+00
10.100	6.6860E+00	7.2586E+01	6.8670E+00
10.400	6.4768E+00	6.9852E+01	6.7466E+00
24.000	4.5860E+00	2.4659E+01	4.5306E+00
48.000	4.1824E+00	1.9177E+01	3.9466E+00
72.000	3.7800E+00	1.7169E+01	3.5399E+00
96.000	3.3962E+00	1.5653E+01	3.1701E+00

240.000	1.9393E+00	9.1110E+00	1.8060E+00
720.000	3.0543E-01	1.5002E+00	2.8467E-01

Time (hr)	Environment I-131 (Curies)	Control Room I-131 (Curies)	Unsprayed Drywell I-131 (Curies)
0.000	0.0000E+00	0.0000E+00	1.6446E+00
0.033	0.0000E+00	0.0000E+00	5.6993E+03
0.167	1.6584E-01	4.5896E-04	1.2411E+05
0.500	2.6706E+00	5.9745E-03	2.6443E+05
0.667	4.8751E+00	9.9018E-03	3.3106E+05
1.000	1.1807E+01	9.0392E-03	4.5043E+05
1.160	1.6377E+01	8.9244E-03	4.8753E+05
1.410	2.5104E+01	9.0647E-03	5.2816E+05
1.660	3.5696E+01	9.5250E-03	5.5451E+05
1.910	4.8056E+01	1.0235E-02	5.7179E+05
2.000	5.2919E+01	1.0539E-02	5.7647E+05
2.200	5.9496E+01	1.0119E-02	1.0984E+05
2.300	6.2802E+01	9.9331E-03	5.3104E+04
2.600	7.2630E+01	9.4357E-03	4.4224E+04
2.900	8.2230E+01	9.0018E-03	3.7524E+04
3.200	9.1534E+01	8.6087E-03	3.2414E+04
3.500	1.0050E+02	8.2431E-03	2.8515E+04
3.800	1.0912E+02	7.8973E-03	2.5539E+04
4.000	1.1467E+02	7.6758E-03	2.3957E+04
4.300	1.2270E+02	7.3554E-03	2.3927E+04
4.600	1.3041E+02	7.0489E-03	2.3899E+04
4.900	1.3780E+02	6.7563E-03	2.3871E+04
5.200	1.4490E+02	6.4778E-03	2.3844E+04
5.500	1.5172E+02	6.2139E-03	2.3816E+04
5.800	1.5829E+02	5.9646E-03	2.3788E+04
6.100	1.6464E+02	5.7302E-03	2.3760E+04
6.400	1.7077E+02	5.5105E-03	2.3733E+04
6.700	1.7671E+02	5.3052E-03	2.3705E+04
7.000	1.8247E+02	5.1140E-03	2.3677E+04
7.300	1.8806E+02	4.9364E-03	2.3650E+04
7.600	1.9351E+02	4.7718E-03	2.3622E+04
7.900	1.9883E+02	4.6195E-03	2.3595E+04
8.000	2.0057E+02	4.5714E-03	2.3585E+04
8.300	2.0568E+02	4.0040E-03	2.3558E+04
8.600	2.1068E+02	3.5402E-03	2.3530E+04
8.900	2.1559E+02	3.1604E-03	2.3503E+04
9.200	2.2040E+02	2.8488E-03	2.3475E+04
9.500	2.2513E+02	2.5928E-03	2.3448E+04
9.800	2.2979E+02	2.3819E-03	2.3421E+04
10.100	2.3438E+02	2.2077E-03	2.3393E+04
10.400	2.3891E+02	2.0636E-03	2.3366E+04
24.000	4.1920E+02	1.2277E-03	2.2160E+04
48.000	5.6104E+02	3.6098E-04	2.0258E+04
72.000	6.8723E+02	3.2113E-04	1.8517E+04
96.000	7.9963E+02	2.8604E-04	1.6923E+04
240.000	1.2893E+03	9.7469E-05	9.8530E+03
720.000	1.8506E+03	1.5810E-05	1.6224E+03

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

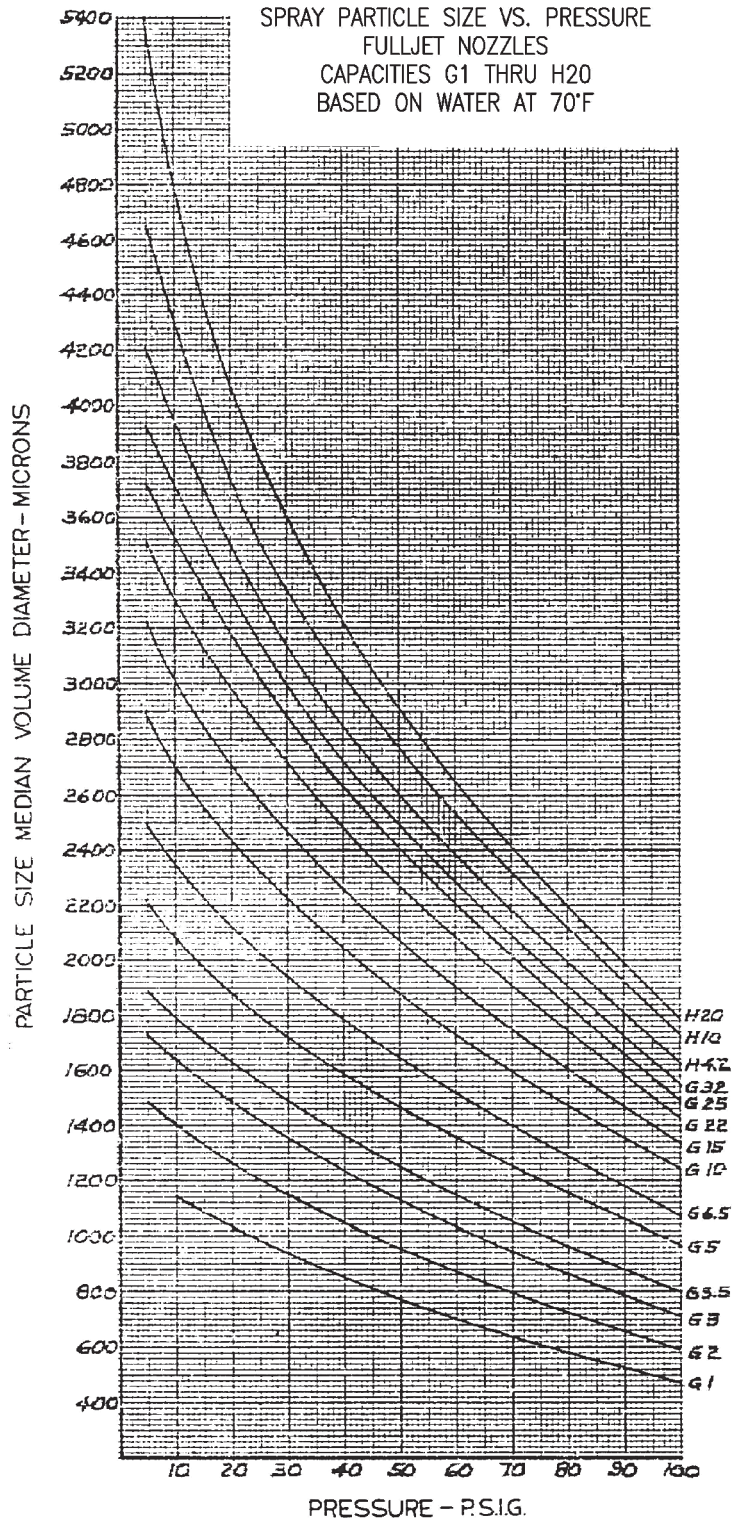
Time (hr)	Exclusion Area Bounda		Low Population Zone		Control Room	
	Thyroid (rem)	TEDE (rem)	Thyroid (rem)	TEDE (rem)	Thyroid (rem)	TEDE (rem)
0.000	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.033	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.167	1.2124E-01	6.0306E-03	9.2709E-03	4.6116E-04	7.7934E-03	3.1794E-04
0.500	1.9464E+00	1.0285E-01	1.4884E-01	7.8653E-03	3.6921E-01	1.4995E-02
0.667	3.5519E+00	1.9975E-01	2.7162E-01	1.5275E-02	8.5420E-01	3.4812E-02
1.000	8.6285E+00	6.0396E-01	6.5982E-01	4.6185E-02	2.0091E+00	8.3229E-02
1.160	1.1979E+01	9.2944E-01	9.1601E-01	7.1075E-02	2.5367E+00	1.0623E-01
1.410	1.8374E+01	1.6440E+00	1.4051E+00	1.2572E-01	3.3603E+00	1.4412E-01
1.660	2.6127E+01	2.6326E+00	1.9979E+00	2.0131E-01	4.2118E+00	1.8646E-01
1.910	3.5156E+01	3.9098E+00	2.6884E+00	2.9899E-01	5.1173E+00	2.3527E-01
2.000	3.8703E+01	4.4415E+00	2.9596E+00	3.3965E-01	5.4605E+00	2.5475E-01
2.200	4.3496E+01	5.1864E+00	3.1055E+00	3.6232E-01	6.2185E+00	2.9894E-01
2.300	4.5901E+01	5.5710E+00	3.1787E+00	3.7403E-01	6.5862E+00	3.2076E-01
2.600	5.3030E+01	6.7593E+00	3.3958E+00	4.1020E-01	7.6494E+00	3.8531E-01
2.900	5.9966E+01	7.9836E+00	3.6069E+00	4.4747E-01	8.6591E+00	4.4880E-01
3.200	6.6660E+01	9.2267E+00	3.8107E+00	4.8531E-01	9.6212E+00	5.1133E-01
3.500	7.3086E+01	1.0475E+01	4.0063E+00	5.2331E-01	1.0539E+01	5.7291E-01
3.800	7.9236E+01	1.1717E+01	4.1935E+00	5.6112E-01	1.1416E+01	6.3343E-01
4.000	8.3182E+01	1.2538E+01	4.3136E+00	5.8611E-01	1.1979E+01	6.7313E-01
4.300	8.8879E+01	1.3752E+01	4.4870E+00	6.2308E-01	1.2791E+01	7.3161E-01
4.600	9.4318E+01	1.4943E+01	4.6526E+00	6.5931E-01	1.3567E+01	7.8871E-01
4.900	9.9516E+01	1.6105E+01	4.8108E+00	6.9469E-01	1.4308E+01	8.4432E-01
5.200	1.0449E+02	1.7236E+01	4.9622E+00	7.2912E-01	1.5016E+01	8.9836E-01
5.500	1.0925E+02	1.8334E+01	5.1072E+00	7.6256E-01	1.5693E+01	9.5077E-01
5.800	1.1382E+02	1.9399E+01	5.2463E+00	7.9496E-01	1.6341E+01	1.0015E+00
6.100	1.1822E+02	2.0429E+01	5.3801E+00	8.2632E-01	1.6960E+01	1.0506E+00
6.400	1.2245E+02	2.1425E+01	5.5089E+00	8.5664E-01	1.7553E+01	1.0980E+00
6.700	1.2653E+02	2.2387E+01	5.6332E+00	8.8592E-01	1.8122E+01	1.1437E+00
7.000	1.3048E+02	2.3315E+01	5.7533E+00	9.1418E-01	1.8668E+01	1.1879E+00
7.300	1.3430E+02	2.4211E+01	5.8697E+00	9.4144E-01	1.9193E+01	1.2304E+00
7.600	1.3801E+02	2.5075E+01	5.9826E+00	9.6774E-01	1.9699E+01	1.2715E+00
7.900	1.4161E+02	2.5908E+01	6.0923E+00	9.9310E-01	2.0186E+01	1.3110E+00
8.000	1.4279E+02	2.6179E+01	6.1283E+00	1.0014E+00	2.0345E+01	1.3239E+00
8.300	1.4624E+02	2.6972E+01	6.1624E+00	1.0154E+00	2.0787E+01	1.3595E+00
8.600	1.4961E+02	2.7737E+01	6.1958E+00	1.0289E+00	2.1175E+01	1.3904E+00
8.900	1.5290E+02	2.8475E+01	6.2284E+00	1.0420E+00	2.1519E+01	1.4176E+00
9.200	1.5612E+02	2.9188E+01	6.2603E+00	1.0546E+00	2.1826E+01	1.4416E+00
9.500	1.5928E+02	2.9876E+01	6.2916E+00	1.0668E+00	2.2104E+01	1.4632E+00
9.800	1.6238E+02	3.0541E+01	6.3223E+00	1.0785E+00	2.2357E+01	1.4827E+00
10.100	1.6542E+02	3.1184E+01	6.3525E+00	1.0899E+00	2.2590E+01	1.5006E+00
10.400	1.6842E+02	3.1806E+01	6.3822E+00	1.1008E+00	2.2806E+01	1.5170E+00
24.000	2.8257E+02	4.9119E+01	7.5131E+00	1.3987E+00	2.8831E+01	1.9060E+00
48.000	3.6511E+02	5.7186E+01	7.9103E+00	1.4511E+00	3.0658E+01	1.9978E+00
72.000	4.3434E+02	6.3219E+01	8.2435E+00	1.4897E+00	3.2007E+01	2.0614E+00
96.000	4.9420E+02	6.8339E+01	8.5316E+00	1.5222E+00	3.3173E+01	2.1160E+00
240.000	7.4883E+02	8.8853E+01	8.8417E+00	1.5549E+00	3.5156E+01	2.2075E+00
720.000	1.0393E+03	1.0896E+02	9.1954E+00	1.5850E+00	3.7396E+01	2.3121E+00

#####  
Worst Two-Hour Doses  
#####

Exclusion Area Boundary

Time Whole Body Thyroid TEDE

(hr)	(rem)	(rem)	(rem)
1.6	6.0738E+00	5.0870E+01	8.4936E+00



**Spraying Systems Co.**<sup>®</sup>

North Avenue at Schmale Rd. - P.O. Box 7900  
 Wheaton, Il. 60189-7900

Rev. No.

Date:

9/27/1966

Data Sheet No.

11825-8

**Appendix A**  
**Westinghouse SVEA-96 Optima 2 core inventory**

**A1.0 PURPOSE**

The purpose of this appendix is to evaluate post-LOCA doses due to the Westinghouse SVEA-96 Optima 2 fuel design having an average core exposure of 39 GWD/MTU.

**A2.0 CALCULATIONS**

The isotopic core inventory (Ci) for the Westinghouse SVEA-96 Optima2 fuel design is obtained from EXELON Calculation No. NF-BEX-13-65, Revision 0, "Core Inventory Results for Quad Cities 1 & 2 and Dresden 2 & 3" for an average core exposure of 39 GWD/MTU and is listed in Table A2-1. Table A2-2 lists the source term as entered into the radtrac nuclide inventory file. All other inputs, methodology, and assumptions in this appendix are equivalent to the main body of this calculation. The spray timing used in this appendix is unchanged from the main body of this calculation per the results of the QDC39MS00\_spray RADTRAD file. Table A2-3 lists the post-LOCA reactor building isotopic inventory for inclusion in UFSAR Table 15.6-5b.

**Table A2-1**  
**Westinghouse Core Inventory**

Isotope	Core Inventory (Ci)		Isotope	Core Inventory (Ci)	
	38 GWD/MTU A	39 GWD/MTU B		38 GWD/MTU A	39 GWD/MTU B
KR-85	1.35E+06	1.39E+06	TE-132	1.16E+08	1.16E+08
KR-85M	2.25E+07	2.24E+07	I-131	8.15E+07	8.15E+07
KR-87	4.36E+07	4.33E+07	I-132	1.18E+08	1.18E+08
KR-88	6.13E+07	6.10E+07	I-133	1.66E+08	1.67E+08
RB-86	1.88E+05	1.95E+05	I-134	1.83E+08	1.84E+08
SR-89	8.28E+07	8.19E+07	I-135	1.55E+08	1.56E+08
SR-90	1.11E+07	1.13E+07	XE-133	1.62E+08	1.60E+08
SR-91	1.03E+08	1.02E+08	XE-135	6.64E+07	6.62E+07
SR-92	1.10E+08	1.10E+08	CS-134	2.28E+07	2.41E+07
Y-90	1.13E+07	1.16E+07	CS-136	5.73E+06	5.89E+06
Y-91	1.06E+08	1.05E+08	CS-137	1.48E+07	1.53E+07
Y-92	1.10E+08	1.10E+08	BA-139	1.49E+08	1.50E+08
Y-93	1.26E+08	1.26E+08	BA-140	1.45E+08	1.45E+08
ZR-95	1.40E+08	1.39E+08	LA-140	1.50E+08	1.56E+08
ZR-97	1.37E+08	1.38E+08	LA-141	1.36E+08	1.37E+08
NB-95	1.40E+08	1.40E+08	LA-142	1.32E+08	1.32E+08
MO-99	1.53E+08	1.54E+08	CE-141	1.37E+08	1.37E+08
TC-99M	1.34E+08	1.35E+08	CE-143	1.28E+08	1.28E+08

Isotope	Core Inventory (Ci)		Isotope	Core Inventory (Ci)	
	38 GWD/MTU	39 GWD/MTU		38 GWD/MTU	39 GWD/MTU
	A	B		A	B
RU-103	1.29E+08	1.30E+08	CE-144	1.14E+08	1.14E+08
RU-105	9.12E+07	9.28E+07	PR-143	1.25E+08	1.24E+08
RU-106	5.54E+07	5.70E+07	ND-147	5.46E+07	5.47E+07
RH-105	8.61E+07	8.75E+07	NP-239	1.61E+09	1.63E+09
SB-127	8.91E+06	8.97E+06	PU-238	5.89E+05	6.35E+05
SB-129	2.64E+07	2.66E+07	PU-239	3.75E+04	3.76E+04
TE-127	8.83E+06	8.92E+06	PU-240	3.76E+04	3.79E+04
TE-127M	1.18E+06	1.20E+06	PU-241	2.22E+07	2.26E+07
TE-129	2.60E+07	2.62E+07	AM-241	3.93E+04	4.00E+04
TE-129M	3.87E+06	3.89E+06	CM-242	7.51E+06	7.86E+06
TE-131M	1.18E+07	1.19E+07	CM-244	8.73E+05	1.01E+06

A & B From Reference 9.50 of the main body, Tables 5-3 & 5-4

Table A2-2

Quad Cities Westinghouse Core Inventory @ 39 GWD/MTU Burnup – RADTRAD Nuclide Inventory File

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

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

A From Table A2-1



**Table A2-3**  
**Post-LOCA Reactor Building Isotopic Inventory - Containment + ESF Leakages**

Isotope	Post-LOCA Reactor Building Isotopic Inventory (Ci) Containment + ESF Leakage						Total Activity (Ci)
	0.667 hr	2.0 hr	4.0 hrs	8.0 hrs	16 hrs	24 hrs	
Co-58	6.93E-03	1.19E-01	1.36E-01	1.18E-01	9.94E-02	9.10E-02	5.71E-01
Co-60	8.30E-03	1.43E-01	1.63E-01	1.42E-01	1.20E-01	1.10E-01	6.86E-01
Kr-85	5.04E+01	1.31E+03	4.15E+03	8.21E+03	1.24E+04	1.40E+04	4.01E+04
Kr-85m	7.32E+02	1.55E+04	3.60E+04	3.84E+04	1.68E+04	5.50E+03	1.13E+05
Kr-87	1.09E+03	1.37E+04	1.46E+04	3.27E+03	6.29E+01	9.08E-01	3.27E+04
Kr-88	1.88E+03	3.52E+04	6.86E+04	5.11E+04	1.09E+04	1.75E+03	1.70E+05
Rb-86	1.60E+00	5.57E+00	5.86E+00	4.82E+00	3.71E+00	3.23E+00	2.48E+01
Sr-89	9.85E+00	1.70E+02	1.93E+02	1.68E+02	1.41E+02	1.29E+02	8.10E+02
Sr-90	1.36E+00	2.34E+01	2.67E+01	2.33E+01	1.96E+01	1.80E+01	1.12E+02
Sr-91	1.17E+01	1.83E+02	1.80E+02	1.17E+02	5.51E+01	2.82E+01	5.75E+02
Sr-92	1.12E+01	1.37E+02	9.36E+01	2.93E+01	3.19E+00	3.78E-01	2.74E+02
Y-90	1.55E-02	4.46E-01	1.04E+00	1.84E+00	3.03E+00	4.05E+00	1.04E+01
Y-91	1.27E-01	2.21E+00	2.59E+00	2.36E+00	2.10E+00	1.99E+00	1.14E+01
Y-92	3.64E-01	2.46E+01	5.58E+01	4.78E+01	1.49E+01	3.69E+00	1.47E+02
Y-93	1.45E-01	2.28E+00	2.27E+00	1.50E+00	7.29E-01	3.87E-01	7.30E+00
Zr-95	1.67E-01	2.88E+00	3.28E+00	2.86E+00	2.40E+00	2.19E+00	1.38E+01
Zr-97	1.62E-01	2.64E+00	2.77E+00	2.05E+00	1.24E+00	8.22E-01	9.68E+00
Nb-95	1.68E-01	2.90E+00	3.31E+00	2.89E+00	2.43E+00	2.23E+00	1.39E+01
Mo-99	2.30E+00	3.91E+01	4.37E+01	3.65E+01	2.82E+01	2.38E+01	1.74E+02
Tc-99m	2.03E+00	3.49E+01	3.97E+01	3.40E+01	2.74E+01	2.39E+01	1.62E+02
Ru-103	1.95E+00	3.36E+01	3.83E+01	3.33E+01	2.79E+01	2.54E+01	1.61E+02
Ru-105	1.26E+00	1.76E+01	1.47E+01	6.86E+00	1.66E+00	4.36E-01	4.25E+01
Ru-106	8.57E-01	1.48E+01	1.69E+01	1.47E+01	1.24E+01	1.13E+01	7.09E+01
Rh-105	1.32E+00	2.26E+01	2.55E+01	2.12E+01	1.57E+01	1.25E+01	9.88E+01
Sb-127	2.68E+00	4.58E+01	5.15E+01	4.35E+01	3.45E+01	2.99E+01	2.08E+02
Sb-129	7.19E+00	1.00E+02	8.28E+01	3.80E+01	8.86E+00	2.25E+00	2.39E+02
Te-127	2.68E+00	4.59E+01	5.20E+01	4.46E+01	3.63E+01	3.23E+01	2.14E+02
Te-127m	3.61E-01	6.22E+00	7.10E+00	6.19E+00	5.21E+00	4.79E+00	2.99E+01
Te-129	7.46E+00	1.12E+02	1.02E+02	5.43E+01	2.57E+01	1.64E+01	3.17E+02
Te-129m	1.17E+00	2.02E+01	2.30E+01	2.00E+01	1.68E+01	1.53E+01	9.65E+01



**Table A2-3 (Cont'd)**  
**Post-LOCA Reactor Building Isotopic Inventory - Containment + ESF Leakages**

Isotope	Post-LOCA Reactor Building Isotopic Inventory (Ci) Containment + ESF Leakage						Total Activity (Ci)
	0.667 hr	2.0 hr	4.0 hrs	8.0 hrs	16 hrs	24 hrs	
Te-131m	3.52E+00	5.89E+01	6.42E+01	5.10E+01	3.57E+01	2.72E+01	2.40E+02
Te-132	3.47E+01	5.91E+02	6.62E+02	5.57E+02	4.37E+02	3.74E+02	2.65E+03
I-131	7.23E+02	3.08E+03	3.90E+03	4.33E+03	4.69E+03	4.74E+03	2.15E+04
I-132	9.27E+02	3.40E+03	2.78E+03	1.33E+03	5.74E+02	4.51E+02	9.46E+03
I-133	1.45E+03	5.94E+03	7.09E+03	6.99E+03	5.97E+03	4.75E+03	3.22E+04
I-134	9.66E+02	1.44E+03	3.78E+02	1.80E+01	3.59E-02	6.69E-05	2.80E+03
I-135	1.29E+03	4.81E+03	4.97E+03	3.68E+03	1.78E+03	7.97E+02	1.73E+04
Xe-133	5.79E+03	1.50E+05	4.70E+05	9.11E+05	1.31E+06	1.42E+06	4.27E+06
Xe-135	2.44E+03	6.15E+04	1.72E+05	2.53E+05	2.08E+05	1.28E+05	8.25E+05
Cs-134	1.99E+02	6.90E+02	7.29E+02	6.03E+02	4.70E+02	4.14E+02	3.10E+03
Cs-136	4.85E+01	1.68E+02	1.77E+02	1.45E+02	1.11E+02	9.60E+01	7.45E+02
Cs-137	1.26E+02	4.38E+02	4.63E+02	3.83E+02	2.99E+02	2.63E+02	1.97E+03
Ba-139	1.29E+01	1.14E+02	4.75E+01	5.53E+00	8.34E-02	1.37E-03	1.80E+02
Ba-140	1.74E+01	2.99E+02	3.40E+02	2.94E+02	2.43E+02	2.19E+02	1.41E+03
La-140	2.19E-01	7.39E+00	1.90E+01	3.48E+01	5.68E+01	7.40E+01	1.92E+02
La-141	1.47E-01	2.00E+00	1.60E+00	6.89E-01	1.41E-01	3.17E-02	4.61E+00
La-142	1.18E-01	1.11E+00	5.17E-01	7.46E-02	1.72E-03	4.33E-05	1.82E+00
Ce-141	4.12E-01	7.10E+00	8.09E+00	7.03E+00	5.88E+00	5.36E+00	3.39E+01
Ce-143	3.80E-01	6.36E+00	6.96E+00	5.58E+00	3.97E+00	3.08E+00	2.63E+01
Ce-144	3.43E-01	5.91E+00	6.74E+00	5.87E+00	4.94E+00	4.53E+00	2.83E+01
Pr-143	1.49E-01	2.58E+00	2.96E+00	2.60E+00	2.23E+00	2.07E+00	1.26E+01
Nd-147	6.57E-02	1.13E+00	1.28E+00	1.10E+00	9.10E-01	8.19E-01	5.31E+00
Np-239	4.86E+00	8.24E+01	9.18E+01	7.62E+01	5.81E+01	4.84E+01	3.62E+02
Pu-238	1.91E-03	3.29E-02	3.76E-02	3.27E-02	2.75E-02	2.53E-02	1.58E-01
Pu-239	1.13E-04	1.95E-03	2.23E-03	1.94E-03	1.64E-03	1.50E-03	9.37E-03
Pu-240	1.14E-04	1.96E-03	2.24E-03	1.95E-03	1.64E-03	1.51E-03	9.43E-03
Pu-241	6.80E-02	1.17E+00	1.34E+00	1.16E+00	9.80E-01	9.00E-01	5.62E+00
Am-241	4.81E-05	8.29E-04	9.47E-04	8.26E-04	6.97E-04	6.41E-04	3.99E-03
Cm-242	9.46E-03	1.63E-01	1.86E-01	1.62E-01	1.36E-01	1.25E-01	7.81E-01
Cm-244	1.22E-03	2.09E-02	2.39E-02	2.08E-02	1.75E-02	1.61E-02	1.01E-01

Containment RB Inventory From RADTRAD files QDC39CL01 and QDC39ESF01 added together.

### A3.0 RESULTS SUMMARY & CONCLUSIONS

#### A3.1 Results Summary

The results of the analysis with Westinghouse SVEA-96 Optima 2 fuel are in Table A3-1.

**Table A3-1 LOCA doses using Westinghouse SVEA-96 Optima 2 fuel**

Post-LOCA Activity Release Path	Post-LOCA TEDE Dose (Rem) Receptor Location		
	Control Room	EAB	LPZ
Containment Leakage	2.36E-01	3.31E-01	6.86E-01
ESF Leakage	8.95E-03	5.37E-03	9.90E-02
MSIV Leakage	2.92E+00	9.18E+00	1.80E+00
Reactor Building Shine	1.43E-01	0.00E+00	0.00E+00
External Cloud Shine	3.59E-01	0.00E+00	0.00E+00
CR Filter Shine	negligible	0.00E+00	0.00E+00
<b>Total</b>	<b>3.66E+00</b>	<b>9.51E+00</b>	<b>2.59E+00</b>
<b>Allowable TEDE Limit</b>	<b>5.00E+00</b>	<b>2.50E+01</b>	<b>2.50E+01</b>
	<b>RADTRAD Computer Run No.</b>		
Containment Leakage	QDC39CL01		
ESF Leakage	QDC39ESF01		
MSIV Leakage	QDC39MS00 and QDC39MS02		

#### A3.2 Conclusions

The Section A3.1 results of this analysis, using the Westinghouse SVEA-96 Optima 2 fuel, indicate that the total post-LOCA EAB, LPZ, and CR doses are within their allowable TEDE limits.

### A4.0 ATTACHMENTS

Attachment A4.1 - RADTRAD Output File "QDC39CL01.o0"

Attachment A4.2 - RADTRAD Output File "QDC39ESF01.o0"

Attachment A4.3 - RADTRAD Output File "QDC39MS00.o0"

Attachment A4.4 - RADTRAD Output File "QDC39MS00\_spray.o0"

Attachment A4.5 - RADTRAD Output File "QDC39MS02.o0"

Attachment A4.6 - RADTRAD Nuclide Inventory File "DQ39GWD\_DEF.nif"

Attachment A4.7 – MicroShield Output Files "QA[667, 2, 4, 8, 16, & 24].MSD"

**Attachment A4.1 - RADTRAD Output File “QDC39CL01.o0”**

```
#####
RADTRAD Version 3.03 (Spring 2001) run on 2/28/2019 at 22:06:48
#####
```

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

```
Plant file =
C:\Users\jhead\Desktop\RADTRAD\westinghouse\QDC39CL01.psf
Inventory file =
C:\Users\jhead\Desktop\RADTRAD\westinghouse\DQ39GWD_DEF.nif
Release file = c:\users\jhead\desktop\radtrad\rev2_files\bwr_dba.rft
Dose Conversion file =
c:\users\jhead\desktop\radtrad\rev2_files\fgr11&12.inp
```

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

```
Radtrad 3.03 4/15/2001
Quad Cities Containment Leakage - Optima Fuel With 39 GWD/MTU, Containment
Leakage = 3 %/day and 1.5%/day after 24 hours, CREV Initiated @ 40 Minutes,
and CR Unfiltered Inleakage = 4,000 cfm < 0.6667 hrs and 400 cfm >0.6667 hrs
Nuclide Inventory File:
```

```
C:\Users\jhead\Desktop\RADTRAD\westinghouse\DQ39GWD_DEF.nif
```

```
Plant Power Level:
```

```
3.0161E+03
```

```
Compartments:
```

```
5
```

```
Compartment 1:
```

```
Sprayed Drywell
```

```
3
```

```
9.5000E+04
```

```
1
```

```
0
```

```
0
```

```
1
```

```
0
```

```
Compartment 2:
```

```
Reactor Building
```

```
3
```

```
2.3500E+06
```

0  
0  
0  
0  
0

Compartment 3:  
Environment

2  
0.0000E+00  
0  
0  
0  
0  
0

Compartment 4:  
Control Room

1  
1.8400E+05  
0  
0  
0  
0  
0

Compartment 5:  
Unsprayed Drywell

3  
6.3000E+04  
0  
0  
0  
0  
0

Pathways:

7

Pathway 1:  
Sprayed Drywell to Reactor Building

1  
2  
4

Pathway 2:  
Reactor Building to Environment

2  
3  
2

Pathway 3:  
Filtered Intake to Control Room

3  
4  
2

Pathway 4:  
Unfiltered Inleakage to Control Room

3  
4  
2

Pathway 5:  
Control Room Exhaust to Environment

4

```
3
2
Pathway 6:
Sprayed Drywell to Unsprayed Drywell
1
5
2
Pathway 7:
Unsprayed Drywell to Sprayed Drywell
5
1
2
End of Plant Model File
Scenario Description Name:

Plant Model Filename:

Source Term:
1
1 1.0000E+00
c:\users\jhead\desktop\radtrad\rev2_files\fgr11&12.inp
c:\users\jhead\desktop\radtrad\rev2_files\bwr_dba.rft
0.0000E+00
1
9.5000E-01 4.8500E-02 1.5000E-03 1.0000E+00
Overlying Pool:
0
0.0000E+00
0
0
0
0
Compartments:
5
Compartment 1:
1
1
1
0.0000E+00
5
0.0000E+00 0.0000E+00
1.6670E-01 1.5000E+01
2.2000E+00 1.5000E+00
4.0000E+00 0.0000E+00
7.2000E+02 0.0000E+00
1
0.0000E+00
5
0.0000E+00 0.0000E+00
1.6670E-01 1.5000E+01
2.3000E+00 0.0000E+00
4.0000E+00 0.0000E+00
7.2000E+02 0.0000E+00
1
0.0000E+00
0
0
```

0  
0  
0

Compartment 2:

1  
1  
0  
0  
0  
0  
0  
0  
0

Compartment 3:

0  
1  
0  
0  
0  
0  
0  
0  
0

Compartment 4:

0  
1  
0  
0  
0  
0  
0  
0  
0

Compartment 5:

0  
1  
0  
0  
0  
0  
0  
3  
3

1.0000E+01

1

1

0.0000E+00 0.0000E+00

Pathways:

7

Pathway 1:

0  
0  
0  
0  
0  
0  
0

0  
 0  
 0  
 1  
 4  
 0.0000E+00    0.0000E+00  
 3.3300E-02    3.0000E+00  
 2.4000E+01    1.5000E+00  
 7.2000E+02    0.0000E+00  
 0

Pathway 2:

0  
 0  
 0  
 0  
 0  
 1  
 4  
 0.0000E+00    0.0000E+00    0.0000E+00    0.0000E+00    0.0000E+00  
 3.3300E-02    4.4000E+03    0.0000E+00    0.0000E+00    0.0000E+00  
 4.1700E-01    4.4000E+03    9.8000E+01    9.0000E+01    9.0000E+01  
 7.2000E+02    0.0000E+00    0.0000E+00    0.0000E+00    0.0000E+00  
 0  
 0  
 0  
 0  
 0  
 0

Pathway 3:

0  
 0  
 0  
 0  
 0  
 1  
 10  
 0.0000E+00    0.0000E+00    0.0000E+00    0.0000E+00    0.0000E+00  
 3.3300E-02    2.2000E+03    0.0000E+00    0.0000E+00    0.0000E+00  
 6.6670E-01    1.8000E+03    9.9000E+01    9.9000E+01    9.9000E+01  
 2.0000E+00    1.8000E+03    9.9000E+01    9.9000E+01    9.9000E+01  
 4.0000E+00    1.8000E+03    9.9000E+01    9.9000E+01    9.9000E+01  
 8.0000E+00    1.8000E+03    9.9000E+01    9.9000E+01    9.9000E+01  
 1.6000E+01    1.8000E+03    9.9000E+01    9.9000E+01    9.9000E+01  
 2.4000E+01    1.8000E+03    9.9000E+01    9.9000E+01    9.9000E+01  
 4.8000E+01    1.8000E+03    9.9000E+01    9.9000E+01    9.9000E+01  
 7.2000E+02    0.0000E+00    0.0000E+00    0.0000E+00    0.0000E+00  
 0  
 0  
 0  
 0  
 0  
 0

Pathway 4:

0  
 0  
 0  
 0



```

0
1
10
0.0000E+00  0.0000E+00  0.0000E+00  0.0000E+00  0.0000E+00
3.3300E-02  4.0000E+03  0.0000E+00  0.0000E+00  0.0000E+00
6.6670E-01  4.0000E+02  0.0000E+00  0.0000E+00  0.0000E+00
2.0000E+00  4.0000E+02  0.0000E+00  0.0000E+00  0.0000E+00
4.0000E+00  4.0000E+02  0.0000E+00  0.0000E+00  0.0000E+00
8.0000E+00  4.0000E+02  0.0000E+00  0.0000E+00  0.0000E+00
1.6000E+01  4.0000E+02  0.0000E+00  0.0000E+00  0.0000E+00
2.4000E+01  4.0000E+02  0.0000E+00  0.0000E+00  0.0000E+00
4.8000E+01  4.0000E+02  0.0000E+00  0.0000E+00  0.0000E+00
7.2000E+02  0.0000E+00  0.0000E+00  0.0000E+00  0.0000E+00

```

```

0
0
0
0
0
0

```

Pathway 5:

```

0
0
0
0
0
1
10
0.0000E+00  0.0000E+00  0.0000E+00  0.0000E+00  0.0000E+00
3.3300E-02  6.2000E+03  0.0000E+00  0.0000E+00  0.0000E+00
6.6670E-01  2.2000E+03  0.0000E+00  0.0000E+00  0.0000E+00
2.0000E+00  2.2000E+03  0.0000E+00  0.0000E+00  0.0000E+00
4.0000E+00  2.2000E+03  0.0000E+00  0.0000E+00  0.0000E+00
8.0000E+00  2.2000E+03  0.0000E+00  0.0000E+00  0.0000E+00
1.6000E+01  2.2000E+03  0.0000E+00  0.0000E+00  0.0000E+00
2.4000E+01  2.2000E+03  0.0000E+00  0.0000E+00  0.0000E+00
4.8000E+01  2.2000E+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

```

```

#####
RADTRAD Version 3.03 (Spring 2001) run on 2/04/2020 at 7:51:08
#####

```

```

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

```

```

Plant file          = C:\Users\jhead\Desktop\RADTRAD\Rev4\QDC39CL01.psf
Inventory file      =
c:\users\jhead\desktop\radtrad\westinghouse\dq39gwd_def.nif
Release file        = c:\users\jhead\desktop\radtrad\rev2_files\bwr_dba.rft
Dose Conversion file =
c:\users\jhead\desktop\radtrad\rev2_files\fgr11&12.inp

```

```

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

Radtrad 3.03 4/15/2001

Quad Cities Containment Leakage - Optima Fuel With 39 GWD/MTU, Containment Leakage = 3 %/day and 1.5%/day after 24 hours, CREV Initiated @ 40 Minutes, and CR Unfiltered Inleakage = 4,000 cfm < 0.6667 hrs and 400 cfm >0.6667 hrs

Nuclide Inventory File:

c:\users\jhead\desktop\radtrad\westinghouse\dq39gwd\_def.nif

Plant Power Level:

3.0161E+03

Compartments:

5

Compartment 1:

Sprayed Drywell

3

9.5000E+04

1

0

0

0

0

Compartment 2:

Reactor Building

3

2.3500E+06

0

0

0

0

0

Compartment 3:

Environment

2

0.0000E+00

0

0

0

0

0

Compartment 4:

Control Room

1

1.8400E+05

0

0

0

0

0

Compartment 5:

Unsprayed Drywell

3

6.3000E+04

0

0

0

0

0

Pathways:

8

Pathway 1:

Sprayed Drywell to Reactor Building

1

2

4

Pathway 2:

Reactor Building to Environment

2

3

2

Pathway 3:

Filtered Intake to Control Room

3

4

2

Pathway 4:

Unfiltered Inleakage to Control Room

3

4

2

Pathway 5:

Control Room Exhaust to Environment

4

3

2

Pathway 6:

Sprayed Drywell to Unsprayed Drywell

1

5

2

Pathway 7:

Unsprayed Drywell to Sprayed Drywell

5

1

2

Pathway 8:

Unsprayed Drywell to Reactor Building

5

2

4

End of Plant Model File

Scenario Description Name:

Plant Model Filename:

Source Term:

1

```
1 1.0000E+00
c:\users\jhead\desktop\radtrad\rev2_files\fgr11&12.inp
c:\users\jhead\desktop\radtrad\rev2_files\bwr_dba.rft
0.0000E+00
1
9.5000E-01 4.8500E-02 1.5000E-03 1.0000E+00
Overlying Pool:
0
0.0000E+00
0
0
0
0
Compartments:
5
Compartment 1:
1
1
1
0.0000E+00
6
0.0000E+00 0.0000E+00
1.6670E-01 1.5000E+01
2.2000E+00 1.5000E+00
2.3000E+00 1.5000E+00
4.0000E+00 0.0000E+00
7.2000E+02 0.0000E+00
1
0.0000E+00
6
0.0000E+00 0.0000E+00
1.6670E-01 1.5000E+01
2.2000E+00 1.5000E+01
2.3000E+00 0.0000E+00
4.0000E+00 0.0000E+00
7.2000E+02 0.0000E+00
1
0.0000E+00
0
0
0
0
0
0
Compartment 2:
1
1
0
0
0
0
0
0
0
0
Compartment 3:
0
1
0
```

0  
0  
0  
0  
0  
0

Compartment 4:

0  
1  
0  
0  
0  
0  
0  
0  
0

Compartment 5:

0  
1  
0  
0  
0  
0  
0  
0  
0

Pathways:

8

Pathway 1:

0  
0  
0  
0  
0  
0  
0  
0  
0  
0  
0

1  
4

0.0000E+00	0.0000E+00
3.3300E-02	3.0000E+00
2.4000E+01	1.5000E+00
7.2000E+02	0.0000E+00

0

Pathway 2:

0  
0  
0  
0  
0

1  
4

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	4.4000E+03	0.0000E+00	0.0000E+00	0.0000E+00
4.1700E-01	4.4000E+03	9.8000E+01	9.0000E+01	9.0000E+01

7.2000E+02    0.0000E+00    0.0000E+00    0.0000E+00    0.0000E+00  
 0  
 0  
 0  
 0  
 0  
 0

Pathway 3:

0  
 0  
 0  
 0  
 0  
 1  
 10  
 0.0000E+00    0.0000E+00    0.0000E+00    0.0000E+00    0.0000E+00  
 3.3300E-02    2.2000E+03    0.0000E+00    0.0000E+00    0.0000E+00  
 6.6670E-01    1.8000E+03    9.9000E+01    9.9000E+01    9.9000E+01  
 2.0000E+00    1.8000E+03    9.9000E+01    9.9000E+01    9.9000E+01  
 4.0000E+00    1.8000E+03    9.9000E+01    9.9000E+01    9.9000E+01  
 8.0000E+00    1.8000E+03    9.9000E+01    9.9000E+01    9.9000E+01  
 1.6000E+01    1.8000E+03    9.9000E+01    9.9000E+01    9.9000E+01  
 2.4000E+01    1.8000E+03    9.9000E+01    9.9000E+01    9.9000E+01  
 4.8000E+01    1.8000E+03    9.9000E+01    9.9000E+01    9.9000E+01  
 7.2000E+02    0.0000E+00    0.0000E+00    0.0000E+00    0.0000E+00

0  
 0  
 0  
 0  
 0  
 0

Pathway 4:

0  
 0  
 0  
 0  
 0  
 1  
 10  
 0.0000E+00    0.0000E+00    0.0000E+00    0.0000E+00    0.0000E+00  
 3.3300E-02    4.0000E+03    0.0000E+00    0.0000E+00    0.0000E+00  
 6.6670E-01    4.0000E+02    0.0000E+00    0.0000E+00    0.0000E+00  
 2.0000E+00    4.0000E+02    0.0000E+00    0.0000E+00    0.0000E+00  
 4.0000E+00    4.0000E+02    0.0000E+00    0.0000E+00    0.0000E+00  
 8.0000E+00    4.0000E+02    0.0000E+00    0.0000E+00    0.0000E+00  
 1.6000E+01    4.0000E+02    0.0000E+00    0.0000E+00    0.0000E+00  
 2.4000E+01    4.0000E+02    0.0000E+00    0.0000E+00    0.0000E+00  
 4.8000E+01    4.0000E+02    0.0000E+00    0.0000E+00    0.0000E+00  
 7.2000E+02    0.0000E+00    0.0000E+00    0.0000E+00    0.0000E+00

0  
 0  
 0  
 0  
 0  
 0

Pathway 5:

0

0  
 0  
 0  
 0  
 1  
 10  
 0.0000E+00 0.0000E+00 0.0000E+00 0.0000E+00 0.0000E+00  
 3.3300E-02 6.2000E+03 0.0000E+00 0.0000E+00 0.0000E+00  
 6.6670E-01 2.2000E+03 0.0000E+00 0.0000E+00 0.0000E+00  
 2.0000E+00 2.2000E+03 0.0000E+00 0.0000E+00 0.0000E+00  
 4.0000E+00 2.2000E+03 0.0000E+00 0.0000E+00 0.0000E+00  
 8.0000E+00 2.2000E+03 0.0000E+00 0.0000E+00 0.0000E+00  
 1.6000E+01 2.2000E+03 0.0000E+00 0.0000E+00 0.0000E+00  
 2.4000E+01 2.2000E+03 0.0000E+00 0.0000E+00 0.0000E+00  
 4.8000E+01 2.2000E+03 0.0000E+00 0.0000E+00 0.0000E+00  
 7.2000E+02 0.0000E+00 0.0000E+00 0.0000E+00 0.0000E+00

0  
 0  
 0  
 0  
 0  
 0  
 Pathway 6:

0  
 0  
 0  
 0  
 0  
 1  
 2  
 0.0000E+00 2.1000E+03 0.0000E+00 0.0000E+00 0.0000E+00  
 7.2000E+02 0.0000E+00 0.0000E+00 0.0000E+00 0.0000E+00

0  
 0  
 0  
 0  
 0  
 0  
 Pathway 7:

0  
 0  
 0  
 0  
 0  
 1  
 2  
 0.0000E+00 2.1000E+03 0.0000E+00 0.0000E+00 0.0000E+00  
 7.2000E+02 0.0000E+00 0.0000E+00 0.0000E+00 0.0000E+00

0  
 0  
 0  
 0  
 0  
 0  
 Pathway 8:

0  
 0

0  
0  
0  
0  
0  
0  
0  
0  
1  
4

0.0000E+00	0.0000E+00
3.3300E-02	3.0000E+00
2.4000E+01	1.5000E+00
7.2000E+02	0.0000E+00

0

Dose Locations:

3

Location 1:

Exclusion Area Boundary

3

1

4

0.0000E+00	1.3600E-03
4.1700E-01	1.5700E-04
5.0000E-01	6.3800E-06
7.2000E+02	0.0000E+00

1

2

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

0

Location 2:

Low Population Zone

3

1

8

0.0000E+00	1.0400E-04
4.1700E-01	3.0100E-05
5.0000E-01	2.0500E-05
2.0000E+00	8.7600E-06
8.0000E+00	5.7300E-06
2.4000E+01	2.2800E-06
9.6000E+01	6.0700E-07
7.2000E+02	0.0000E+00

1

4

0.0000E+00	3.5000E-04
8.0000E+00	1.8000E-04
2.4000E+01	2.3000E-04
7.2000E+02	0.0000E+00

0

Location 3:

Control Room

4

0

1

2



0.0000E+00 3.5000E-04  
 7.2000E+02 0.0000E+00  
 1  
 4  
 0.0000E+00 1.0000E+00  
 2.4000E+01 6.0000E-01  
 9.6000E+01 4.0000E-01  
 7.2000E+02 0.0000E+00

Effective Volume Location:

1  
 7  
 0.0000E+00 5.8200E-04  
 4.1700E-01 5.8400E-06  
 2.0000E+00 2.6800E-06  
 8.0000E+00 1.8100E-06  
 2.4000E+01 7.7700E-07  
 9.6000E+01 2.3000E-07  
 7.2000E+02 0.0000E+00

Simulation Parameters:

8  
 0.0000E+00 1.0000E-02  
 4.1700E-01 1.0000E-02  
 2.0000E+00 1.0000E-01  
 4.0000E+00 1.0000E+00  
 8.0000E+00 2.0000E+00  
 2.4000E+01 4.0000E+00  
 9.6000E+01 8.0000E+00  
 7.2000E+02 0.0000E+00

Output Filename:

C:\Users\jhead\Desktop\RADTRAD\Rev4\QDC39CL01.o1

1  
 1  
 1  
 0  
 0

End of Scenario File

#####  
 RADTRAD Version 3.03 (Spring 2001) run on 2/04/2020 at 7:51:08  
 #####

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

Number of Nuclides = 60

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

Number of compartments = 5

Compartment information

Compartment number 1 (Source term fraction = 1.0000E+00  
 )

Name: Sprayed Drywell

Compartment volume = 9.5000E+04 (Cubic feet)

Compartment type is Normal

Removal devices within compartment:

Spray(s)

Pathways into and out of compartment 1

Inlet Pathway Number 7: Unsprayed Drywell to Sprayed Drywell

Exit Pathway Number 1: Sprayed Drywell to Reactor Building

Exit Pathway Number 6: Sprayed Drywell to Unsprayed Drywell

Compartment number 2

Name: Reactor Building

Compartment volume = 2.3500E+06 (Cubic feet)

Compartment type is Normal

Pathways into and out of compartment 2

Inlet Pathway Number 1: Sprayed Drywell to Reactor Building

Inlet Pathway Number 8: Unsprayed Drywell to Reactor Building

Exit Pathway Number 2: Reactor Building to Environment

Compartment number 3

Name: Environment

Compartment type is Environment

Pathways into and out of compartment 3

Inlet Pathway Number 2: Reactor Building to Environment

Inlet Pathway Number 5: Control Room Exhaust to Environment

Exit Pathway Number 3: Filtered Intake to Control Room

Exit Pathway Number 4: Unfiltered Inleakage to Control Room

Compartment number 4

Name: Control Room

Compartment volume = 1.8400E+05 (Cubic feet)

Compartment type is Control Room

Pathways into and out of compartment 4

Inlet Pathway Number 3: Filtered Intake to Control Room

Inlet Pathway Number 4: Unfiltered Inleakage to Control Room

Exit Pathway Number 5: Control Room Exhaust to Environment

Compartment number 5

Name: Unsprayed Drywell

Compartment volume = 6.3000E+04 (Cubic feet)

Compartment type is Normal

Pathways into and out of compartment 5

Inlet Pathway Number 6: Sprayed Drywell to Unsprayed Drywell

Exit Pathway Number 7: Unsprayed Drywell to Sprayed Drywell

Exit Pathway Number 8: Unsprayed Drywell to Reactor Building

Total number of pathways = 8

#####  
 RADTRAD Version 3.03 (Spring 2001) run on 2/04/2020 at 7:51:08  
 #####

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

Radioactive Decay is enabled  
 Calculation of Daughters is enabled

Release Fractions and Timings

	GAP	EARLY IN-VESSEL	LATE RELEASE	RELEASE MASS
	0.500000 hr	1.5000 hrs	0.0000 hrs	(gm)
NOBLES	5.0000E-02	9.5000E-01	0.0000E+00	4.433E+03
IODINE	5.0000E-02	2.5000E-01	0.0000E+00	2.603E+02
CESIUM	5.0000E-02	2.0000E-01	0.0000E+00	4.865E+04
TELLURIUM	0.0000E+00	5.0000E-02	0.0000E+00	3.482E+01
STRONTIUM	0.0000E+00	2.0000E-02	0.0000E+00	1.714E+03
BARIUM	0.0000E+00	2.0000E-02	0.0000E+00	3.979E+01
RUTHENIUM	0.0000E+00	2.5000E-03	0.0000E+00	5.508E+01
CERIUM	0.0000E+00	5.0000E-04	0.0000E+00	5.379E+02
LANTHANUM	0.0000E+00	2.0000E-04	0.0000E+00	8.763E+00

Inventory Power = 3016. MWt

Nuclide Name	Group	Specific Inventory (Ci/MWt)	half life (s)	Whole Body DCF (Sv-m3/Bq-s)	Inhaled Thyroid (Sv/Bq)	Inhaled Effective (Sv/Bq)
Co-58	7	1.529E+02	6.117E+06	4.760E-14	8.720E-10	2.940E-09
Co-60	7	1.830E+02	1.663E+08	1.260E-13	1.620E-08	5.910E-08
Kr-85	1	4.609E+02	3.383E+08	1.190E-16	0.000E+00	0.000E+00
Kr-85m	1	7.427E+03	1.613E+04	7.480E-15	0.000E+00	0.000E+00
Kr-87	1	1.436E+04	4.578E+03	4.120E-14	0.000E+00	0.000E+00
Kr-88	1	2.022E+04	1.022E+04	1.020E-13	0.000E+00	0.000E+00
Rb-86	3	6.465E+01	1.612E+06	4.810E-15	1.330E-09	1.790E-09
Sr-89	5	2.715E+04	4.363E+06	7.730E-17	7.960E-12	1.120E-08
Sr-90	5	3.747E+03	9.190E+08	7.530E-18	2.690E-10	3.510E-07
Sr-91	5	3.382E+04	3.420E+04	4.924E-14	9.930E-12	4.547E-10
Sr-92	5	3.647E+04	9.756E+03	6.790E-14	3.920E-12	2.180E-10
Y-90	9	3.846E+03	2.304E+05	1.900E-16	5.170E-13	2.280E-09
Y-91	9	3.481E+04	5.055E+06	2.600E-16	8.500E-12	1.320E-08
Y-92	9	3.647E+04	1.274E+04	1.300E-14	1.050E-12	2.110E-10
Y-93	9	4.178E+04	3.636E+04	4.800E-15	9.260E-13	5.820E-10
Zr-95	9	4.609E+04	5.528E+06	3.600E-14	1.440E-09	6.390E-09
Zr-97	9	4.575E+04	6.084E+04	4.432E-14	2.315E-11	1.171E-09
Nb-95	9	4.642E+04	3.037E+06	3.740E-14	3.580E-10	1.570E-09
Mo-99	7	5.106E+04	2.376E+05	7.280E-15	1.520E-11	1.070E-09
Tc-99m	7	4.476E+04	2.167E+04	5.890E-15	5.010E-11	8.800E-12
Ru-103	7	4.310E+04	3.394E+06	2.251E-14	2.570E-10	2.421E-09
Ru-105	7	3.077E+04	1.598E+04	3.810E-14	4.150E-12	1.230E-10
Ru-106	7	1.890E+04	3.181E+07	1.040E-14	1.720E-09	1.290E-07
Rh-105	7	2.901E+04	1.273E+05	3.720E-15	2.880E-12	2.580E-10
Sb-127	4	2.974E+03	3.326E+05	3.330E-14	6.150E-11	1.630E-09
Sb-129	4	8.819E+03	1.555E+04	7.140E-14	9.720E-12	1.740E-10
Te-127	4	2.957E+03	3.366E+04	2.420E-16	1.840E-12	8.600E-11

Te-127m	4	3.979E+02	9.418E+06	1.470E-16	9.660E-11	5.810E-09
Te-129	4	8.687E+03	4.176E+03	2.750E-15	5.090E-13	2.090E-11
Te-129m	4	1.290E+03	2.903E+06	3.337E-15	1.563E-10	6.484E-09
Te-131m	4	3.945E+03	1.080E+05	7.463E-14	3.669E-08	1.758E-09
Te-132	4	3.846E+04	2.815E+05	1.030E-14	6.280E-08	2.550E-09
I-131	2	2.702E+04	6.947E+05	1.820E-14	2.920E-07	8.890E-09
I-132	2	3.912E+04	8.280E+03	1.120E-13	1.740E-09	1.030E-10
I-133	2	5.537E+04	7.488E+04	2.940E-14	4.860E-08	1.580E-09
I-134	2	6.101E+04	3.156E+03	1.300E-13	2.880E-10	3.550E-11
I-135	2	5.172E+04	2.380E+04	8.294E-14	8.460E-09	3.320E-10
Xe-133	1	5.305E+04	4.532E+05	1.560E-15	0.000E+00	0.000E+00
Xe-135	1	2.195E+04	3.272E+04	1.190E-14	0.000E+00	0.000E+00
Cs-134	3	7.990E+03	6.507E+07	7.570E-14	1.110E-08	1.250E-08
Cs-136	3	1.953E+03	1.132E+06	1.060E-13	1.730E-09	1.980E-09
Cs-137	3	5.073E+03	9.467E+08	2.725E-14	7.930E-09	8.630E-09
Ba-139	6	4.973E+04	4.962E+03	2.170E-15	2.400E-12	4.640E-11
Ba-140	6	4.807E+04	1.101E+06	8.580E-15	2.560E-10	1.010E-09
La-140	9	5.172E+04	1.450E+05	1.170E-13	6.870E-11	1.310E-09
La-141	9	4.542E+04	1.415E+04	2.390E-15	9.400E-12	1.570E-10
La-142	9	4.376E+04	5.550E+03	1.440E-13	8.740E-12	6.840E-11
Ce-141	8	4.542E+04	2.808E+06	3.430E-15	2.550E-11	2.420E-09
Ce-143	8	4.244E+04	1.188E+05	1.290E-14	6.230E-12	9.160E-10
Ce-144	8	3.780E+04	2.456E+07	2.773E-15	2.920E-10	1.010E-07
Pr-143	9	4.111E+04	1.172E+06	2.100E-17	1.680E-18	2.190E-09
Nd-147	9	1.814E+04	9.487E+05	6.190E-15	1.820E-11	1.850E-09
Np-239	8	5.404E+05	2.035E+05	7.690E-15	7.620E-12	6.780E-10
Pu-238	8	2.105E+02	2.769E+09	4.880E-18	3.860E-10	7.790E-05
Pu-239	8	1.247E+01	7.594E+11	4.240E-18	3.750E-10	8.330E-05
Pu-240	8	1.257E+01	2.063E+11	4.750E-18	3.760E-10	8.330E-05
Pu-241	8	7.493E+03	4.544E+08	7.250E-20	9.150E-12	1.340E-06
Am-241	9	1.326E+01	1.364E+10	8.180E-16	1.600E-09	1.200E-04
Cm-242	9	2.606E+03	1.407E+07	5.690E-18	9.410E-10	4.670E-06
Cm-244	9	3.349E+02	5.715E+08	4.910E-18	1.010E-09	6.700E-05

Nuclide	Daughter	Fraction	Daughter	Fraction	Daughter	Fraction
Kr-85m	Kr-85	0.21	none	0.00	none	0.00
Kr-87	Rb-87	1.00	none	0.00	none	0.00
Kr-88	Rb-88	1.00	none	0.00	none	0.00
Sr-90	Y-90	1.00	none	0.00	none	0.00
Sr-91	Y-91m	0.58	Y-91	0.42	none	0.00
Sr-92	Y-92	1.00	none	0.00	none	0.00
Y-93	Zr-93	1.00	none	0.00	none	0.00
Zr-95	Nb-95m	0.01	Nb-95	0.99	none	0.00
Zr-97	Nb-97m	0.95	Nb-97	0.05	none	0.00
Mo-99	Tc-99m	0.88	Tc-99	0.12	none	0.00
Tc-99m	Tc-99	1.00	none	0.00	none	0.00
Ru-103	Rh-103m	1.00	none	0.00	none	0.00
Ru-105	Rh-105	1.00	none	0.00	none	0.00
Ru-106	Rh-106	1.00	none	0.00	none	0.00
Sb-127	Te-127m	0.18	Te-127	0.82	none	0.00
Sb-129	Te-129m	0.22	Te-129	0.77	none	0.00
Te-127m	Te-127	0.98	none	0.00	none	0.00
Te-129	I-129	1.00	none	0.00	none	0.00
Te-129m	Te-129	0.65	I-129	0.35	none	0.00
Te-131m	Te-131	0.22	I-131	0.78	none	0.00
Te-132	I-132	1.00	none	0.00	none	0.00
I-131	Xe-131m	0.01	none	0.00	none	0.00

I-133	Xe-133m	0.03	Xe-133	0.97	none	0.00
I-135	Xe-135m	0.15	Xe-135	0.85	none	0.00
Xe-135	Cs-135	1.00	none	0.00	none	0.00
Cs-137	Ba-137m	0.95	none	0.00	none	0.00
Ba-140	La-140	1.00	none	0.00	none	0.00
La-141	Ce-141	1.00	none	0.00	none	0.00
Ce-143	Pr-143	1.00	none	0.00	none	0.00
Ce-144	Pr-144m	0.02	Pr-144	0.98	none	0.00
Nd-147	Pm-147	1.00	none	0.00	none	0.00
Np-239	Pu-239	1.00	none	0.00	none	0.00
Pu-238	U-234	1.00	none	0.00	none	0.00
Pu-239	U-235	1.00	none	0.00	none	0.00
Pu-240	U-236	1.00	none	0.00	none	0.00
Pu-241	U-237	0.00	Am-241	1.00	none	0.00
Am-241	Np-237	1.00	none	0.00	none	0.00
Cm-242	Pu-238	1.00	none	0.00	none	0.00
Cm-244	Pu-240	1.00	none	0.00	none	0.00

## Iodine fractions

Aerosol	=	9.5000E-01
Elemental	=	4.8500E-02
Organic	=	1.5000E-03

## COMPARTMENT DATA

Compartment number 1: Sprayed Drywell

## Sprays: Aerosol Removal Data

Time (hr)	Removal Coef. (hr <sup>-1</sup> )
0.0000E+00	0.0000E+00
1.6670E-01	1.5000E+01
2.2000E+00	1.5000E+00
2.3000E+00	1.5000E+00
4.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00

## Sprays: Elemental Removal Data

Time (hr)	Removal Coef. (hr <sup>-1</sup> )
0.0000E+00	0.0000E+00
1.6670E-01	1.5000E+01
2.2000E+00	1.5000E+01
2.3000E+00	0.0000E+00
4.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00

Compartment number 2: Reactor Building

Compartment number 3: Environment

Compartment number 4: Control Room

Compartment number 5: Unsprayed Drywell

## PATHWAY DATA

Pathway number 1: Sprayed Drywell to Reactor Building

## Convection Data

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

## Pathway number 2: Reactor Building to Environment

## Pathway Filter: Removal Data

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

## Pathway number 3: Filtered Intake to Control Room

## Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
2.0000E+00	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
4.0000E+00	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
8.0000E+00	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
1.6000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
2.4000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
4.8000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

## Pathway number 4: Unfiltered Inleakage to Control Room

## Pathway Filter: Removal Data

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

## Pathway number 5: Control Room Exhaust to Environment

## Pathway Filter: Removal Data

Time (hr)	Flow Rate	Filter Efficiencies (%)
-----------	-----------	-------------------------

	(cfm)	Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	6.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
4.0000E+00	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
8.0000E+00	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
1.6000E+01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
4.8000E+01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 6: Sprayed Drywell to Unsprayed Drywell

Pathway Filter: Removal Data

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

Pathway number 7: Unsprayed Drywell to Sprayed Drywell

Pathway Filter: Removal Data

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

Pathway number 8: Unsprayed Drywell to Reactor Building

Convection Data

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

LOCATION DATA

Location Exclusion Area Boundary is in compartment 3

Location X/Q Data

Time (hr)	X/Q (s * m <sup>-3</sup> )
0.0000E+00	1.3600E-03
4.1700E-01	1.5700E-04
5.0000E-01	6.3800E-06
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 Low Population Zone is in compartment 3

Location X/Q Data

Time (hr)	X/Q (s * m <sup>-3</sup> )
-----------	----------------------------

0.0000E+00	1.0400E-04
4.1700E-01	3.0100E-05
5.0000E-01	2.0500E-05
2.0000E+00	8.7600E-06
8.0000E+00	5.7300E-06
2.4000E+01	2.2800E-06
9.6000E+01	6.0700E-07
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
8.0000E+00	1.8000E-04
2.4000E+01	2.3000E-04
7.2000E+02	0.0000E+00

Location Control Room is in compartment 4

## Location X/Q Data

Time (hr)	X/Q (s * m <sup>-3</sup> )
0.0000E+00	5.8200E-04
4.1700E-01	5.8400E-06
2.0000E+00	2.6800E-06
8.0000E+00	1.8100E-06
2.4000E+01	7.7700E-07
9.6000E+01	2.3000E-07
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 Occupancy Factor Data

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

## USER SPECIFIED TIME STEP DATA - SUPPLEMENTAL TIME STEPS

Time	Time step
0.0000E+00	1.0000E-02
4.1700E-01	1.0000E-02
2.0000E+00	1.0000E-01
4.0000E+00	1.0000E+00
8.0000E+00	2.0000E+00
2.4000E+01	4.0000E+00
9.6000E+01	8.0000E+00
7.2000E+02	0.0000E+00



#####  
 RADTRAD Version 3.03 (Spring 2001) run on 2/04/2020 at 7:51:08  
 #####

```

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

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

Exclusion Area Boundary Doses:

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

Low Population Zone Doses:

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

Control Room Doses:

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

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =	0.0333	Ci	kg	Atoms	Decay
------------	--------	----	----	-------	-------

Sprayed Drywell Transport Group Inventory:

Time (h) =	0.0333	Atmosphere	Sump
Noble gases (atoms)		9.5010E+22	0.0000E+00
Elemental I (atoms)		6.2717E+20	0.0000E+00
Organic I (atoms)		1.9397E+19	0.0000E+00
Aerosols (kg)		6.3696E-01	0.0000E+00
Dose Effective (Ci/cc)	I-131 (Thyroid)		1.3888E-04
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		1.7724E-04
Total I (Ci)			2.2821E+06

Sprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) =	0.0333	Leakage Transport
------------	--------	-------------------

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

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 0.0333	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.1131E+21
Elemental I (atoms)	0.0000E+00	1.3953E+19
Organic I (atoms)	0.0000E+00	4.3155E+17
Aerosols (kg)	0.0000E+00	1.4166E-02

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 0.0333	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.6293E+19
Elemental I (atoms)	0.0000E+00	3.0567E+17
Organic I (atoms)	0.0000E+00	9.4538E+15
Aerosols (kg)	0.0000E+00	3.1035E-04

Reactor Building Compartment Nuclide Inventory:

Time (h) = 0.0333	Ci	kg	Atoms	Decay
-------------------	----	----	-------	-------

Reactor Building Transport Group Inventory:

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

Sprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 0.0333 Leakage Transport

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

Reactor Building to Environment Transport Group Inventory:

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

Unsprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 0.0333 Leakage Transport

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

## Exclusion Area Boundary Doses:

Time (h) =	0.1667	Whole Body	Thyroid	TEDE
Delta dose (rem)		3.1893E-03	5.7626E-01	2.8768E-02
Accumulated dose (rem)		3.1893E-03	5.7626E-01	2.8768E-02

## Low Population Zone Doses:

Time (h) =	0.1667	Whole Body	Thyroid	TEDE
Delta dose (rem)		2.4389E-04	4.4067E-02	2.1999E-03
Accumulated dose (rem)		2.4389E-04	4.4067E-02	2.1999E-03

## Control Room Doses:

Time (h) =	0.1667	Whole Body	Thyroid	TEDE
Delta dose (rem)		5.0907E-06	1.7984E-02	8.0337E-04
Accumulated dose (rem)		5.0907E-06	1.7984E-02	8.0337E-04

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =	0.1667	Ci	kg	Atoms	Decay
Kr-85		2.1024E+04	5.3587E-02	3.7966E+23	2.5389E+17
Kr-85m		3.3016E+05	4.0119E-05	2.8424E+20	4.0231E+18
Kr-87		5.9814E+05	2.1117E-05	1.4617E+20	7.4570E+18
Kr-88		8.8556E+05	7.0624E-05	4.8330E+20	1.0847E+19
Rb-86		2.9483E+03	3.6234E-05	2.5373E+20	3.5607E+16
I-131		1.2318E+06	9.9361E-03	4.5677E+22	1.4879E+19
I-132		1.7386E+06	1.6843E-04	7.6842E+20	2.1190E+19
I-133		2.5117E+06	2.2172E-03	1.0040E+22	3.0391E+19
I-134		2.4393E+06	9.1440E-05	4.1094E+20	3.0856E+19
I-135		2.3183E+06	6.6014E-04	2.9448E+21	2.8168E+19
Xe-133		2.4199E+06	1.2928E-02	5.8537E+22	2.9222E+19
Xe-135		1.0137E+06	3.9696E-04	1.7708E+21	1.2181E+19
Cs-134		3.6446E+05	2.8169E-01	1.2660E+24	4.4013E+18
Cs-136		8.9054E+04	1.2151E-03	5.3804E+21	1.0756E+18
Cs-137		2.3141E+05	2.6604E+00	1.1694E+25	2.7945E+18

## Sprayed Drywell Transport Group Inventory:

Time (h) =	0.1667	Atmosphere	Sump
Noble gases (atoms)		4.4088E+23	0.0000E+00
Elemental I (atoms)		2.9023E+21	0.0000E+00
Organic I (atoms)		8.9761E+19	0.0000E+00
Aerosols (kg)		2.9558E+00	0.0000E+00
Dose Effective (Ci/cc)	I-131 (Thyroid)		6.4303E-04
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		8.1795E-04
Total I (Ci)			1.0240E+07

## Sprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) =	0.1667	Leakage Transport
------------	--------	-------------------

Noble gases (atoms)	4.5370E+19
Elemental I (atoms)	2.9902E+17

Organic I (atoms) 9.2481E+15  
Aerosols (kg) 3.0417E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 0.1667	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.0253E+22
Elemental I (atoms)	0.0000E+00	3.3123E+20
Organic I (atoms)	0.0000E+00	1.0244E+19
Aerosols (kg)	0.0000E+00	3.3690E-01

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 0.1667	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.2261E+21
Elemental I (atoms)	0.0000E+00	3.4434E+19
Organic I (atoms)	0.0000E+00	1.0650E+18
Aerosols (kg)	0.0000E+00	3.5036E-02

Reactor Building Compartment Nuclide Inventory:

Time (h) = 0.1667	Ci	kg	Atoms	Decay
Kr-85	2.3044E+00	5.8736E-06	4.1614E+19	1.7454E+13
Kr-85m	3.6188E+01	4.3974E-09	3.1155E+16	2.7579E+14
Kr-87	6.5562E+01	2.3146E-09	1.6021E+16	5.0748E+14
Kr-88	9.7066E+01	7.7410E-09	5.2974E+16	7.4236E+14
Rb-86	3.2316E-01	3.9716E-09	2.7811E+16	2.4478E+12
I-131	1.3502E+02	1.0891E-06	5.0065E+18	1.0228E+15
I-132	1.8896E+02	1.8307E-08	8.3519E+16	1.4437E+15
I-133	2.7531E+02	2.4303E-07	1.1004E+18	2.0880E+15
I-134	2.6737E+02	1.0023E-08	4.5043E+16	2.0901E+15
I-135	2.5411E+02	7.2358E-08	3.2278E+17	1.9327E+15
Xe-133	2.6524E+02	1.4170E-06	6.4162E+18	2.0090E+15
Xe-135	1.1111E+02	4.3510E-08	1.9409E+17	8.3858E+14
Cs-134	3.9948E+01	3.0876E-05	1.3876E+20	3.0258E+14
Cs-136	9.7611E+00	1.3318E-07	5.8974E+17	7.3940E+13
Cs-137	2.5364E+01	2.9160E-04	1.2818E+21	1.9212E+14

Reactor Building Transport Group Inventory:

Time (h) = 0.1667	Atmosphere	Sump	
Noble gases (atoms)	4.8324E+19	0.0000E+00	
Elemental I (atoms)	3.1808E+17	0.0000E+00	
Organic I (atoms)	9.8374E+15	0.0000E+00	
Aerosols (kg)	3.2398E-04	0.0000E+00	
Dose Effective (Ci/cc)	I-131 (Thyroid)		2.8491E-09
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		3.6235E-09
Total I (Ci)			1.1208E+03

Sprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 0.1667 Leakage Transport

Noble gases (atoms) 4.5370E+19  
Elemental I (atoms) 2.9902E+17  
Organic I (atoms) 9.2481E+15  
Aerosols (kg) 3.0417E-04

Reactor Building to Environment Transport Group Inventory:

	Pathway	
Time (h) = 0.1667	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.8204E+17
Elemental I (atoms)	0.0000E+00	1.8581E+15
Organic I (atoms)	0.0000E+00	5.7468E+13
Aerosols (kg)	0.0000E+00	1.8908E-06

Unsprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 0.1667 Leakage Transport

Noble gases (atoms)	3.2374E+18
Elemental I (atoms)	2.1330E+16
Organic I (atoms)	6.5969E+14
Aerosols (kg)	2.1704E-05

Exclusion Area Boundary Doses:

Time (h) = 0.4170	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.2759E-02	5.8315E+00	2.9159E-01
Accumulated dose (rem)	3.5949E-02	6.4077E+00	3.2035E-01

Low Population Zone Doses:

Time (h) = 0.4170	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.5051E-03	4.4594E-01	2.2298E-02
Accumulated dose (rem)	2.7490E-03	4.9000E-01	2.4498E-02

Control Room Doses:

Time (h) = 0.4170	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.5247E-04	5.5116E-01	2.4619E-02
Accumulated dose (rem)	1.5756E-04	5.6915E-01	2.5422E-02

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 0.4170	Ci	kg	Atoms	Decay
Kr-85	4.7344E+04	1.2067E-01	8.5495E+23	1.4232E+18
Kr-85m	7.1524E+05	8.6911E-05	6.1575E+20	2.1991E+19
Kr-87	1.1752E+06	4.1488E-05	2.8718E+20	3.8290E+19
Kr-88	1.8760E+06	1.4961E-04	1.0238E+21	5.8444E+19
Rb-86	1.2909E+03	1.5865E-05	1.1110E+20	8.9925E+16
I-131	5.4249E+05	4.3758E-03	2.0116E+22	3.7638E+19
I-132	7.6567E+05	7.4178E-05	3.3842E+20	5.3281E+19
I-133	1.0978E+06	9.6913E-04	4.3881E+21	7.6645E+19
I-134	8.8208E+05	3.3066E-05	1.4860E+20	7.2264E+19
I-135	9.9533E+05	2.8342E-04	1.2643E+21	7.0528E+19
Xe-133	5.4460E+06	2.9095E-02	1.3174E+23	1.6376E+20
Xe-135	2.2850E+06	8.9476E-04	3.9914E+21	6.8623E+19
Cs-134	1.5964E+05	1.2339E-01	5.5452E+23	1.1117E+19
Cs-136	3.8986E+04	5.3194E-04	2.3555E+21	2.7162E+18
Cs-137	1.0136E+05	1.1653E+00	5.1224E+24	7.0586E+18

Sprayed Drywell Transport Group Inventory:

Time (h) = 0.4170 Atmosphere Sump

Noble gases (atoms)	9.9260E+23	0.0000E+00
Elemental I (atoms)	1.2655E+21	6.1253E+21
Organic I (atoms)	2.0112E+20	0.0000E+00
Aerosols (kg)	1.2947E+00	6.2501E+00
Dose Effective (Ci/cc) I-131 (Thyroid)		2.8232E-04
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)		3.5738E-04
Total I (Ci)		4.2834E+06

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

Noble gases (atoms)	2.7207E+20
Elemental I (atoms)	8.0946E+17
Organic I (atoms)	5.5281E+16
Aerosols (kg)	8.2501E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 0.4170	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.9079E+23
Elemental I (atoms)	0.0000E+00	8.7284E+20
Organic I (atoms)	0.0000E+00	5.9088E+19
Aerosols (kg)	0.0000E+00	8.8954E-01

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 0.4170	Filtered	Transported
Noble gases (atoms)	0.0000E+00	6.8285E+22
Elemental I (atoms)	0.0000E+00	2.7978E+20
Organic I (atoms)	0.0000E+00	1.3863E+19
Aerosols (kg)	0.0000E+00	2.8562E-01

Reactor Building Compartment Nuclide Inventory:

Time (h) = 0.4170	Ci	kg	Atoms	Decay
Kr-85	1.4780E+01	3.7672E-05	2.6690E+20	2.8121E+14
Kr-85m	2.2329E+02	2.7132E-08	1.9223E+17	4.3175E+15
Kr-87	3.6687E+02	1.2952E-08	8.9653E+16	7.3945E+15
Kr-88	5.8566E+02	4.6707E-08	3.1963E+17	1.1432E+16
Rb-86	9.7940E-01	1.2037E-08	8.4287E+16	2.5548E+13
I-131	4.0969E+02	3.3046E-06	1.5192E+19	1.0680E+16
I-132	5.4447E+02	5.2748E-08	2.4065E+17	1.4562E+16
I-133	8.2916E+02	7.3195E-07	3.3142E+18	2.1696E+16
I-134	6.6621E+02	2.4973E-08	1.1223E+17	1.9190E+16
I-135	7.5174E+02	2.1406E-07	9.5487E+17	1.9846E+16
Xe-133	1.7003E+03	9.0837E-06	4.1130E+19	3.2358E+16
Xe-135	7.1499E+02	2.7998E-07	1.2489E+18	1.3599E+16
Cs-134	1.2112E+02	9.3613E-05	4.2071E+20	3.1588E+15
Cs-136	2.9578E+01	4.0357E-07	1.7870E+18	7.7163E+14
Cs-137	7.6902E+01	8.8411E-04	3.8863E+21	2.0056E+15

Reactor Building Transport Group Inventory:

Time (h) = 0.4170	Atmosphere	Sump
Noble gases (atoms)	3.0988E+20	0.0000E+00
Elemental I (atoms)	9.5935E+17	0.0000E+00

Organic I (atoms)	6.2767E+16	0.0000E+00
Aerosols (kg)	9.8224E-04	0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)		8.6164E-09
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)		1.0893E-08
Total I (Ci)		3.2013E+03

Sprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 0.4170 Leakage Transport

Noble gases (atoms)	2.7207E+20
Elemental I (atoms)	8.0946E+17
Organic I (atoms)	5.5281E+16
Aerosols (kg)	8.2501E-04

Reactor Building to Environment Transport Group Inventory:

	Pathway	
Time (h) = 0.4170	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.8011E+18
Elemental I (atoms)	0.0000E+00	2.0629E+16
Organic I (atoms)	0.0000E+00	9.7454E+14
Aerosols (kg)	0.0000E+00	2.1066E-05

Unsprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 0.4170 Leakage Transport

Noble gases (atoms)	4.2649E+19
Elemental I (atoms)	1.7467E+17
Organic I (atoms)	8.6587E+15
Aerosols (kg)	1.7832E-04

Exclusion Area Boundary Doses:

Time (h) = 0.5000	Whole Body	Thyroid	TEDE
Delta dose (rem)	6.0544E-04	8.4798E-03	9.6323E-04
Accumulated dose (rem)	3.6554E-02	6.4162E+00	3.2132E-01

Low Population Zone Doses:

Time (h) = 0.5000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.1607E-04	1.6258E-03	1.8467E-04
Accumulated dose (rem)	2.8651E-03	4.9163E-01	2.4682E-02

Control Room Doses:

Time (h) = 0.5000	Whole Body	Thyroid	TEDE
Delta dose (rem)	9.2097E-05	3.3477E-01	1.4953E-02
Accumulated dose (rem)	2.4966E-04	9.0392E-01	4.0375E-02

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 0.5000	Ci	kg	Atoms	Decay
Kr-85	5.5281E+04	1.4090E-01	9.9828E+23	1.9959E+18
Kr-85m	8.2449E+05	1.0019E-04	7.0981E+20	3.0586E+19
Kr-87	1.3115E+06	4.6300E-05	3.2049E+20	5.2181E+19
Kr-88	2.1466E+06	1.7119E-04	1.1715E+21	8.0903E+19
Rb-86	1.2753E+03	1.5673E-05	1.0975E+20	1.0408E+17

I-131	5.3661E+05	4.3283E-03	1.9898E+22	4.3590E+19
I-132	7.5735E+05	7.3371E-05	3.3474E+20	6.1694E+19
I-133	1.0832E+06	9.5622E-04	4.3297E+21	8.8674E+19
I-134	8.1731E+05	3.0638E-05	1.3769E+20	8.1632E+19
I-135	9.7626E+05	2.7799E-04	1.2401E+21	8.1401E+19
Xe-133	6.3576E+06	3.3965E-02	1.5379E+23	2.2963E+20
Xe-135	2.6679E+06	1.0447E-03	4.6604E+21	9.6265E+19
Cs-134	1.5773E+05	1.2191E-01	5.4789E+23	1.2867E+19
Cs-136	3.8513E+04	5.2548E-04	2.3269E+21	3.1435E+18
Cs-137	1.0015E+05	1.1514E+00	5.0612E+24	8.1699E+18

## Sprayed Drywell Transport Group Inventory:

Time (h) =	0.5000	Atmosphere	Sump	
Noble gases (atoms)	1.1589E+24	0.0000E+00		
Elemental I (atoms)	1.2486E+21	7.6878E+21		
Organic I (atoms)	2.3446E+20	0.0000E+00		
Aerosols (kg)	1.2792E+00	7.8496E+00		
Dose Effective (Ci/cc) I-131 (Thyroid)				2.7899E-04
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)				3.5263E-04
Total I (Ci)				4.1707E+06

## Sprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 0.5000 Leakage Transport

Noble gases (atoms)	3.8373E+20
Elemental I (atoms)	9.3967E+17
Organic I (atoms)	7.7890E+16
Aerosols (kg)	9.5830E-04

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

Time (h) =	Pathway	
	Filtered	Transported
0.5000		
Noble gases (atoms)	0.0000E+00	4.0927E+23
Elemental I (atoms)	0.0000E+00	1.0110E+21
Organic I (atoms)	0.0000E+00	8.3077E+19
Aerosols (kg)	0.0000E+00	1.0310E+00

## Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

Time (h) =	Pathway	
	Filtered	Transported
0.5000		
Noble gases (atoms)	0.0000E+00	1.1138E+23
Elemental I (atoms)	0.0000E+00	3.8078E+20
Organic I (atoms)	0.0000E+00	2.2587E+19
Aerosols (kg)	0.0000E+00	3.8909E-01

## Reactor Building Compartment Nuclide Inventory:

Time (h) =	0.5000	Ci	kg	Atoms	Decay
Kr-85		2.1224E+01	5.4097E-05	3.8327E+20	4.8339E+14
Kr-85m		3.1654E+02	3.8464E-08	2.7252E+17	7.3513E+15
Kr-87		5.0351E+02	1.7776E-08	1.2305E+17	1.2295E+16
Kr-88		8.2414E+02	6.5725E-08	4.4978E+17	1.9358E+16
Rb-86		1.1666E+00	1.4338E-08	1.0040E+17	3.7532E+13
I-131		4.8825E+02	3.9383E-06	1.8105E+19	1.5695E+16
I-132		6.3895E+02	6.1901E-08	2.8241E+17	2.1177E+16



I-133	9.8571E+02	8.7014E-07	3.9399E+18	3.1831E+16
I-134	7.4374E+02	2.7880E-08	1.2529E+17	2.7076E+16
I-135	8.8838E+02	2.5297E-07	1.1284E+18	2.9007E+16
Xe-133	2.4409E+03	1.3040E-05	5.9046E+19	5.5614E+16
Xe-135	1.0249E+03	4.0134E-07	1.7903E+18	2.3367E+16
Cs-134	1.4429E+02	1.1152E-04	5.0120E+20	4.6409E+15
Cs-136	3.5231E+01	4.8070E-07	2.1286E+18	1.1335E+15
Cs-137	9.1615E+01	1.0533E-03	4.6299E+21	2.9467E+15

## Reactor Building Transport Group Inventory:

Time (h) =	0.5000	Atmosphere	Sump	
Noble gases (atoms)	4.4495E+20	0.0000E+00		
Elemental I (atoms)	1.1410E+18	0.0000E+00		
Organic I (atoms)	8.9983E+16	0.0000E+00		
Aerosols (kg)	1.1702E-03	0.0000E+00		
Dose Effective (Ci/cc) I-131 (Thyroid)				1.0258E-08
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)				1.2944E-08
Total I (Ci)				3.7450E+03

## Sprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 0.5000 Leakage Transport

Noble gases (atoms)	3.8373E+20
Elemental I (atoms)	9.3967E+17
Organic I (atoms)	7.7890E+16
Aerosols (kg)	9.5830E-04

## Reactor Building to Environment Transport Group Inventory:

	Pathway	
Time (h) =	0.5000	
	Filtered	Transported
Noble gases (atoms)	0.0000E+00	8.3017E+18
Elemental I (atoms)	8.8138E+15	2.1609E+16
Organic I (atoms)	6.3768E+14	1.0454E+15
Aerosols (kg)	9.8336E-06	2.1267E-05

## Unsprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 0.5000 Leakage Transport

Noble gases (atoms)	6.9585E+19
Elemental I (atoms)	2.3780E+17
Organic I (atoms)	1.4111E+16
Aerosols (kg)	2.4299E-04

## Exclusion Area Boundary Doses:

Time (h) =	0.6667	Whole Body	Thyroid	TEDE
Delta dose (rem)		8.7137E-05	9.0818E-04	1.2668E-04
Accumulated dose (rem)		3.6641E-02	6.4171E+00	3.2144E-01

## Low Population Zone Doses:

Time (h) =	0.6667	Whole Body	Thyroid	TEDE
Delta dose (rem)		2.7999E-04	2.9181E-03	4.0703E-04
Accumulated dose (rem)		3.1451E-03	4.9455E-01	2.5089E-02

## Control Room Doses:

Time (h) =	0.6667	Whole Body	Thyroid	TEDE
Delta dose (rem)		1.3915E-04	5.2333E-01	2.3374E-02
Accumulated dose (rem)		3.8881E-04	1.4273E+00	6.3749E-02

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =	Ci	kg	Atoms	Decay
Co-58	4.4404E+01	1.3965E-06	1.4499E+19	7.1815E+14
Co-60	5.3160E+01	4.7028E-05	4.7202E+20	8.5972E+14
Kr-85	1.8268E+05	4.6562E-01	3.2988E+24	4.7614E+18
Kr-85m	2.6551E+06	3.2264E-04	2.2858E+21	7.1217E+19
Kr-87	3.9574E+06	1.3971E-04	9.6707E+20	1.1442E+20
Kr-88	6.8106E+06	5.4314E-04	3.7169E+21	1.8577E+20
Rb-86	1.6516E+03	2.0299E-05	1.4214E+20	1.3845E+17
Sr-89	6.3071E+04	2.1710E-03	1.4690E+22	1.0201E+18
Sr-90	8.7078E+03	6.3837E-02	4.2715E+23	1.4083E+17
Sr-91	7.4864E+04	2.0652E-05	1.3667E+20	1.2167E+18
Sr-92	7.1467E+04	5.6858E-06	3.7218E+19	1.1760E+18
Y-90	9.4503E+01	1.7370E-07	1.1623E+18	1.4928E+15
Y-91	8.0966E+02	3.3015E-05	2.1848E+20	1.3088E+16
Y-92	1.6049E+03	1.6679E-07	1.0918E+18	2.0770E+16
Y-93	9.2752E+02	2.7801E-07	1.8002E+18	1.5070E+16
Zr-95	1.0708E+03	4.9844E-05	3.1596E+20	1.7318E+16
Zr-97	1.0345E+03	5.4116E-07	3.3598E+18	1.6777E+16
Nb-95	1.0788E+03	2.7588E-05	1.7488E+20	1.7446E+16
Mo-99	1.4729E+04	3.0710E-05	1.8681E+20	2.3837E+17
Tc-99m	1.3003E+04	2.4729E-06	1.5043E+19	2.1018E+17
Ru-103	1.2514E+04	3.8775E-04	2.2671E+21	2.0239E+17
Ru-105	8.0549E+03	1.1983E-06	6.8726E+18	1.3165E+17
Ru-106	5.4900E+03	1.6410E-03	9.3229E+21	8.8788E+16
Rh-105	8.4280E+03	9.9852E-06	5.7269E+19	1.3630E+17
Sb-127	1.7192E+04	6.4378E-05	3.0527E+20	2.7818E+17
Sb-129	4.6039E+04	8.1871E-06	3.8220E+19	7.5271E+17
Te-127	1.7142E+04	6.4955E-06	3.0801E+19	2.7720E+17
Te-127m	2.3119E+03	2.4510E-04	1.1622E+21	3.7388E+16
Te-129	4.7779E+04	2.2814E-06	1.0651E+19	7.7552E+17
Te-129m	7.4966E+03	2.4885E-04	1.1617E+21	1.2123E+17
Te-131m	2.2570E+04	2.8304E-05	1.3011E+20	3.6558E+17
Te-132	2.2213E+05	7.3168E-04	3.3381E+21	3.5945E+18
I-131	8.5232E+05	6.8749E-03	3.1604E+22	6.0589E+19
I-132	1.2091E+06	1.1713E-04	5.3438E+20	8.5832E+19
I-133	1.7119E+06	1.5112E-03	6.8425E+21	1.2290E+20
I-134	1.1385E+06	4.2676E-05	1.9179E+20	1.0581E+20
I-135	1.5246E+06	4.3412E-04	1.9365E+21	1.1205E+20
Xe-133	2.1010E+07	1.1225E-01	5.0824E+23	5.4774E+20
Xe-135	8.9315E+06	3.4974E-03	1.5602E+22	2.3116E+20
Cs-134	2.0433E+05	1.5793E-01	7.0974E+23	1.7120E+19
Cs-136	4.9873E+04	6.8047E-04	3.0132E+21	4.1816E+18
Cs-137	1.2974E+05	1.4915E+00	6.5564E+24	1.0870E+19
Ba-139	8.2649E+04	5.0528E-06	2.1891E+19	1.3832E+18
Ba-140	1.1154E+05	1.5236E-03	6.5540E+21	1.8042E+18
La-140	1.3056E+03	2.3489E-06	1.0104E+19	2.0392E+16
La-141	9.3844E+02	1.6594E-07	7.0872E+17	1.5359E+16
La-142	7.5357E+02	5.2642E-08	2.2325E+17	1.2566E+16
Ce-141	2.6387E+03	9.2607E-05	3.9553E+20	4.2674E+16
Ce-143	2.4314E+03	3.6613E-06	1.5419E+19	3.9378E+16

Ce-144	2.1960E+03	6.8851E-04	2.8794E+21	3.5515E+16
Pr-143	9.5558E+02	1.4191E-05	5.9761E+19	1.5453E+16
Nd-147	4.2083E+02	5.2019E-06	2.1311E+19	6.8070E+15
Np-239	3.1141E+04	1.3423E-04	3.3823E+20	5.0404E+17
Pu-238	1.2230E+01	7.1437E-04	1.8076E+21	1.9779E+14
Pu-239	7.2456E-01	1.1657E-02	2.9372E+22	1.1718E+13
Pu-240	7.3030E-01	3.2050E-03	8.0419E+21	1.1811E+13
Pu-241	4.3533E+02	4.2260E-03	1.0560E+22	7.0404E+15
Am-241	3.0818E-01	8.9792E-05	2.2437E+20	4.9839E+12
Cm-242	6.0555E+01	1.8271E-05	4.5467E+19	9.7933E+14
Cm-244	7.7829E+00	9.6201E-05	2.3743E+20	1.2587E+14

## Sprayed Drywell Transport Group Inventory:

Time (h) =	0.6667	Atmosphere	Sump	
Noble gases (atoms)	3.8296E+24	0.0000E+00		
Elemental I (atoms)	1.9794E+21	1.2088E+22		
Organic I (atoms)	3.5762E+20	0.0000E+00		
Aerosols (kg)	1.7507E+00	1.1869E+01		
Dose Effective (Ci/cc) I-131 (Thyroid)				4.4226E-04
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)				5.5750E-04
Total I (Ci)				6.4363E+06

## Sprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 0.6667 Leakage Transport

Noble gases (atoms)	9.1137E+20
Elemental I (atoms)	1.3064E+18
Organic I (atoms)	1.3984E+17
Aerosols (kg)	1.2933E-03

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) =	0.6667	
	Filtered	Transported
Noble gases (atoms)	0.0000E+00	9.6912E+23
Elemental I (atoms)	0.0000E+00	1.4001E+21
Organic I (atoms)	0.0000E+00	1.4881E+20
Aerosols (kg)	0.0000E+00	1.3864E+00

## Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) =	0.6667	
	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.6566E+23
Elemental I (atoms)	0.0000E+00	6.1268E+20
Organic I (atoms)	0.0000E+00	4.8817E+19
Aerosols (kg)	0.0000E+00	6.2198E-01

## Reactor Building Compartment Nuclide Inventory:

Time (h) =	0.6667	Ci	kg	Atoms	Decay
Co-58		6.9338E-03	2.1806E-10	2.2641E+15	6.3999E+10
Co-60		8.3010E-03	7.3435E-09	7.3706E+16	7.6617E+10
Kr-85		5.0368E+01	1.2838E-04	9.0956E+20	1.2419E+15
Kr-85m		7.3208E+02	8.8958E-08	6.3026E+17	1.8498E+16
Kr-87		1.0911E+03	3.8521E-08	2.6664E+17	2.9382E+16
Kr-88		1.8778E+03	1.4976E-07	1.0248E+18	4.8134E+16

Rb-86	1.6048E+00	1.9723E-08	1.3811E+17	6.8431E+13
Sr-89	9.8486E+00	3.3900E-07	2.2938E+18	9.0904E+13
Sr-90	1.3597E+00	9.9682E-06	6.6700E+19	1.2550E+13
Sr-91	1.1690E+01	3.2249E-09	2.1341E+16	1.0827E+14
Sr-92	1.1160E+01	8.8784E-10	5.8116E+15	1.0426E+14
Y-90	1.5518E-02	2.8522E-11	1.9085E+14	1.3855E+11
Y-91	1.2655E-01	5.1605E-09	3.4151E+16	1.1673E+12
Y-92	3.6424E-01	3.7854E-11	2.4778E+14	2.6785E+12
Y-93	1.4483E-01	4.3411E-11	2.8111E+14	1.3411E+12
Zr-95	1.6720E-01	7.7831E-09	4.9338E+16	1.5433E+12
Zr-97	1.6154E-01	8.4503E-11	5.2463E+14	1.4939E+12
Nb-95	1.6845E-01	4.3079E-09	2.7308E+16	1.5548E+12
Mo-99	2.3000E+00	4.7954E-09	2.9171E+16	2.1239E+13
Tc-99m	2.0305E+00	3.8615E-10	2.3490E+15	1.8731E+13
Ru-103	1.9541E+00	6.0547E-08	3.5400E+17	1.8037E+13
Ru-105	1.2578E+00	1.8711E-10	1.0732E+15	1.1695E+13
Ru-106	8.5728E-01	2.5624E-07	1.4558E+18	7.9126E+12
Rh-105	1.3160E+00	1.5592E-09	8.9425E+15	1.2146E+13
Sb-127	2.6846E+00	1.0053E-08	4.7668E+16	2.4787E+13
Sb-129	7.1891E+00	1.2784E-09	5.9681E+15	6.6860E+13
Te-127	2.6768E+00	1.0143E-09	4.8096E+15	2.4702E+13
Te-127m	3.6100E-01	3.8272E-08	1.8148E+17	3.3320E+12
Te-129	7.4607E+00	3.5625E-10	1.6631E+15	6.8988E+13
Te-129m	1.1706E+00	3.8858E-08	1.8140E+17	1.0804E+13
Te-131m	3.5243E+00	4.4197E-09	2.0317E+16	3.2564E+13
Te-132	3.4686E+01	1.1425E-07	5.2124E+17	3.2028E+14
I-131	6.9671E+02	5.6198E-06	2.5834E+19	2.8859E+16
I-132	8.9283E+02	8.6496E-08	3.9462E+17	3.8213E+16
I-133	1.3995E+03	1.2355E-06	5.5941E+18	5.8338E+16
I-134	9.3075E+02	3.4890E-08	1.5680E+17	4.5796E+16
I-135	1.2464E+03	3.5491E-07	1.5832E+18	5.2746E+16
Xe-133	5.7905E+03	3.0935E-05	1.4007E+20	1.4282E+17
Xe-135	2.4350E+03	9.5350E-07	4.2534E+18	6.0006E+16
Cs-134	1.9853E+02	1.5344E-04	6.8960E+20	8.4631E+15
Cs-136	4.8457E+01	6.6116E-07	2.9276E+18	2.0666E+15
Cs-137	1.2605E+02	1.4492E-03	6.3703E+21	5.3735E+15
Ba-139	1.2906E+01	7.8900E-10	3.4183E+15	1.2200E+14
Ba-140	1.7418E+01	2.3792E-07	1.0234E+18	1.6078E+14
La-140	2.1935E-01	3.9464E-10	1.6976E+15	1.9295E+12
La-141	1.4654E-01	2.5911E-11	1.1067E+14	1.3639E+12
La-142	1.1767E-01	8.2200E-12	3.4861E+13	1.1095E+12
Ce-141	4.1202E-01	1.4460E-08	6.1760E+16	3.8030E+12
Ce-143	3.7967E-01	5.7172E-10	2.4077E+15	3.5078E+12
Ce-144	3.4290E-01	1.0751E-07	4.4961E+17	3.1650E+12
Pr-143	1.4924E-01	2.2163E-09	9.3333E+15	1.3773E+12
Nd-147	6.5712E-02	8.1228E-10	3.3277E+15	6.0659E+11
Np-239	4.8627E+00	2.0961E-08	5.2815E+16	4.4908E+13
Pu-238	1.9097E-03	1.1155E-07	2.8226E+17	1.7626E+10
Pu-239	1.1314E-04	1.8203E-06	4.5865E+18	1.0443E+09
Pu-240	1.1404E-04	5.0046E-07	1.2558E+18	1.0526E+09
Pu-241	6.7978E-02	6.5989E-07	1.6490E+18	6.2743E+11
Am-241	4.8123E-05	1.4021E-08	3.5036E+16	4.4416E+08
Cm-242	9.4557E-03	2.8530E-09	7.0997E+15	8.7276E+10
Cm-244	1.2153E-03	1.5022E-08	3.7075E+16	1.1217E+10

Reactor Building Transport Group Inventory:

Time (h) = 0.6667 Atmosphere Sump

Noble gases (atoms)	1.0558E+21	0.0000E+00
Elemental I (atoms)	1.6222E+18	0.0000E+00
Organic I (atoms)	1.6555E+17	0.0000E+00
Aerosols (kg)	1.6246E-03	0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)		1.4607E-08
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)		1.8372E-08
Total I (Ci)		5.1662E+03

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

Noble gases (atoms)	9.1137E+20
Elemental I (atoms)	1.3064E+18
Organic I (atoms)	1.3984E+17
Aerosols (kg)	1.2933E-03

Reactor Building to Environment Transport Group Inventory:

	Pathway	
Time (h) = 0.6667	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.1372E+19
Elemental I (atoms)	3.1878E+16	2.4172E+16
Organic I (atoms)	2.7461E+15	1.2797E+15
Aerosols (kg)	3.5318E-05	2.1787E-05

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

Noble gases (atoms)	1.6601E+20
Elemental I (atoms)	3.8273E+17
Organic I (atoms)	3.0505E+16
Aerosols (kg)	3.8854E-04

Exclusion Area Boundary Doses:

Time (h) = 2.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	8.4062E-03	2.1913E-02	9.5532E-03
Accumulated dose (rem)	4.5048E-02	6.4390E+00	3.3100E-01

Low Population Zone Doses:

Time (h) = 2.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.7010E-02	7.0409E-02	3.0696E-02
Accumulated dose (rem)	3.0156E-02	5.6495E-01	5.5786E-02

Control Room Doses:

Time (h) = 2.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	5.9189E-04	2.2442E+00	1.0035E-01
Accumulated dose (rem)	9.8070E-04	3.6714E+00	1.6410E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 2.0000	Ci	kg	Atoms	Decay
Co-58	5.0848E+01	1.5991E-06	1.6603E+19	9.5333E+15
Co-60	6.0906E+01	5.3880E-05	5.4079E+20	1.1416E+16
Kr-85	9.3990E+05	2.3956E+00	1.6973E+25	1.0762E+20

Kr-85m	1.1114E+07	1.3506E-03	9.5685E+21	1.3922E+21
Kr-87	9.8440E+06	3.4753E-04	2.4056E+21	1.5755E+21
Kr-88	2.5307E+07	2.0183E-03	1.3812E+22	3.3450E+21
Rb-86	1.7228E+03	2.1173E-05	1.4826E+20	4.4176E+17
Sr-89	7.2207E+04	2.4854E-03	1.6818E+22	1.3539E+19
Sr-90	9.9768E+03	7.3140E-02	4.8940E+23	1.8700E+18
Sr-91	7.7823E+04	2.1468E-05	1.4207E+20	1.5374E+19
Sr-92	5.8221E+04	4.6320E-06	3.0320E+19	1.3174E+19
Y-90	1.1333E+02	2.0829E-07	1.3938E+18	2.0630E+16
Y-91	9.2796E+02	3.7839E-05	2.5041E+20	1.7388E+17
Y-92	2.0742E+03	2.1556E-07	1.4110E+18	3.5666E+17
Y-93	9.6977E+02	2.9067E-07	1.8822E+18	1.9097E+17
Zr-95	1.2261E+03	5.7073E-05	3.6179E+20	2.2988E+17
Zr-97	1.1222E+03	5.8703E-07	3.6445E+18	2.1662E+17
Nb-95	1.2360E+03	3.1607E-05	2.0036E+20	2.3166E+17
Mo-99	1.6641E+04	3.4696E-05	2.1106E+20	3.1425E+18
Tc-99m	1.4878E+04	2.8294E-06	1.7211E+19	2.7894E+18
Ru-103	1.4324E+04	4.4382E-04	2.5949E+21	2.6861E+18
Ru-105	7.4946E+03	1.1149E-06	6.3945E+18	1.5737E+18
Ru-106	6.2894E+03	1.8799E-03	1.0680E+22	1.1789E+18
Rh-105	9.6220E+03	1.1400E-05	6.5382E+19	1.8074E+18
Sb-127	1.9502E+04	7.3026E-05	3.4628E+20	3.6749E+18
Sb-129	4.2589E+04	7.5736E-06	3.5356E+19	8.9716E+18
Te-127	1.9549E+04	7.4076E-06	3.5126E+19	3.6721E+18
Te-127m	2.6491E+03	2.8085E-04	1.3317E+21	4.9650E+17
Te-129	4.7613E+04	2.2735E-06	1.0614E+19	9.6234E+18
Te-129m	8.5912E+03	2.8518E-04	1.3313E+21	1.6101E+18
Te-131m	2.5074E+04	3.1445E-05	1.4455E+20	4.7781E+18
Te-132	2.5151E+05	8.2845E-04	3.7796E+21	4.7441E+19
I-131	9.1924E+05	7.4148E-03	3.4086E+22	2.2074E+20
I-132	1.2915E+06	1.2512E-04	5.7082E+20	3.1198E+20
I-133	1.7736E+06	1.5657E-03	7.0893E+21	4.3813E+20
I-134	4.2971E+05	1.6108E-05	7.2391E+19	2.3762E+20
I-135	1.4358E+06	4.0886E-04	1.8238E+21	3.7979E+20
Xe-133	1.0774E+08	5.7560E-01	2.6063E+24	1.2355E+22
Xe-135	4.5785E+07	1.7929E-02	7.9977E+22	5.2624E+21
Cs-134	2.1356E+05	1.6506E-01	7.4180E+23	5.4681E+19
Cs-136	5.1975E+04	7.0916E-04	3.1402E+21	1.3336E+19
Cs-137	1.3560E+05	1.5590E+00	6.8528E+24	3.4719E+19
Ba-139	4.8431E+04	2.9609E-06	1.2828E+19	1.3288E+19
Ba-140	1.2741E+05	1.7404E-03	7.4864E+21	2.3920E+19
La-140	1.5963E+03	2.8720E-06	1.2354E+19	2.8702E+17
La-141	8.4988E+02	1.5028E-07	6.4185E+17	1.8116E+17
La-142	4.7409E+02	3.3118E-08	1.4045E+17	1.2467E+17
Ce-141	3.0224E+03	1.0607E-04	4.5305E+20	5.6659E+17
Ce-143	2.7088E+03	4.0790E-06	1.7178E+19	5.1541E+17
Ce-144	2.5157E+03	7.8873E-04	3.2985E+21	4.7155E+17
Pr-143	1.0950E+03	1.6261E-05	6.8481E+19	2.0522E+17
Nd-147	4.8046E+02	5.9391E-06	2.4331E+19	9.0224E+16
Np-239	3.5100E+04	1.5130E-04	3.8123E+20	6.6369E+18
Pu-238	1.4012E+01	8.1849E-04	2.0710E+21	2.6263E+15
Pu-239	8.3030E-01	1.3358E-02	3.3659E+22	1.5561E+14
Pu-240	8.3673E-01	3.6720E-03	9.2139E+21	1.5683E+14
Pu-241	4.9877E+02	4.8418E-03	1.2099E+22	9.3486E+16
Am-241	3.5314E-01	1.0289E-04	2.5711E+20	6.6185E+13
Cm-242	6.9363E+01	2.0928E-05	5.2080E+19	1.3003E+16
Cm-244	8.9170E+00	1.1022E-04	2.7203E+20	1.6713E+15

## Sprayed Drywell Transport Group Inventory:

Time (h) =	2.0000	Atmosphere	Sump	
Noble gases (atoms)	1.9685E+25	0.0000E+00		
Elemental I (atoms)	2.0639E+21	5.3237E+22		
Organic I (atoms)	1.1508E+21	0.0000E+00		
Aerosols (kg)	1.8391E+00	4.8258E+01		
Dose Effective (Ci/cc)	I-131 (Thyroid)			4.6993E-04
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)			5.8238E-04
Total I (Ci)				5.8499E+06

## Sprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 2.0000 Leakage Transport

Noble gases (atoms)	2.1037E+22
Elemental I (atoms)	4.7355E+18
Organic I (atoms)	1.4178E+18
Aerosols (kg)	4.3257E-03

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) =	2.0000	
	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.2323E+25
Elemental I (atoms)	0.0000E+00	5.0385E+21
Organic I (atoms)	0.0000E+00	1.5048E+21
Aerosols (kg)	0.0000E+00	4.6039E+00

## Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) =	2.0000	
	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.2907E+25
Elemental I (atoms)	0.0000E+00	3.6849E+21
Organic I (atoms)	0.0000E+00	9.2345E+20
Aerosols (kg)	0.0000E+00	3.4199E+00

## Reactor Building Compartment Nuclide Inventory:

Time (h) =	2.0000	Ci	kg	Atoms	Decay
Co-58		1.1941E-01	3.7552E-09	3.8990E+16	1.0939E+13
Co-60		1.4303E-01	1.2653E-07	1.2700E+18	1.3100E+13
Kr-85		1.3084E+03	3.3348E-03	2.3627E+22	9.6611E+16
Kr-85m		1.5472E+04	1.8800E-06	1.3320E+19	1.2204E+18
Kr-87		1.3703E+04	4.8378E-07	3.3487E+18	1.2929E+18
Kr-88		3.5229E+04	2.8095E-06	1.9226E+19	2.8904E+18
Rb-86		5.5660E+00	6.8406E-08	4.7901E+17	7.0742E+14
Sr-89		1.6957E+02	5.8367E-06	3.9494E+19	1.5535E+16
Sr-90		2.3429E+01	1.7176E-04	1.1493E+21	2.1458E+15
Sr-91		1.8276E+02	5.0415E-08	3.3364E+17	1.7320E+16
Sr-92		1.3672E+02	1.0878E-08	7.1202E+16	1.4153E+16
Y-90		4.4581E-01	8.1940E-10	5.4828E+15	3.5110E+13
Y-91		2.2073E+00	9.0005E-08	5.9563E+17	2.0133E+14
Y-92		2.4613E+01	2.5579E-09	1.6744E+16	1.7617E+15
Y-93		2.2774E+00	6.8259E-10	4.4201E+15	2.1539E+14
Zr-95		2.8793E+00	1.3403E-07	8.4961E+17	2.6377E+14
Zr-97		2.6353E+00	1.3786E-09	8.5586E+15	2.4603E+14

Nb-95	2.9024E+00	7.4225E-08	4.7052E+17	2.6583E+14
Mo-99	3.9079E+01	8.1479E-08	4.9564E+17	3.5967E+15
Tc-99m	3.4938E+01	6.6444E-09	4.0418E+16	3.2001E+15
Ru-103	3.3637E+01	1.0422E-06	6.0937E+18	3.0818E+15
Ru-105	1.7600E+01	2.6182E-09	1.5017E+16	1.7355E+15
Ru-106	1.4770E+01	4.4147E-06	2.5081E+19	1.3528E+15
Rh-105	2.2596E+01	2.6771E-08	1.5354E+17	2.0727E+15
Sb-127	4.5797E+01	1.7149E-07	8.1318E+17	4.2091E+15
Sb-129	1.0002E+02	1.7786E-08	8.3029E+16	9.8829E+15
Te-127	4.5909E+01	1.7396E-08	8.2488E+16	4.2102E+15
Te-127m	6.2210E+00	6.5953E-07	3.1274E+18	5.6975E+14
Te-129	1.1181E+02	5.3391E-09	2.4925E+16	1.0757E+16
Te-129m	2.0175E+01	6.6971E-07	3.1264E+18	1.8477E+15
Te-131m	5.8883E+01	7.3843E-08	3.3946E+17	5.4513E+15
Te-132	5.9064E+02	1.9455E-06	8.8758E+18	5.4319E+16
I-131	2.7721E+03	2.2360E-05	1.0279E+20	3.3621E+17
I-132	3.0964E+03	2.9997E-07	1.3685E+18	4.0092E+17
I-133	5.3504E+03	4.7231E-06	2.1386E+19	6.6113E+17
I-134	1.2963E+03	4.8592E-08	2.1838E+17	2.7363E+17
I-135	4.3314E+03	1.2334E-06	5.5019E+18	5.5999E+17
Xe-133	1.4975E+05	8.0001E-04	3.6224E+21	1.1074E+19
Xe-135	6.1413E+04	2.4048E-05	1.0728E+20	4.5893E+18
Cs-134	6.8998E+02	5.3328E-04	2.3966E+21	8.7609E+16
Cs-136	1.6792E+02	2.2912E-06	1.0145E+19	2.1351E+16
Cs-137	4.3811E+02	5.0368E-03	2.2140E+22	5.5627E+16
Ba-139	1.1373E+02	6.9532E-09	3.0125E+16	1.3348E+16
Ba-140	2.9921E+02	4.0871E-06	1.7581E+19	2.7433E+16
La-140	7.3872E+00	1.3290E-08	5.7169E+16	5.6118E+14
La-141	1.9958E+00	3.5291E-10	1.5073E+15	1.5874E+14
La-142	1.1133E+00	7.7773E-11	3.2983E+14	1.2710E+14
Ce-141	7.0956E+00	2.4903E-07	1.0636E+18	6.5000E+14
Ce-143	6.3613E+00	9.5790E-09	4.0340E+16	5.8834E+14
Ce-144	5.9077E+00	1.8522E-06	7.7461E+18	5.4110E+14
Pr-143	2.5774E+00	3.8275E-08	1.6119E+17	2.3587E+14
Nd-147	1.1283E+00	1.3947E-08	5.7137E+16	1.0347E+14
Np-239	8.2428E+01	3.5531E-07	8.9527E+17	7.5926E+15
Pu-238	3.2906E-02	1.9221E-06	4.8635E+18	3.0138E+12
Pu-239	1.9498E-03	3.1370E-05	7.9044E+19	1.7857E+11
Pu-240	1.9649E-03	8.6232E-06	2.1637E+19	1.7997E+11
Pu-241	1.1713E+00	1.1370E-05	2.8412E+19	1.0728E+14
Am-241	8.2939E-04	2.4165E-07	6.0385E+17	7.5956E+10
Cm-242	1.6289E-01	4.9148E-08	1.2230E+17	1.4920E+13
Cm-244	2.0940E-02	2.5883E-07	6.3883E+17	1.9179E+12

## Reactor Building Transport Group Inventory:

Time (h) =	2.0000	Atmosphere	Sump	
Noble gases (atoms)	2.7392E+22	0.0000E+00		
Elemental I (atoms)	6.2865E+18	0.0000E+00		
Organic I (atoms)	1.8425E+18	0.0000E+00		
Aerosols (kg)	5.8470E-03	0.0000E+00		
Dose Effective (Ci/cc) I-131 (Thyroid)			5.7222E-08	
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			7.0574E-08	
Total I (Ci)			1.6847E+04	

## Sprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 2.0000 Leakage Transport



Noble gases (atoms)	2.1037E+22
Elemental I (atoms)	4.7355E+18
Organic I (atoms)	1.4178E+18
Aerosols (kg)	4.3257E-03

## Reactor Building to Environment Transport Group Inventory:

Time (h) = 2.0000	Pathway	
	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.6912E+21
Elemental I (atoms)	5.6401E+17	8.3297E+16
Organic I (atoms)	1.1764E+17	1.4046E+16
Aerosols (kg)	5.8244E-04	3.2953E-05

## Unsprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 2.0000 Leakage Transport

Noble gases (atoms)	8.0669E+21
Elemental I (atoms)	2.3029E+18
Organic I (atoms)	5.7715E+17
Aerosols (kg)	2.1373E-03

## Exclusion Area Boundary Doses:

Time (h) = 2.2000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.0921E-03	5.5326E-03	3.3935E-03
Accumulated dose (rem)	4.8140E-02	6.4446E+00	3.3439E-01

## Low Population Zone Doses:

Time (h) = 2.2000	Whole Body	Thyroid	TEDE
Delta dose (rem)	4.2456E-03	7.5965E-03	4.6594E-03
Accumulated dose (rem)	3.4401E-02	5.7255E-01	6.0445E-02

## Control Room Doses:

Time (h) = 2.2000	Whole Body	Thyroid	TEDE
Delta dose (rem)	7.3813E-05	1.8517E-01	8.3229E-03
Accumulated dose (rem)	1.0545E-03	3.8566E+00	1.7243E-01

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 2.2000	Ci	kg	Atoms	Decay
Co-58	5.1045E+00	1.6053E-07	1.6668E+18	9.7732E+15
Co-60	6.1147E+00	5.4094E-06	5.4294E+19	1.1703E+16
Kr-85	8.8872E+05	2.2652E+00	1.6049E+25	1.3158E+20
Kr-85m	1.0189E+07	1.2381E-03	8.7718E+21	1.6713E+21
Kr-87	8.3467E+06	2.9467E-04	2.0397E+21	1.8133E+21
Kr-88	2.2789E+07	1.8175E-03	1.2437E+22	3.9748E+21
Rb-86	1.7690E+02	2.1741E-06	1.5224E+19	4.4999E+17
Sr-89	7.2486E+03	2.4950E-04	1.6882E+21	1.3880E+19
Sr-90	1.0016E+03	7.3430E-03	4.9134E+22	1.9170E+18
Sr-91	7.7000E+03	2.1241E-06	1.4057E+19	1.5739E+19
Sr-92	5.5537E+03	4.4185E-07	2.8922E+18	1.3443E+19
Y-90	1.5867E+01	2.9164E-08	1.9515E+17	2.1241E+16
Y-91	9.3840E+01	3.8265E-06	2.5323E+19	1.7827E+17
Y-92	6.6731E+02	6.9350E-08	4.5395E+17	3.7439E+17

Y-93	9.6034E+01	2.8784E-08	1.8639E+17	1.9552E+17
Zr-95	1.2308E+02	5.7294E-06	3.6319E+19	2.3567E+17
Zr-97	1.1175E+02	5.8455E-08	3.6291E+17	2.2190E+17
Nb-95	1.2409E+02	3.1733E-06	2.0116E+19	2.3749E+17
Mo-99	1.6672E+03	3.4761E-06	2.1145E+19	3.2210E+18
Tc-99m	1.4933E+03	2.8399E-07	1.7275E+18	2.8592E+18
Ru-103	1.4378E+03	4.4551E-05	2.6048E+20	2.7537E+18
Ru-105	7.2930E+02	1.0849E-07	6.2225E+17	1.6086E+18
Ru-106	6.3143E+02	1.8874E-04	1.0723E+21	1.2086E+18
Rh-105	9.6514E+02	1.1435E-06	6.5581E+18	1.8527E+18
Sb-127	1.9550E+03	7.3206E-06	3.4713E+19	3.7669E+18
Sb-129	4.1408E+03	7.3635E-07	3.4375E+18	9.1700E+18
Te-127	1.9614E+03	7.4320E-07	3.5241E+18	3.7640E+18
Te-127m	2.6597E+02	2.8197E-05	1.3370E+20	5.0900E+17
Te-129	4.6827E+03	2.2360E-07	1.0438E+18	9.8408E+18
Te-129m	8.6254E+02	2.8632E-05	1.3366E+20	1.6506E+18
Te-131m	2.5058E+03	3.1424E-06	1.4446E+19	4.8962E+18
Te-132	2.5206E+04	8.3027E-05	3.7879E+20	4.8627E+19
I-131	1.1450E+05	9.2354E-04	4.2456E+21	2.2562E+20
I-132	1.4607E+05	1.4151E-05	6.4562E+19	3.1851E+20
I-133	2.1962E+05	1.9387E-04	8.7782E+20	4.4753E+20
I-134	4.5729E+04	1.7142E-06	7.7038E+18	2.3976E+20
I-135	1.7526E+05	4.9907E-05	2.2263E+20	3.8736E+20
Xe-133	1.0175E+08	5.4360E-01	2.4614E+24	1.5100E+22
Xe-135	4.2513E+07	1.6647E-02	7.4261E+22	6.4181E+21
Cs-134	2.1935E+04	1.6954E-02	7.6193E+22	5.5701E+19
Cs-136	5.3362E+03	7.2809E-05	3.2240E+20	1.3584E+19
Cs-137	1.3928E+04	1.6013E-01	7.0388E+23	3.5367E+19
Ba-139	4.3971E+03	2.6882E-07	1.1647E+18	1.3507E+19
Ba-140	1.2786E+04	1.7465E-04	7.5127E+20	2.4521E+19
La-140	2.5117E+02	4.5189E-07	1.9438E+18	2.9609E+17
La-141	8.2368E+01	1.4565E-08	6.2206E+16	1.8512E+17
La-142	4.3504E+01	3.0390E-09	1.2888E+16	1.2683E+17
Ce-141	3.0338E+02	1.0647E-05	4.5475E+19	5.8085E+17
Ce-143	2.7082E+02	4.0781E-07	1.7174E+18	5.2817E+17
Ce-144	2.5256E+02	7.9185E-05	3.3115E+20	4.8342E+17
Pr-143	1.1008E+02	1.6347E-06	6.8843E+18	2.1039E+17
Nd-147	4.8212E+01	5.9595E-07	2.4414E+18	9.2490E+16
Np-239	3.5153E+03	1.5153E-05	3.8181E+19	6.8023E+18
Pu-238	1.4068E+00	8.2174E-05	2.0792E+20	2.6924E+15
Pu-239	8.3362E-02	1.3412E-03	3.3794E+21	1.5953E+14
Pu-240	8.4005E-02	3.6866E-04	9.2504E+20	1.6078E+14
Pu-241	5.0075E+01	4.8610E-04	1.2147E+21	9.5839E+16
Am-241	3.5457E-02	1.0331E-05	2.5815E+19	6.7851E+13
Cm-242	6.9636E+00	2.1011E-06	5.2285E+18	1.3330E+16
Cm-244	8.9524E-01	1.1066E-05	2.7311E+19	1.7134E+15

## Sprayed Drywell Transport Group Inventory:

Time (h) =	2.2000	Atmosphere	Sump	
Noble gases (atoms)	1.8608E+25	0.0000E+00		
Elemental I (atoms)	2.1018E+20	5.5265E+22		
Organic I (atoms)	1.0912E+21	0.0000E+00		
Aerosols (kg)	1.8865E-01	5.0068E+01		
Dose Effective (Ci/cc)	I-131 (Thyroid)		5.8378E-05	
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		7.2051E-05	
Total I (Ci)			7.0118E+05	

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

Noble gases (atoms)	2.5809E+22
Elemental I (atoms)	4.9045E+18
Organic I (atoms)	1.6975E+18
Aerosols (kg)	4.4765E-03

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 2.2000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.7386E+25
Elemental I (atoms)	0.0000E+00	5.2179E+21
Organic I (atoms)	0.0000E+00	1.8016E+21
Aerosols (kg)	0.0000E+00	4.7640E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 2.2000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.6903E+25
Elemental I (atoms)	0.0000E+00	4.1646E+21
Organic I (atoms)	0.0000E+00	1.1646E+21
Aerosols (kg)	0.0000E+00	3.8505E+00

Reactor Building Compartment Nuclide Inventory:

Time (h) = 2.2000	Ci	kg	Atoms	Decay
Co-58	1.2814E-01	4.0297E-09	4.1840E+16	1.4313E+13
Co-60	1.5349E-01	1.3579E-07	1.3629E+18	1.7142E+13
Kr-85	1.6226E+03	4.1357E-03	2.9301E+22	1.3776E+17
Kr-85m	1.8603E+04	2.2605E-06	1.6015E+19	1.6993E+18
Kr-87	1.5239E+04	5.3799E-07	3.7240E+18	1.7006E+18
Kr-88	4.1608E+04	3.3182E-06	2.2708E+19	3.9710E+18
Rb-86	5.8365E+00	7.1730E-08	5.0229E+17	8.6177E+14
Sr-89	1.8196E+02	6.2631E-06	4.2379E+19	2.0327E+16
Sr-90	2.5143E+01	1.8433E-04	1.2334E+21	2.8080E+15
Sr-91	1.9329E+02	5.3321E-08	3.5286E+17	2.2448E+16
Sr-92	1.3941E+02	1.1091E-08	7.2602E+16	1.7920E+16
Y-90	5.2058E-01	9.5684E-10	6.4025E+15	4.7808E+13
Y-91	2.3749E+00	9.6839E-08	6.4085E+17	2.6373E+14
Y-92	2.9750E+01	3.0918E-09	2.0238E+16	2.4541E+15
Y-93	2.4107E+00	7.2256E-10	4.6789E+15	2.7931E+14
Zr-95	3.0897E+00	1.4382E-07	9.1170E+17	3.4514E+14
Zr-97	2.8051E+00	1.4674E-09	9.1099E+15	3.2021E+14
Nb-95	3.1148E+00	7.9657E-08	5.0495E+17	3.4786E+14
Mo-99	4.1850E+01	8.7258E-08	5.3079E+17	4.7000E+15
Tc-99m	3.7485E+01	7.1288E-09	4.3364E+16	4.1819E+15
Ru-103	3.6093E+01	1.1183E-06	6.5387E+18	4.0325E+15
Ru-105	1.8307E+01	2.7235E-09	1.5620E+16	2.2252E+15
Ru-106	1.5850E+01	4.7377E-06	2.6916E+19	1.7702E+15
Rh-105	2.4227E+01	2.8703E-08	1.6462E+17	2.7105E+15
Sb-127	4.9075E+01	1.8376E-07	8.7138E+17	5.5025E+15
Sb-129	1.0394E+02	1.8484E-08	8.6290E+16	1.2664E+16
Te-127	4.9235E+01	1.8656E-08	8.8464E+16	5.5027E+15
Te-127m	6.6764E+00	7.0780E-07	3.3563E+18	7.4557E+14

Te-129	1.1755E+02	5.6129E-09	2.6203E+16	1.3809E+16
Te-129m	2.1652E+01	7.1872E-07	3.3552E+18	2.4179E+15
Te-131m	6.2901E+01	7.8882E-08	3.6262E+17	7.1117E+15
Te-132	6.3274E+02	2.0842E-06	9.5084E+18	7.0997E+16
I-131	2.9221E+03	2.3570E-05	1.0835E+20	4.1341E+17
I-132	3.1542E+03	3.0558E-07	1.3941E+18	4.8581E+17
I-133	5.6062E+03	4.9489E-06	2.2408E+19	8.0968E+17
I-134	1.1673E+03	4.3759E-08	1.9666E+17	3.0702E+17
I-135	4.4741E+03	1.2740E-06	5.6830E+18	6.7939E+17
Xe-133	1.8556E+05	9.9134E-04	4.4887E+21	1.5781E+19
Xe-135	7.5559E+04	2.9588E-05	1.3199E+20	6.5159E+18
Cs-134	7.2372E+02	5.5936E-04	2.5139E+21	1.0675E+17
Cs-136	1.7606E+02	2.4022E-06	1.0637E+19	2.6008E+16
Cs-137	4.5954E+02	5.2832E-03	2.3223E+22	6.7778E+16
Ba-139	1.1038E+02	6.7480E-09	2.9236E+16	1.6406E+16
Ba-140	3.2096E+02	4.3842E-06	1.8859E+19	3.5888E+16
La-140	8.7774E+00	1.5792E-08	6.7928E+16	7.7188E+14
La-141	2.0676E+00	3.6561E-10	1.5615E+15	2.5416E+14
La-142	1.0921E+00	7.6287E-11	3.2353E+14	1.5718E+14
Ce-141	7.6140E+00	2.6722E-07	1.1413E+18	8.5053E+14
Ce-143	6.7981E+00	1.0237E-08	4.3110E+16	7.6775E+14
Ce-144	6.3398E+00	1.9877E-06	8.3128E+18	7.0806E+14
Pr-143	2.7673E+00	4.1096E-08	1.7307E+17	3.0871E+14
Nd-147	1.2102E+00	1.4960E-08	6.1286E+16	1.3535E+14
Np-239	8.8243E+01	3.8037E-07	9.5843E+17	9.9194E+15
Pu-238	3.5314E-02	2.0628E-06	5.2194E+18	3.9438E+12
Pu-239	2.0926E-03	3.3666E-05	8.4830E+19	2.3368E+11
Pu-240	2.1087E-03	9.2542E-06	2.3221E+19	2.3550E+11
Pu-241	1.2570E+00	1.2202E-05	3.0491E+19	1.4038E+14
Am-241	8.9013E-04	2.5935E-07	6.4806E+17	9.9397E+10
Cm-242	1.7480E-01	5.2742E-08	1.3125E+17	1.9524E+13
Cm-244	2.2473E-02	2.7777E-07	6.8557E+17	2.5097E+12

## Reactor Building Transport Group Inventory:

Time (h) =	2.2000	Atmosphere	Sump	
Noble gases (atoms)	3.3964E+22	0.0000E+00		
Elemental I (atoms)	6.5968E+18	0.0000E+00		
Organic I (atoms)	2.2203E+18	0.0000E+00		
Aerosols (kg)	6.1390E-03	0.0000E+00		
Dose Effective (Ci/cc) I-131 (Thyroid)				6.0181E-08
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)				7.4031E-08
Total I (Ci)				1.7324E+04

## Sprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 2.2000 Leakage Transport

Noble gases (atoms)	2.5809E+22
Elemental I (atoms)	4.9045E+18
Organic I (atoms)	1.6975E+18
Aerosols (kg)	4.4765E-03

## Reactor Building to Environment Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.3808E+21
Elemental I (atoms)	6.9525E+17	9.7879E+16

Organic I (atoms)	1.5877E+17	1.8616E+16
Aerosols (kg)	7.1524E-04	3.5663E-05

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

Noble gases (atoms)	1.0565E+22
Elemental I (atoms)	2.6027E+18
Organic I (atoms)	7.2786E+17
Aerosols (kg)	2.4063E-03

Exclusion Area Boundary Doses:

Time (h) = 2.3000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.7309E-03	2.8473E-03	1.8860E-03
Accumulated dose (rem)	4.9871E-02	6.4474E+00	3.3628E-01

Low Population Zone Doses:

Time (h) = 2.3000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.3766E-03	3.9095E-03	2.5896E-03
Accumulated dose (rem)	3.6778E-02	5.7646E-01	6.3035E-02

Control Room Doses:

Time (h) = 2.3000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.5507E-05	8.2919E-02	3.7311E-03
Accumulated dose (rem)	1.0900E-03	3.9395E+00	1.7616E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 2.3000	Ci	kg	Atoms	Decay
Co-58	3.1706E+00	9.9709E-08	1.0353E+18	9.8154E+15
Co-60	3.7981E+00	3.3600E-06	3.3724E+19	1.1754E+16
Kr-85	8.7336E+05	2.2261E+00	1.5771E+25	1.4321E+20
Kr-85m	9.8591E+06	1.1980E-03	8.4878E+21	1.8036E+21
Kr-87	7.7673E+06	2.7421E-04	1.8981E+21	1.9197E+21
Kr-88	2.1856E+07	1.7430E-03	1.1928E+22	4.2695E+21
Rb-86	1.1086E+02	1.3624E-06	9.5403E+18	4.5147E+17
Sr-89	4.5022E+03	1.5497E-04	1.0486E+21	1.3940E+19
Sr-90	6.2217E+02	4.5611E-03	3.0520E+22	1.9253E+18
Sr-91	4.7481E+03	1.3098E-06	8.6680E+18	1.5802E+19
Sr-92	3.3626E+03	2.6752E-07	1.7511E+18	1.3488E+19
Y-90	1.1101E+01	2.0405E-08	1.3653E+17	2.1380E+16
Y-91	5.8475E+01	2.3844E-06	1.5779E+19	1.7905E+17
Y-92	5.3312E+02	5.5404E-08	3.6267E+17	3.8066E+17
Y-93	5.9244E+01	1.7757E-08	1.1499E+17	1.9631E+17
Zr-95	7.6451E+01	3.5587E-06	2.2559E+19	2.3669E+17
Zr-97	6.9127E+01	3.6161E-08	2.2450E+17	2.2282E+17
Nb-95	7.7075E+01	1.9711E-06	1.2495E+19	2.3852E+17
Mo-99	1.0345E+03	2.1569E-06	1.3120E+19	3.2348E+18
Tc-99m	9.2743E+02	1.7638E-07	1.0729E+18	2.8715E+18
Ru-103	8.9306E+02	2.7671E-05	1.6179E+20	2.7656E+18
Ru-105	4.4599E+02	6.6347E-08	3.8053E+17	1.6146E+18
Ru-106	3.9221E+02	1.1723E-04	6.6603E+20	1.2138E+18
Rh-105	5.9920E+02	7.0991E-07	4.0716E+18	1.8607E+18
Sb-127	1.2134E+03	4.5438E-06	2.1546E+19	3.7830E+18

Sb-129	2.5311E+03	4.5011E-07	2.1012E+18	9.2040E+18
Te-127	1.2179E+03	4.6148E-07	2.1883E+18	3.7802E+18
Te-127m	1.6521E+02	1.7514E-05	8.3051E+19	5.1120E+17
Te-129	2.8782E+03	1.3743E-07	6.4158E+17	9.8784E+18
Te-129m	5.3577E+02	1.7785E-05	8.3024E+19	1.6577E+18
Te-131m	1.5529E+03	1.9474E-06	8.9523E+18	4.9169E+18
Te-132	1.5643E+04	5.1526E-05	2.3508E+20	4.8835E+19
I-131	7.9886E+04	6.4438E-04	2.9622E+21	2.2669E+20
I-132	9.7567E+04	9.4522E-06	4.3123E+19	3.1982E+20
I-133	1.5278E+05	1.3487E-04	6.1067E+20	4.4957E+20
I-134	2.9492E+04	1.1055E-06	4.9684E+18	2.4017E+20
I-135	1.2106E+05	3.4471E-05	1.5377E+20	3.8898E+20
Xe-133	9.9933E+07	5.3388E-01	2.4174E+24	1.6431E+22
Xe-135	4.1422E+07	1.6220E-02	7.2356E+22	6.9719E+21
Cs-134	1.3748E+04	1.0626E-02	4.7755E+22	5.5884E+19
Cs-136	3.3438E+03	4.5623E-05	2.0202E+20	1.3629E+19
Cs-137	8.7297E+03	1.0036E-01	4.4116E+23	3.5483E+19
Ba-139	2.5973E+03	1.5879E-07	6.8794E+17	1.3543E+19
Ba-140	7.9403E+03	1.0846E-04	4.6655E+20	2.4627E+19
La-140	1.8119E+02	3.2598E-07	1.4022E+18	2.9832E+17
La-141	5.0269E+01	8.8887E-09	3.7964E+16	1.8579E+17
La-142	2.5834E+01	1.8047E-09	7.6536E+15	1.2718E+17
Ce-141	1.8842E+02	6.6129E-06	2.8244E+19	5.8336E+17
Ce-143	1.6786E+02	2.5278E-07	1.0645E+18	5.3041E+17
Ce-144	1.5688E+02	4.9185E-05	2.0569E+20	4.8551E+17
Pr-143	6.8417E+01	1.0160E-06	4.2787E+18	2.1130E+17
Nd-147	2.9939E+01	3.7008E-07	1.5161E+18	9.2889E+16
Np-239	2.1809E+03	9.4007E-06	2.3687E+19	6.8314E+18
Pu-238	8.7383E-01	5.1042E-05	1.2915E+20	2.7041E+15
Pu-239	5.1781E-02	8.3308E-04	2.0991E+21	1.6022E+14
Pu-240	5.2180E-02	2.2899E-04	5.7459E+20	1.6147E+14
Pu-241	3.1104E+01	3.0194E-04	7.5450E+20	9.6253E+16
Am-241	2.2025E-02	6.4173E-06	1.6036E+19	6.8144E+13
Cm-242	4.3254E+00	1.3051E-06	3.2476E+18	1.3387E+16
Cm-244	5.5608E-01	6.8734E-06	1.6964E+19	1.7208E+15

## Sprayed Drywell Transport Group Inventory:

Time (h) =	2.3000	Atmosphere	Sump	
Noble gases (atoms)	1.8283E+25	0.0000E+00		
Elemental I (atoms)	1.3125E+20	5.5507E+22		
Organic I (atoms)	1.0727E+21	0.0000E+00		
Aerosols (kg)	1.1817E-01	5.0285E+01		
Dose Effective (Ci/cc) I-131 (Thyroid)				4.0680E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)				5.0115E-05
Total I (Ci)				4.8078E+05

## Sprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 2.3000 Leakage Transport

Noble gases (atoms)	2.8113E+22
Elemental I (atoms)	4.9246E+18
Organic I (atoms)	1.8328E+18
Aerosols (kg)	4.4946E-03

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

Pathway

Time (h) =	2.3000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	0.0000E+00	2.9832E+25
Elemental I (atoms)	0.0000E+00	0.0000E+00	5.2392E+21
Organic I (atoms)	0.0000E+00	0.0000E+00	1.9452E+21
Aerosols (kg)	0.0000E+00	0.0000E+00	4.7831E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

Time (h) =	2.3000	Pathway	Filtered	Transported
Noble gases (atoms)	0.0000E+00		0.0000E+00	1.9029E+25
Elemental I (atoms)	0.0000E+00		0.0000E+00	4.3524E+21
Organic I (atoms)	0.0000E+00		0.0000E+00	1.2915E+21
Aerosols (kg)	0.0000E+00		0.0000E+00	4.0194E+00

Reactor Building Compartment Nuclide Inventory:

Time (h) =	2.3000	Ci	kg	Atoms	Decay
Co-58		1.2999E-01	4.0882E-09	4.2447E+16	1.6045E+13
Co-60		1.5573E-01	1.3776E-07	1.3827E+18	1.9216E+13
Kr-85		1.7770E+03	4.5294E-03	3.2090E+22	1.6143E+17
Kr-85m		2.0061E+04	2.4376E-06	1.7270E+19	1.9686E+18
Kr-87		1.5804E+04	5.5795E-07	3.8621E+18	1.9170E+18
Kr-88		4.4470E+04	3.5465E-06	2.4270E+19	4.5706E+18
Rb-86		5.8859E+00	7.2338E-08	5.0654E+17	9.4018E+14
Sr-89		1.8459E+02	6.3538E-06	4.2993E+19	2.2786E+16
Sr-90		2.5509E+01	1.8701E-04	1.2513E+21	3.1478E+15
Sr-91		1.9467E+02	5.3703E-08	3.5540E+17	2.5050E+16
Sr-92		1.3787E+02	1.0969E-08	7.1798E+16	1.9780E+16
Y-90		5.5287E-01	1.0162E-09	6.7996E+15	5.4808E+13
Y-91		2.4130E+00	9.8393E-08	6.5114E+17	2.9582E+14
Y-92		3.2087E+01	3.3346E-09	2.1828E+16	2.8490E+15
Y-93		2.4290E+00	7.2806E-10	4.7145E+15	3.1178E+14
Zr-95		3.1345E+00	1.4591E-07	9.2492E+17	3.8689E+14
Zr-97		2.8343E+00	1.4826E-09	9.2046E+15	3.5804E+14
Nb-95		3.1601E+00	8.0816E-08	5.1230E+17	3.8995E+14
Mo-99		4.2415E+01	8.8435E-08	5.3795E+17	5.2652E+15
Tc-99m		3.8025E+01	7.2315E-09	4.3989E+16	4.6855E+15
Ru-103		3.6616E+01	1.1345E-06	6.6333E+18	4.5202E+15
Ru-105		1.8286E+01	2.7203E-09	1.5602E+16	2.4706E+15
Ru-106		1.6081E+01	4.8066E-06	2.7308E+19	1.9844E+15
Rh-105		2.4568E+01	2.9107E-08	1.6694E+17	3.0376E+15
Sb-127		4.9751E+01	1.8630E-07	8.8339E+17	6.1654E+15
Sb-129		1.0378E+02	1.8455E-08	8.6152E+16	1.4058E+16
Te-127		4.9934E+01	1.8921E-08	8.9720E+16	6.1656E+15
Te-127m		6.7736E+00	7.1811E-07	3.4051E+18	8.3580E+14
Te-129		1.1801E+02	5.6348E-09	2.6305E+16	1.5351E+16
Te-129m		2.1967E+01	7.2918E-07	3.4041E+18	2.7104E+15
Te-131m		6.3668E+01	7.9845E-08	3.6705E+17	7.9607E+15
Te-132		6.4137E+02	2.1126E-06	9.6382E+18	7.9544E+16
I-131		2.9525E+03	2.3815E-05	1.0948E+20	4.5274E+17
I-132		3.1227E+03	3.0252E-07	1.3802E+18	5.2778E+17
I-133		5.6477E+03	4.9856E-06	2.2574E+19	8.8503E+17
I-134		1.0902E+03	4.0868E-08	1.8366E+17	3.2213E+17
I-135		4.4750E+03	1.2743E-06	5.6843E+18	7.3931E+17
Xe-133		2.0313E+05	1.0852E-03	4.9138E+21	1.8488E+19
Xe-135		8.2340E+04	3.2243E-05	1.4383E+20	7.6164E+18

Cs-134	7.2996E+02	5.6419E-04	2.5355E+21	1.1647E+17
Cs-136	1.7754E+02	2.4224E-06	1.0726E+19	2.8373E+16
Cs-137	4.6351E+02	5.3288E-03	2.3424E+22	7.3952E+16
Ba-139	1.0649E+02	6.5104E-09	2.8206E+16	1.7860E+16
Ba-140	3.2556E+02	4.4470E-06	1.9129E+19	4.0225E+16
La-140	9.4029E+00	1.6917E-08	7.2768E+16	8.8976E+14
La-141	2.0610E+00	3.6444E-10	1.5565E+15	2.8185E+14
La-142	1.0592E+00	7.3994E-11	3.1380E+14	1.7161E+14
Ce-141	7.7243E+00	2.7109E-07	1.1578E+18	9.5342E+14
Ce-143	6.8826E+00	1.0364E-08	4.3646E+16	8.5952E+14
Ce-144	6.4320E+00	2.0166E-06	8.4336E+18	7.9374E+14
Pr-143	2.8084E+00	4.1705E-08	1.7563E+17	3.4610E+14
Nd-147	1.2275E+00	1.5173E-08	6.2161E+16	1.5170E+14
Np-239	8.9417E+01	3.8543E-07	9.7119E+17	1.1111E+16
Pu-238	3.5827E-02	2.0928E-06	5.2953E+18	4.4210E+12
Pu-239	2.1231E-03	3.4157E-05	8.6066E+19	2.6196E+11
Pu-240	2.1394E-03	9.3888E-06	2.3559E+19	2.6400E+11
Pu-241	1.2753E+00	1.2380E-05	3.0935E+19	1.5737E+14
Am-241	9.0310E-04	2.6313E-07	6.5751E+17	1.1143E+11
Cm-242	1.7734E-01	5.3508E-08	1.3316E+17	2.1886E+13
Cm-244	2.2800E-02	2.8182E-07	6.9555E+17	2.8134E+12

## Reactor Building Transport Group Inventory:

Time (h) =	2.3000	Atmosphere	Sump	
Noble gases (atoms)	3.7193E+22	0.0000E+00		
Elemental I (atoms)	6.6495E+18	0.0000E+00		
Organic I (atoms)	2.4051E+18	0.0000E+00		
Aerosols (kg)	6.1936E-03	0.0000E+00		
Dose Effective (Ci/cc) I-131 (Thyroid)				6.0738E-08
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)				7.4620E-08
Total I (Ci)				1.7288E+04

## Sprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 2.3000 Leakage Transport

Noble gases (atoms)	2.8113E+22
Elemental I (atoms)	4.9246E+18
Organic I (atoms)	1.8328E+18
Aerosols (kg)	4.4946E-03

## Reactor Building to Environment Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.7806E+21
Elemental I (atoms)	7.6229E+17	1.0533E+17
Organic I (atoms)	1.8217E+17	2.1216E+16
Aerosols (kg)	7.8316E-04	3.7049E-05

## Unsprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 2.3000 Leakage Transport

Noble gases (atoms)	1.1893E+22
Elemental I (atoms)	2.7201E+18
Organic I (atoms)	8.0720E+17
Aerosols (kg)	2.5119E-03



## Exclusion Area Boundary Doses:

Time (h) =	4.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		4.1536E-02	5.1404E-02	4.4311E-02
Accumulated dose (rem)		9.1407E-02	6.4988E+00	3.8059E-01

## Low Population Zone Doses:

Time (h) =	4.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		5.7031E-02	7.0580E-02	6.0841E-02
Accumulated dose (rem)		9.3809E-02	6.4704E-01	1.2388E-01

## Control Room Doses:

Time (h) =	4.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		6.2304E-04	7.7912E-01	3.5434E-02
Accumulated dose (rem)		1.7131E-03	4.7186E+00	2.1159E-01

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =	Ci	kg	Atoms	Decay
4.0000				
Co-58	3.8534E+00	1.2118E-07	1.2583E+18	1.1223E+16
Co-60	4.6192E+00	4.0864E-06	4.1015E+19	1.3440E+16
Kr-85	8.3308E+05	2.1234E+00	1.5044E+25	3.3331E+20
Kr-85m	7.2294E+06	8.7846E-04	6.2238E+21	3.6918E+21
Kr-87	2.9331E+06	1.0355E-04	7.1678E+20	3.0245E+21
Kr-88	1.3768E+07	1.0980E-03	7.5137E+21	8.1672E+21
Rb-86	1.3497E+02	1.6587E-06	1.1615E+19	5.0081E+17
Sr-89	5.4703E+03	1.8829E-04	1.2741E+21	1.5939E+19
Sr-90	7.5669E+02	5.5473E-03	3.7118E+22	2.2016E+18
Sr-91	5.1011E+03	1.4072E-06	9.3124E+18	1.7798E+19
Sr-92	2.6476E+03	2.1064E-07	1.3788E+18	1.4726E+19
Y-90	2.7354E+01	5.0278E-08	3.3642E+17	2.8486E+16
Y-91	7.3017E+01	2.9774E-06	1.9704E+19	2.0532E+17
Y-92	1.4233E+03	1.4792E-07	9.6824E+17	7.6069E+17
Y-93	6.4119E+01	1.9218E-08	1.2445E+17	2.2130E+17
Zr-95	9.2909E+01	4.3248E-06	2.7415E+19	2.7063E+17
Zr-97	7.8411E+01	4.1017E-08	2.5465E+17	2.5258E+17
Nb-95	9.3738E+01	2.3972E-06	1.5196E+19	2.7274E+17
Mo-99	1.2359E+03	2.5769E-06	1.5675E+19	3.6905E+18
Tc-99m	1.1236E+03	2.1368E-07	1.2998E+18	3.2804E+18
Ru-103	1.0848E+03	3.3612E-05	1.9652E+20	3.1620E+18
Ru-105	4.1598E+02	6.1884E-08	3.5493E+17	1.7909E+18
Ru-106	4.7695E+02	1.4256E-04	8.0993E+20	1.3880E+18
Rh-105	7.2049E+02	8.5361E-07	4.8958E+18	2.1254E+18
Sb-127	1.4571E+03	5.4562E-06	2.5872E+19	4.3188E+18
Sb-129	2.3435E+03	4.1674E-07	1.9455E+18	1.0202E+19
Te-127	1.4721E+03	5.5781E-07	2.6451E+18	4.3177E+18
Te-127m	2.0096E+02	2.1304E-05	1.0102E+20	5.8457E+17
Te-129	2.8785E+03	1.3745E-07	6.4165E+17	1.1026E+19
Te-129m	6.5152E+02	2.1627E-05	1.0096E+20	1.8957E+18
Te-131m	1.8159E+03	2.2772E-06	1.0469E+19	5.5945E+18
Te-132	1.8741E+04	6.1730E-05	2.8163E+20	5.5736E+19
I-131	1.0005E+05	8.0700E-04	3.7098E+21	2.5831E+20
I-132	8.1861E+04	7.9306E-06	3.6181E+19	3.5173E+20
I-133	1.8189E+05	1.6057E-04	7.2703E+20	5.0865E+20
I-134	9.6897E+03	3.6322E-07	1.6324E+18	2.4688E+20

I-135	1.2762E+05	3.6340E-05	1.6211E+20	4.3327E+20
Xe-133	9.4428E+07	5.0447E-01	2.2842E+24	3.8081E+22
Xe-135	3.4647E+07	1.3567E-02	6.0522E+22	1.5416E+22
Cs-134	1.6781E+04	1.2970E-02	5.8290E+22	6.2011E+19
Cs-136	4.0665E+03	5.5484E-05	2.4569E+20	1.5117E+19
Cs-137	1.0656E+04	1.2251E-01	5.3853E+23	3.9374E+19
Ba-139	1.3435E+03	8.2138E-08	3.5586E+17	1.4350E+19
Ba-140	9.6199E+03	1.3140E-04	5.6524E+20	2.8147E+19
La-140	4.9792E+02	8.9582E-07	3.8534E+18	4.2250E+17
La-141	4.5299E+01	8.0100E-09	3.4211E+16	2.0538E+17
La-142	1.4631E+01	1.0220E-09	4.3344E+15	1.3550E+17
Ce-141	2.2889E+02	8.0332E-06	3.4310E+19	6.6699E+17
Ce-143	1.9700E+02	2.9665E-07	1.2493E+18	6.0378E+17
Ce-144	1.9076E+02	5.9810E-05	2.5013E+20	5.5517E+17
Pr-143	8.3644E+01	1.2421E-06	5.2310E+18	2.4175E+17
Nd-147	3.6250E+01	4.4809E-07	1.8357E+18	1.0616E+17
Np-239	2.5977E+03	1.1197E-05	2.8214E+19	7.7909E+18
Pu-238	1.0628E+00	6.2079E-05	1.5708E+20	3.0921E+15
Pu-239	6.2992E-02	1.0134E-03	2.5536E+21	1.8322E+14
Pu-240	6.3462E-02	2.7850E-04	6.9883E+20	1.8464E+14
Pu-241	3.7829E+01	3.6722E-04	9.1763E+20	1.1007E+17
Am-241	2.6799E-02	7.8083E-06	1.9511E+19	7.7927E+13
Cm-242	5.2590E+00	1.5868E-06	3.9486E+18	1.5308E+16
Cm-244	6.7631E-01	8.3595E-06	2.0632E+19	1.9678E+15

## Sprayed Drywell Transport Group Inventory:

Time (h) =	4.0000	Atmosphere	Sump	
Noble gases (atoms)	1.7403E+25	0.0000E+00		
Elemental I (atoms)	5.7615E+20	5.5507E+22		
Organic I (atoms)	1.0030E+21	0.0000E+00		
Aerosols (kg)	1.4420E-01	5.0877E+01		
Dose Effective (Ci/cc) I-131 (Thyroid)				5.0004E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)				6.0369E-05
Total I (Ci)				5.0111E+05

## Sprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 4.0000 Leakage Transport

Noble gases (atoms)	6.5471E+22
Elemental I (atoms)	5.9973E+18
Organic I (atoms)	4.0098E+18
Aerosols (kg)	4.9885E-03

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	6.9471E+25
Elemental I (atoms)	0.0000E+00	6.3774E+21
Organic I (atoms)	0.0000E+00	4.2550E+21
Aerosols (kg)	0.0000E+00	5.3072E+00

## Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.7863E+25

Elemental I (atoms)	0.0000E+00	5.9494E+21
Organic I (atoms)	0.0000E+00	3.5598E+21
Aerosols (kg)	0.0000E+00	5.1623E+00

## Reactor Building Compartment Nuclide Inventory:

Time (h) =	Ci	kg	Atoms	Decay
4.0000				
Co-58	1.3619E-01	4.2831E-09	4.4471E+16	4.6918E+13
Co-60	1.6326E-01	1.4443E-07	1.4496E+18	5.6213E+13
Kr-85	4.1507E+03	1.0579E-02	7.4954E+22	8.5700E+17
Kr-85m	3.6019E+04	4.3768E-06	3.1009E+19	8.7572E+18
Kr-87	1.4614E+04	5.1592E-07	3.5712E+18	5.7144E+18
Kr-88	6.8594E+04	5.4704E-06	3.7436E+19	1.8441E+19
Rb-86	5.8611E+00	7.2033E-08	5.0441E+17	2.2936E+15
Sr-89	1.9334E+02	6.6549E-06	4.5030E+19	6.6620E+16
Sr-90	2.6744E+01	1.9606E-04	1.3119E+21	9.2082E+15
Sr-91	1.8029E+02	4.9735E-08	3.2913E+17	6.8532E+16
Sr-92	9.3575E+01	7.4446E-09	4.8731E+16	4.6308E+16
Y-90	1.0380E+00	1.9079E-09	1.2766E+16	2.3463E+14
Y-91	2.5922E+00	1.0570E-07	6.9950E+17	8.7581E+14
Y-92	5.5760E+01	5.7949E-09	3.7932E+16	1.3124E+16
Y-93	2.2662E+00	6.7925E-10	4.3984E+15	8.5629E+14
Zr-95	3.2837E+00	1.5285E-07	9.6895E+17	1.1313E+15
Zr-97	2.7713E+00	1.4497E-09	9.0002E+15	1.0083E+15
Nb-95	3.3130E+00	8.4726E-08	5.3708E+17	1.1407E+15
Mo-99	4.3681E+01	9.1075E-08	5.5401E+17	1.5252E+16
Tc-99m	3.9711E+01	7.5522E-09	4.5940E+16	1.3653E+16
Ru-103	3.8340E+01	1.1880E-06	6.9457E+18	1.3214E+16
Ru-105	1.4702E+01	2.1872E-09	1.2544E+16	6.2833E+15
Ru-106	1.6857E+01	5.0386E-06	2.8626E+19	5.8047E+15
Rh-105	2.5465E+01	3.0170E-08	1.7303E+17	8.8400E+15
Sb-127	5.1499E+01	1.9284E-07	9.1442E+17	1.7910E+16
Sb-129	8.2827E+01	1.4729E-08	6.8760E+16	3.5619E+16
Te-127	5.2030E+01	1.9715E-08	9.3485E+16	1.7951E+16
Te-127m	7.1025E+00	7.5297E-07	3.5705E+18	2.4451E+15
Te-129	1.0174E+02	4.8579E-09	2.2678E+16	4.0248E+16
Te-129m	2.3027E+01	7.6438E-07	3.5684E+18	7.9289E+15
Te-131m	6.4179E+01	8.0485E-08	3.7000E+17	2.2792E+16
Te-132	6.6237E+02	2.1818E-06	9.9537E+18	2.3077E+17
I-131	3.0287E+03	2.4430E-05	1.1231E+20	1.1424E+18
I-132	2.2573E+03	2.1869E-07	9.9770E+17	1.1406E+18
I-133	5.5072E+03	4.8616E-06	2.2013E+19	2.1714E+18
I-134	2.9338E+02	1.0998E-08	4.9425E+16	4.6221E+17
I-135	3.8640E+03	1.1003E-06	4.9082E+18	1.6993E+18
Xe-133	4.7036E+05	2.5128E-03	1.1378E+22	9.7620E+19
Xe-135	1.7168E+05	6.7229E-05	2.9990E+20	3.7942E+19
Cs-134	7.2875E+02	5.6325E-04	2.5313E+21	2.8453E+17
Cs-136	1.7659E+02	2.4095E-06	1.0669E+19	6.9173E+16
Cs-137	4.6277E+02	5.3203E-03	2.3386E+22	1.8067E+17
Ba-139	4.7485E+01	2.9031E-09	1.2577E+16	3.4822E+16
Ba-140	3.4000E+02	4.6443E-06	1.9978E+19	1.1742E+17
La-140	1.9022E+01	3.4223E-08	1.4721E+17	4.0943E+15
La-141	1.6010E+00	2.8310E-10	1.2091E+15	7.0455E+14
La-142	5.1710E-01	3.6123E-11	1.5319E+14	3.4713E+14
Ce-141	8.0891E+00	2.8389E-07	1.2125E+18	2.7875E+15
Ce-143	6.9626E+00	1.0485E-08	4.4154E+16	2.4657E+15
Ce-144	6.7422E+00	2.1139E-06	8.8403E+18	2.3217E+15

Pr-143	2.9587E+00	4.3937E-08	1.8503E+17	1.0148E+15
Nd-147	1.2812E+00	1.5837E-08	6.4879E+16	4.4268E+14
Np-239	9.1812E+01	3.9575E-07	9.9719E+17	3.2134E+16
Pu-238	3.7562E-02	2.1941E-06	5.5517E+18	1.2933E+13
Pu-239	2.2264E-03	3.5819E-05	9.0253E+19	7.6641E+11
Pu-240	2.2430E-03	9.8433E-06	2.4699E+19	7.7227E+11
Pu-241	1.3370E+00	1.2979E-05	3.2432E+19	4.6035E+14
Am-241	9.4722E-04	2.7598E-07	6.8963E+17	3.2603E+11
Cm-242	1.8587E-01	5.6082E-08	1.3956E+17	6.4012E+13
Cm-244	2.3903E-02	2.9546E-07	7.2921E+17	8.2301E+12

## Reactor Building Transport Group Inventory:

Time (h) =	4.0000	Atmosphere	Sump	
Noble gases (atoms)	8.6704E+22	0.0000E+00		
Elemental I (atoms)	7.2201E+18	0.0000E+00		
Organic I (atoms)	5.1687E+18	0.0000E+00		
Aerosols (kg)	6.1966E-03	0.0000E+00		
Dose Effective (Ci/cc)	I-131 (Thyroid)			6.1178E-08
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)			7.3764E-08
Total I (Ci)				1.4951E+04

## Sprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 4.0000 Leakage Transport

Noble gases (atoms)	6.5471E+22
Elemental I (atoms)	5.9973E+18
Organic I (atoms)	4.0098E+18
Aerosols (kg)	4.9885E-03

## Reactor Building to Environment Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.4768E+22
Elemental I (atoms)	1.9573E+18	2.3811E+17
Organic I (atoms)	8.4328E+17	9.4672E+16
Aerosols (kg)	1.9634E-03	6.1137E-05

## Unsprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 4.0000 Leakage Transport

Noble gases (atoms)	3.6164E+22
Elemental I (atoms)	3.7182E+18
Organic I (atoms)	2.2248E+18
Aerosols (kg)	3.2263E-03

## Exclusion Area Boundary Doses:

Time (h) =	8.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		1.1649E-01	1.2331E-01	1.2285E-01
Accumulated dose (rem)		2.0790E-01	6.6221E+00	5.0343E-01

## Low Population Zone Doses:

Time (h) =	8.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		1.5995E-01	1.6931E-01	1.6867E-01
Accumulated dose (rem)		2.5376E-01	8.1635E-01	2.9255E-01

## Control Room Doses:

Time (h) =	8.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		1.9086E-03	3.0725E-01	1.5783E-02
Accumulated dose (rem)		3.6217E-03	5.0259E+00	2.2737E-01

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =	8.0000	Ci	kg	Atoms	Decay
Co-58		4.7205E+00	1.4845E-07	1.5414E+18	1.3716E+16
Co-60		5.6676E+00	5.0139E-06	5.0324E+19	1.6431E+16
Kr-85		8.2880E+05	2.1125E+00	1.4967E+25	7.7598E+20
Kr-85m		3.8733E+06	4.7066E-04	3.3346E+21	6.5567E+21
Kr-87		3.2977E+05	1.1642E-05	8.0586E+19	3.6591E+21
Kr-88		5.1598E+06	4.1149E-04	2.8160E+21	1.2840E+22
Rb-86		1.6459E+02	2.0228E-06	1.4164E+19	5.8793E+17
Sr-89		6.6969E+03	2.3051E-04	1.5598E+21	1.9477E+19
Sr-90		9.2846E+02	6.8066E-03	4.5545E+22	2.6916E+18
Sr-91		4.6748E+03	1.2896E-06	8.5343E+18	2.0658E+19
Sr-92		1.1678E+03	9.2910E-08	6.0817E+17	1.5793E+19
Y-90		7.1527E+01	1.3147E-07	8.7969E+17	5.6116E+16
Y-91		9.3915E+01	3.8295E-06	2.5343E+19	2.5378E+17
Y-92		1.8419E+03	1.9142E-07	1.2530E+18	1.7704E+18
Y-93		5.9789E+01	1.7921E-08	1.1604E+17	2.5755E+17
Zr-95		1.1380E+02	5.2971E-06	3.3579E+19	3.3073E+17
Zr-97		8.1655E+01	4.2714E-08	2.6518E+17	2.9937E+17
Nb-95		1.1501E+02	2.9412E-06	1.8645E+19	3.3343E+17
Mo-99		1.4541E+03	3.0318E-06	1.8442E+19	4.4740E+18
Tc-99m		1.3542E+03	2.5753E-07	1.5666E+18	3.9981E+18
Ru-103		1.3272E+03	4.1122E-05	2.4043E+20	3.8633E+18
Ru-105		2.7336E+02	4.0666E-08	2.3324E+17	1.9906E+18
Ru-106		5.8505E+02	1.7487E-04	9.9349E+20	1.6967E+18
Rh-105		8.4594E+02	1.0022E-06	5.7482E+18	2.5822E+18
Sb-127		1.7350E+03	6.4970E-06	3.0808E+19	5.2481E+18
Sb-129		1.5135E+03	2.6915E-07	1.2565E+18	1.1318E+19
Te-127		1.7768E+03	6.7325E-07	3.1924E+18	5.2599E+18
Te-127m		2.4665E+02	2.6149E-05	1.2399E+20	7.1470E+17
Te-129		2.1651E+03	1.0339E-07	4.8264E+17	1.2460E+19
Te-129m		7.9830E+02	2.6499E-05	1.2371E+20	2.3172E+18
Te-131m		2.0314E+03	2.5476E-06	1.1711E+19	6.7171E+18
Te-132		2.2194E+04	7.3106E-05	3.3353E+20	6.7655E+19
I-131		1.1327E+05	9.1367E-04	4.2002E+21	3.1872E+20
I-132		4.4209E+04	4.2829E-06	1.9539E+19	3.8552E+20
I-133		1.8280E+05	1.6137E-04	7.3068E+20	6.1216E+20
I-134		4.7082E+02	1.7649E-08	7.9317E+16	2.4864E+20
I-135		9.6342E+04	2.7433E-05	1.2238E+20	4.9657E+20
Xe-133		9.1900E+07	4.9097E-01	2.2231E+24	8.7709E+22
Xe-135		2.5434E+07	9.9596E-03	4.4428E+22	3.1293E+22
Cs-134		2.0588E+04	1.5913E-02	7.1513E+22	7.2876E+19
Cs-136		4.9459E+03	6.7483E-05	2.9882E+20	1.7738E+19
Cs-137		1.3076E+04	1.5032E-01	6.6079E+23	4.6273E+19
Ba-139		2.2055E+02	1.3483E-08	5.8416E+16	1.4721E+19
Ba-140		1.1697E+04	1.5978E-04	6.8730E+20	3.4347E+19
La-140		1.3527E+03	2.4337E-06	1.0469E+19	9.3971E+17
La-141		2.7451E+01	4.8539E-09	2.0731E+16	2.2634E+17
La-142		2.9721E+00	2.0762E-10	8.8051E+14	1.3985E+17

Ce-141	2.8001E+02	9.8270E-06	4.1971E+19	8.1497E+17
Ce-143	2.2224E+02	3.3466E-07	1.4094E+18	7.2607E+17
Ce-144	2.3398E+02	7.3358E-05	3.0679E+20	6.7866E+17
Pr-143	1.0373E+02	1.5404E-06	6.4872E+18	2.9619E+17
Nd-147	4.4014E+01	5.4406E-07	2.2289E+18	1.2951E+17
Np-239	3.0349E+03	1.3082E-05	3.2962E+19	9.4319E+18
Pu-238	1.3041E+00	7.6174E-05	1.9274E+20	3.7803E+15
Pu-239	7.7334E-02	1.2442E-03	3.1350E+21	2.2401E+14
Pu-240	7.7869E-02	3.4173E-04	8.5748E+20	2.2574E+14
Pu-241	4.6416E+01	4.5058E-04	1.1259E+21	1.3456E+17
Am-241	3.2917E-02	9.5909E-06	2.3966E+19	9.5289E+13
Cm-242	6.4484E+00	1.9456E-06	4.8416E+18	1.8712E+16
Cm-244	8.2983E-01	1.0257E-05	2.5316E+19	2.4057E+15

## Sprayed Drywell Transport Group Inventory:

Time (h) =	8.0000	Atmosphere	Sump	
Noble gases (atoms)	1.7240E+25	0.0000E+00		
Elemental I (atoms)	5.4767E+20	5.5507E+22		
Organic I (atoms)	9.5066E+20	0.0000E+00		
Aerosols (kg)	1.7689E-01	5.0877E+01		
Dose Effective (Ci/cc) I-131 (Thyroid)				5.4553E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)				6.3846E-05
Total I (Ci)				4.3710E+05

## Sprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 8.0000 Leakage Transport

Noble gases (atoms)	1.5207E+23
Elemental I (atoms)	8.8086E+18
Organic I (atoms)	8.8907E+18
Aerosols (kg)	5.8627E-03

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.6136E+26
Elemental I (atoms)	0.0000E+00	9.3603E+21
Organic I (atoms)	0.0000E+00	9.4339E+21
Aerosols (kg)	0.0000E+00	6.2348E+00

## Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.4975E+26
Elemental I (atoms)	0.0000E+00	8.9338E+21
Organic I (atoms)	0.0000E+00	8.7385E+21
Aerosols (kg)	0.0000E+00	6.1235E+00

## Reactor Building Compartment Nuclide Inventory:

Time (h) =	8.0000	Ci	kg	Atoms	Decay
Co-58		1.1845E-01	3.7250E-09	3.8677E+16	1.1430E+14
Co-60		1.4221E-01	1.2581E-07	1.2627E+18	1.3704E+14
Kr-85		8.2129E+03	2.0933E-02	1.4831E+23	4.2600E+18
Kr-85m		3.8382E+04	4.6639E-06	3.3043E+19	3.0061E+19

Kr-87	3.2678E+03	1.1536E-07	7.9855E+17	1.0062E+19
Kr-88	5.1130E+04	4.0776E-06	2.7904E+19	5.2521E+19
Rb-86	4.8216E+00	5.9257E-08	4.1494E+17	5.1125E+15
Sr-89	1.6804E+02	5.7840E-06	3.9137E+19	1.6224E+17
Sr-90	2.3297E+01	1.7079E-04	1.1428E+21	2.2449E+16
Sr-91	1.1730E+02	3.2359E-08	2.1414E+17	1.4621E+17
Sr-92	2.9303E+01	2.3313E-09	1.5260E+16	7.5649E+16
Y-90	1.8383E+00	3.3788E-09	2.2608E+16	1.0024E+15
Y-91	2.3638E+00	9.6389E-08	6.3788E+17	2.1893E+15
Y-92	4.7807E+01	4.9684E-09	3.2522E+16	4.2040E+16
Y-93	1.5002E+00	4.4966E-10	2.9118E+15	1.8406E+15
Zr-95	2.8554E+00	1.3291E-07	8.4256E+17	2.7557E+15
Zr-97	2.0489E+00	1.0718E-09	6.6540E+15	2.2762E+15
Nb-95	2.8859E+00	7.3802E-08	4.6784E+17	2.7809E+15
Mo-99	3.6486E+01	7.6074E-08	4.6276E+17	3.6441E+16
Tc-99m	3.3979E+01	6.4620E-09	3.9308E+16	3.3053E+16
Ru-103	3.3301E+01	1.0318E-06	6.0328E+18	3.2169E+16
Ru-105	6.8591E+00	1.0204E-09	5.8523E+15	1.1736E+16
Ru-106	1.4680E+01	4.3879E-06	2.4929E+19	1.4150E+16
Rh-105	2.1226E+01	2.5148E-08	1.4423E+17	2.1195E+16
Sb-127	4.3536E+01	1.6302E-07	7.7303E+17	4.3037E+16
Sb-129	3.7977E+01	6.7534E-09	3.1527E+16	6.6106E+16
Te-127	4.4583E+01	1.6893E-08	8.0105E+16	4.3422E+16
Te-127m	6.1890E+00	6.5613E-07	3.1113E+18	5.9621E+15
Te-129	5.4328E+01	2.5942E-09	1.2110E+16	7.9333E+16
Te-129m	2.0031E+01	6.6492E-07	3.1041E+18	1.9323E+16
Te-131m	5.0973E+01	6.3923E-08	2.9386E+17	5.3176E+16
Te-132	5.5690E+02	1.8344E-06	8.3689E+18	5.5310E+17
I-131	2.6658E+03	2.1503E-05	9.8850E+19	2.6507E+18
I-132	1.0225E+03	9.9054E-08	4.5191E+17	1.9439E+18
I-133	4.3026E+03	3.7982E-06	1.7198E+19	4.7600E+18
I-134	1.1082E+01	4.1540E-10	1.8669E+15	5.0793E+17
I-135	2.2676E+03	6.4570E-07	2.8804E+18	3.2881E+18
Xe-133	9.1065E+05	4.8651E-03	2.2029E+22	4.7866E+20
Xe-135	2.5195E+05	9.8661E-05	4.4011E+20	1.5781E+20
Cs-134	6.0313E+02	4.6616E-04	2.0950E+21	6.3605E+17
Cs-136	1.4489E+02	1.9769E-06	8.7539E+18	1.5400E+17
Cs-137	3.8305E+02	4.4038E-03	1.9358E+22	4.0390E+17
Ba-139	5.5339E+00	3.3832E-10	1.4658E+15	4.5168E+16
Ba-140	2.9351E+02	4.0092E-06	1.7246E+19	2.8502E+17
La-140	3.4790E+01	6.2592E-08	2.6924E+17	1.8489E+16
La-141	6.8880E-01	1.2180E-10	5.2019E+14	1.2778E+15
La-142	7.4577E-02	5.2097E-12	2.2094E+13	4.6827E+14
Ce-141	7.0253E+00	2.4656E-07	1.0531E+18	6.7867E+15
Ce-143	5.5765E+00	8.3974E-09	3.5364E+16	5.7753E+15
Ce-144	5.8709E+00	1.8407E-06	7.6979E+18	5.6592E+15
Pr-143	2.6043E+00	3.8675E-08	1.6287E+17	2.4870E+15
Nd-147	1.1044E+00	1.3652E-08	5.5927E+16	1.0738E+15
Np-239	7.6151E+01	3.2825E-07	8.2709E+17	7.6519E+16
Pu-238	3.2722E-02	1.9113E-06	4.8363E+18	3.1530E+13
Pu-239	1.9405E-03	3.1219E-05	7.8663E+19	1.8690E+12
Pu-240	1.9539E-03	8.5748E-06	2.1516E+19	1.8828E+12
Pu-241	1.1647E+00	1.1306E-05	2.8252E+19	1.1223E+15
Am-241	8.2599E-04	2.4066E-07	6.0137E+17	7.9524E+11
Cm-242	1.6180E-01	4.8820E-08	1.2149E+17	1.5601E+14
Cm-244	2.0822E-02	2.5737E-07	6.3522E+17	2.0065E+13

## Reactor Building Transport Group Inventory:

Time (h) =	8.0000	Atmosphere	Sump	
Noble gases (atoms)	1.7084E+23	0.0000E+00		
Elemental I (atoms)	8.0691E+18	0.0000E+00		
Organic I (atoms)	9.5276E+18	0.0000E+00		
Aerosols (kg)	5.1402E-03	0.0000E+00		
Dose Effective (Ci/cc)	I-131 (Thyroid)			5.1901E-08
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)			6.0735E-08
Total I (Ci)				1.0270E+04

## Sprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 8.0000 Leakage Transport

Noble gases (atoms)	1.5207E+23
Elemental I (atoms)	8.8086E+18
Organic I (atoms)	8.8907E+18
Aerosols (kg)	5.8627E-03

## Reactor Building to Environment Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	7.4107E+22
Elemental I (atoms)	5.0706E+18	5.8403E+17
Organic I (atoms)	3.9015E+18	4.3447E+17
Aerosols (kg)	4.4426E-03	1.1173E-04

## Unsprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 8.0000 Leakage Transport

Noble gases (atoms)	9.3593E+22
Elemental I (atoms)	5.5834E+18
Organic I (atoms)	5.4616E+18
Aerosols (kg)	3.8270E-03

## Exclusion Area Boundary Doses:

Time (h) =	16.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		1.6639E-01	2.4029E-01	1.7802E-01
Accumulated dose (rem)		3.7429E-01	6.8624E+00	6.8145E-01

## Low Population Zone Doses:

Time (h) =	16.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		1.4944E-01	1.1099E-01	1.5481E-01
Accumulated dose (rem)		4.0320E-01	9.2734E-01	4.4736E-01

## Control Room Doses:

Time (h) =	16.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		2.3854E-03	3.0896E-02	3.8451E-03
Accumulated dose (rem)		6.0071E-03	5.0568E+00	2.3122E-01

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =	16.0000	Ci	kg	Atoms	Decay
Co-58		4.6583E+00	1.4650E-07	1.5211E+18	1.8712E+16



Co-60	5.6105E+00	4.9634E-06	4.9817E+19	2.2439E+16
Kr-85	8.2054E+05	2.0914E+00	1.4817E+25	1.6545E+21
Kr-85m	1.1122E+06	1.3515E-04	9.5750E+20	8.9142E+21
Kr-87	4.1696E+03	1.4720E-07	1.0189E+18	3.7384E+21
Kr-88	7.2496E+05	5.7816E-05	3.9565E+20	1.5247E+22
Rb-86	1.6094E+02	1.9780E-06	1.3851E+19	7.6132E+17
Sr-89	6.6000E+03	2.2718E-04	1.5372E+21	2.6559E+19
Sr-90	9.1921E+02	6.7387E-03	4.5090E+22	3.6757E+18
Sr-91	2.5818E+03	7.1222E-07	4.7133E+18	2.4414E+19
Sr-92	1.4941E+02	1.1887E-08	7.7810E+16	1.6321E+19
Y-90	1.4142E+02	2.5993E-07	1.7393E+18	1.6775E+17
Y-91	9.8417E+01	4.0131E-06	2.6558E+19	3.5639E+17
Y-92	6.9370E+02	7.2093E-08	4.7191E+17	3.0706E+18
Y-93	3.4185E+01	1.0246E-08	6.6349E+16	3.0635E+17
Zr-95	1.1226E+02	5.2255E-06	3.3125E+19	4.5113E+17
Zr-97	5.8229E+01	3.0460E-08	1.8911E+17	3.7318E+17
Nb-95	1.1385E+02	2.9116E-06	1.8457E+19	4.5531E+17
Mo-99	1.3236E+03	2.7597E-06	1.6787E+19	5.9525E+18
Tc-99m	1.2836E+03	2.4412E-07	1.4850E+18	5.3655E+18
Ru-103	1.3062E+03	4.0474E-05	2.3664E+20	5.2660E+18
Ru-105	7.7623E+01	1.1548E-08	6.6230E+16	2.1563E+18
Ru-106	5.7886E+02	1.7302E-04	9.8299E+20	2.3167E+18
Rh-105	7.3811E+02	8.7448E-07	5.0155E+18	3.4265E+18
Sb-127	1.6177E+03	6.0577E-06	2.8725E+19	7.0333E+18
Sb-129	4.1513E+02	7.3822E-08	3.4462E+17	1.2222E+19
Te-127	1.7028E+03	6.4521E-07	3.0595E+18	7.0817E+18
Te-127m	2.4432E+02	2.5901E-05	1.2282E+20	9.7620E+17
Te-129	1.2064E+03	5.7604E-08	2.6891E+17	1.3916E+19
Te-129m	7.8621E+02	2.6098E-05	1.2183E+20	3.1613E+18
Te-131m	1.6718E+03	2.0966E-06	9.6380E+18	8.6834E+18
Te-132	2.0469E+04	6.7424E-05	3.0760E+20	9.0368E+19
I-131	1.0901E+05	8.7928E-04	4.0421E+21	4.3710E+20
I-132	2.5085E+04	2.4302E-06	1.1087E+19	4.1655E+20
I-133	1.3863E+05	1.2238E-04	5.5412E+20	7.8229E+20
I-134	8.3458E-01	3.1285E-11	1.4060E+14	2.4872E+20
I-135	4.1223E+04	1.1738E-05	5.2363E+19	5.6574E+20
Xe-133	8.7071E+07	4.6517E-01	2.1062E+24	1.8301E+23
Xe-135	1.3706E+07	5.3671E-03	2.3942E+22	5.1502E+22
Cs-134	2.0377E+04	1.5749E-02	7.0780E+22	9.4696E+19
Cs-136	4.8111E+03	6.5644E-05	2.9067E+20	2.2935E+19
Cs-137	1.2945E+04	1.4883E-01	6.5420E+23	6.0133E+19
Ba-139	3.9079E+00	2.3891E-10	1.0351E+15	1.4778E+19
Ba-140	1.1373E+04	1.5535E-04	6.6823E+20	4.6635E+19
La-140	2.6489E+03	4.7657E-06	2.0500E+19	3.0428E+18
La-141	6.6287E+00	1.1721E-09	5.0061E+15	2.4195E+17
La-142	8.0653E-02	5.6342E-12	2.3894E+13	1.4070E+17
Ce-141	2.7536E+02	9.6639E-06	4.1275E+19	1.1108E+18
Ce-143	1.8600E+02	2.8008E-07	1.1795E+18	9.4295E+17
Ce-144	2.3146E+02	7.2569E-05	3.0349E+20	9.2657E+17
Pr-143	1.0439E+02	1.5502E-06	6.5281E+18	4.0700E+17
Nd-147	4.2669E+01	5.2743E-07	2.1607E+18	1.7567E+17
Np-239	2.7239E+03	1.1741E-05	2.9585E+19	1.2496E+19
Pu-238	1.2911E+00	7.5418E-05	1.9083E+20	5.1626E+15
Pu-239	7.6639E-02	1.2330E-03	3.1068E+21	3.0602E+14
Pu-240	7.7095E-02	3.3833E-04	8.4895E+20	3.0828E+14
Pu-241	4.5952E+01	4.4608E-04	1.1147E+21	1.8376E+17
Am-241	3.2657E-02	9.5150E-06	2.3776E+19	1.3021E+14

Cm-242	6.3751E+00	1.9235E-06	4.7867E+18	2.5542E+16
Cm-244	8.2155E-01	1.0155E-05	2.5063E+19	3.2853E+15

## Sprayed Drywell Transport Group Inventory:

Time (h) = 16.0000	Atmosphere	Sump		
Noble gases (atoms)	1.6949E+25	0.0000E+00		
Elemental I (atoms)	5.0306E+20	5.5507E+22		
Organic I (atoms)	8.7323E+20	0.0000E+00		
Aerosols (kg)	1.7506E-01	5.0877E+01		
Dose Effective (Ci/cc) I-131 (Thyroid)			4.9599E-05	
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			5.5909E-05	
Total I (Ci)			3.1395E+05	

## Sprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 16.0000 Leakage Transport

Noble gases (atoms)	3.2303E+23
Elemental I (atoms)	1.4060E+19
Organic I (atoms)	1.8007E+19
Aerosols (kg)	7.6224E-03

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 16.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.4275E+26
Elemental I (atoms)	0.0000E+00	1.4933E+22
Organic I (atoms)	0.0000E+00	1.9107E+22
Aerosols (kg)	0.0000E+00	8.1020E+00

## Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 16.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.3114E+26
Elemental I (atoms)	0.0000E+00	1.4506E+22
Organic I (atoms)	0.0000E+00	1.8411E+22
Aerosols (kg)	0.0000E+00	7.9907E+00

## Reactor Building Compartment Nuclide Inventory:

Time (h) = 16.0000	Ci	kg	Atoms	Decay
Co-58	9.9393E-02	3.1258E-09	3.2455E+16	2.2850E+14
Co-60	1.1971E-01	1.0590E-07	1.0629E+18	2.7437E+14
Kr-85	1.2385E+04	3.1567E-02	2.2365E+23	1.5673E+19
Kr-85m	1.6787E+04	2.0399E-06	1.4452E+19	5.9397E+19
Kr-87	6.2935E+01	2.2219E-09	1.5380E+16	1.0967E+19
Kr-88	1.0942E+04	8.7265E-07	5.9718E+18	8.1772E+19
Rb-86	3.7121E+00	4.5622E-08	3.1946E+17	9.5508E+15
Sr-89	1.4082E+02	4.8472E-06	3.2798E+19	3.2415E+17
Sr-90	1.9613E+01	1.4378E-04	9.6207E+20	4.4947E+16
Sr-91	5.5087E+01	1.5196E-08	1.0057E+17	2.3277E+17
Sr-92	3.1879E+00	2.5363E-10	1.6602E+15	8.8048E+16
Y-90	3.0337E+00	5.5759E-09	3.7310E+16	3.5609E+15
Y-91	2.1028E+00	8.5747E-08	5.6745E+17	4.5380E+15
Y-92	1.4936E+01	1.5523E-09	1.0161E+16	7.2796E+16
Y-93	7.2939E-01	2.1862E-10	1.4157E+15	2.9646E+15

Zr-95	2.3952E+00	1.1149E-07	7.0677E+17	5.5083E+15
Zr-97	1.2424E+00	6.4991E-10	4.0349E+15	3.9713E+15
Nb-95	2.4292E+00	6.2123E-08	3.9380E+17	5.5671E+15
Mo-99	2.8241E+01	5.8883E-08	3.5819E+17	7.0279E+16
Tc-99m	2.7388E+01	5.2086E-09	3.1684E+16	6.4363E+16
Ru-103	2.7871E+01	8.6357E-07	5.0491E+18	6.4236E+16
Ru-105	1.6562E+00	2.4639E-10	1.4131E+15	1.5589E+16
Ru-106	1.2351E+01	3.6917E-06	2.0974E+19	2.8321E+16
Rh-105	1.5749E+01	1.8658E-08	1.0701E+17	4.0529E+16
Sb-127	3.4516E+01	1.2925E-07	6.1288E+17	8.3879E+16
Sb-129	8.8574E+00	1.5751E-09	7.3531E+15	8.7157E+16
Te-127	3.6331E+01	1.3767E-08	6.5279E+16	8.5113E+16
Te-127m	5.2129E+00	5.5265E-07	2.6206E+18	1.1940E+16
Te-129	2.5739E+01	1.2291E-09	5.7377E+15	1.1305E+17
Te-129m	1.6775E+01	5.5684E-07	2.5995E+18	3.8620E+16
Te-131m	3.5671E+01	4.4733E-08	2.0564E+17	9.8244E+16
Te-132	4.3675E+02	1.4386E-06	6.5632E+18	1.0728E+18
I-131	2.2561E+03	1.8198E-05	8.3657E+19	5.2379E+18
I-132	5.3206E+02	5.1546E-08	2.3516E+17	2.6341E+18
I-133	2.8693E+03	2.5329E-06	1.1469E+19	8.4883E+18
I-134	1.7273E-02	6.4751E-13	2.9100E+12	5.0974E+17
I-135	8.5320E+02	2.4295E-07	1.0838E+18	4.8136E+18
Xe-133	1.3143E+06	7.0213E-03	3.1792E+22	1.7149E+21
Xe-135	2.0700E+05	8.1056E-05	3.6158E+20	4.1492E+20
Cs-134	4.6999E+02	3.6325E-04	1.6325E+21	1.1945E+18
Cs-136	1.1097E+02	1.5140E-06	6.7043E+18	2.8704E+17
Cs-137	2.9858E+02	3.4326E-03	1.5089E+22	7.5860E+17
Ba-139	8.3381E-02	5.0976E-12	2.2085E+13	4.6539E+16
Ba-140	2.4266E+02	3.3146E-06	1.4258E+19	5.6598E+17
La-140	5.6819E+01	1.0222E-07	4.3972E+17	6.6706E+16
La-141	1.4143E-01	2.5009E-11	1.0681E+14	1.6417E+15
La-142	1.7209E-03	1.2021E-13	5.0982E+11	4.8866E+14
Ce-141	5.8750E+00	2.0619E-07	8.8063E+17	1.3549E+16
Ce-143	3.9686E+00	5.9760E-09	2.5167E+16	1.0745E+16
Ce-144	4.9385E+00	1.5484E-06	6.4754E+18	1.1326E+16
Pr-143	2.2278E+00	3.3084E-08	1.3933E+17	5.0205E+15
Nd-147	9.1040E-01	1.1254E-08	4.6102E+16	2.1294E+15
Np-239	5.8118E+01	2.5052E-07	6.3123E+17	1.4667E+17
Pu-238	2.7548E-02	1.6092E-06	4.0717E+18	6.3130E+13
Pu-239	1.6352E-03	2.6308E-05	6.6289E+19	3.7437E+12
Pu-240	1.6449E-03	7.2188E-06	1.8114E+19	3.7696E+12
Pu-241	9.8046E-01	9.5178E-06	2.3783E+19	2.2470E+15
Am-241	6.9680E-04	2.0302E-07	5.0731E+17	1.5936E+12
Cm-242	1.3602E-01	4.1041E-08	1.0213E+17	3.1215E+14
Cm-244	1.7529E-02	2.1667E-07	5.3476E+17	4.0172E+13

## Reactor Building Transport Group Inventory:

Time (h) =	16.0000	Atmosphere	Sump	
Noble gases (atoms)	2.5582E+23	0.0000E+00		
Elemental I (atoms)	8.5917E+18	0.0000E+00		
Organic I (atoms)	1.3222E+19	0.0000E+00		
Aerosols (kg)	4.0207E-03	0.0000E+00		
Dose Effective (Ci/cc) I-131 (Thyroid)				4.1499E-08
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)				4.6784E-08
Total I (Ci)				6.5106E+03

Sprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 16.0000 Leakage Transport

Noble gases (atoms)	3.2303E+23
Elemental I (atoms)	1.4060E+19
Organic I (atoms)	1.8007E+19
Aerosols (kg)	7.6224E-03

Reactor Building to Environment Transport Group Inventory:

	Pathway	
Time (h) = 16.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.7190E+23
Elemental I (atoms)	1.1894E+19	1.3422E+18
Organic I (atoms)	1.3430E+19	1.4932E+18
Aerosols (kg)	8.4061E-03	1.9262E-04

Unsprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 16.0000 Leakage Transport

Noble gases (atoms)	2.0696E+23
Elemental I (atoms)	9.0662E+18
Organic I (atoms)	1.1507E+19
Aerosols (kg)	4.9940E-03

Exclusion Area Boundary Doses:

Time (h) = 24.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.0372E-01	2.2751E-01	1.1435E-01
Accumulated dose (rem)	4.7801E-01	7.0899E+00	7.9580E-01

Low Population Zone Doses:

Time (h) = 24.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	9.3155E-02	1.0508E-01	9.8065E-02
Accumulated dose (rem)	4.9635E-01	1.0324E+00	5.4542E-01

Control Room Doses:

Time (h) = 24.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.4672E-03	1.2291E-02	2.0458E-03
Accumulated dose (rem)	7.4742E-03	5.0691E+00	2.3326E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 24.0000	Ci	kg	Atoms	Decay
Co-58	4.5970E+00	1.4457E-07	1.5010E+18	2.3640E+16
Co-60	5.5541E+00	4.9134E-06	4.9315E+19	2.8383E+16
Kr-85	8.1233E+05	2.0705E+00	1.4669E+25	2.5239E+21
Kr-85m	3.1937E+05	3.8807E-05	2.7494E+20	9.5909E+21
Kr-87	5.2722E+01	1.8613E-09	1.2884E+16	3.7394E+21
Kr-88	1.0186E+05	8.1233E-06	5.5590E+19	1.5585E+22
Rb-86	1.5738E+02	1.9342E-06	1.3544E+19	9.3081E+17
Sr-89	6.5045E+03	2.2389E-04	1.5149E+21	3.3537E+19
Sr-90	9.1004E+02	6.6715E-03	4.4641E+22	4.6497E+18
Sr-91	1.4259E+03	3.9335E-07	2.6031E+18	2.6487E+19
Sr-92	1.9116E+01	1.5208E-09	9.9550E+15	1.6388E+19
Y-90	2.0433E+02	3.7557E-07	2.5130E+18	3.4718E+17

Y-91	1.0026E+02	4.0882E-06	2.7055E+19	4.6213E+17
Y-92	1.8589E+02	1.9318E-08	1.2645E+17	3.4806E+18
Y-93	1.9546E+01	5.8585E-09	3.7936E+16	3.3423E+17
Zr-95	1.1074E+02	5.1548E-06	3.2677E+19	5.6987E+17
Zr-97	4.1524E+01	2.1721E-08	1.3485E+17	4.2579E+17
Nb-95	1.1270E+02	2.8821E-06	1.8270E+19	5.7590E+17
Mo-99	1.2048E+03	2.5121E-06	1.5281E+19	7.2978E+18
Tc-99m	1.2063E+03	2.2942E-07	1.3955E+18	6.6243E+18
Ru-103	1.2857E+03	3.9836E-05	2.3291E+20	6.6461E+18
Ru-105	2.2042E+01	3.2791E-09	1.8807E+16	2.2033E+18
Ru-106	5.7274E+02	1.7119E-04	9.7260E+20	2.9299E+18
Rh-105	6.3103E+02	7.4762E-07	4.2879E+18	4.1542E+18
Sb-127	1.5083E+03	5.6481E-06	2.6782E+19	8.6971E+18
Sb-129	1.1386E+02	2.0248E-08	9.4523E+16	1.2470E+19
Te-127	1.6316E+03	6.1825E-07	2.9316E+18	8.7976E+18
Te-127m	2.4197E+02	2.5652E-05	1.2164E+20	1.2351E+18
Te-129	8.2871E+02	3.9571E-08	1.8473E+17	1.4728E+19
Te-129m	7.7340E+02	2.5673E-05	1.1985E+20	3.9918E+18
Te-131m	1.3758E+03	1.7254E-06	7.9317E+18	1.0301E+19
Te-132	1.8878E+04	6.2184E-05	2.8370E+20	1.1131E+20
I-131	1.0490E+05	8.4614E-04	3.8898E+21	5.5098E+20
I-132	2.2591E+04	2.1886E-06	9.9851E+18	4.3849E+20
I-133	1.0513E+05	9.2807E-05	4.2022E+20	9.1127E+20
I-134	1.4794E-03	5.5456E-14	2.4923E+11	2.4872E+20
I-135	1.7639E+04	5.0226E-06	2.2405E+19	5.9533E+20
Xe-133	8.2495E+07	4.4072E-01	1.9955E+24	2.7328E+23
Xe-135	7.3836E+06	2.8913E-03	1.2898E+22	6.2386E+22
Cs-134	2.0168E+04	1.5588E-02	7.0054E+22	1.1628E+20
Cs-136	4.6799E+03	6.3854E-05	2.8275E+20	2.7988E+19
Cs-137	1.2816E+04	1.4734E-01	6.4767E+23	7.3850E+19
Ba-139	6.9245E-02	4.2334E-12	1.8341E+13	1.4779E+19
Ba-140	1.1057E+04	1.5104E-04	6.4970E+20	5.8577E+19
La-140	3.7326E+03	6.7154E-06	2.8886E+19	6.3558E+18
La-141	1.6007E+00	2.8304E-10	1.2089E+15	2.4572E+17
La-142	2.1887E-03	1.5289E-13	6.4841E+11	1.4073E+17
Ce-141	2.7071E+02	9.5009E-06	4.0578E+19	1.4015E+18
Ce-143	1.5566E+02	2.3441E-07	9.8715E+17	1.1244E+18
Ce-144	2.2897E+02	7.1789E-05	3.0022E+20	1.1717E+18
Pr-143	1.0447E+02	1.5514E-06	6.5332E+18	5.1806E+17
Nd-147	4.1364E+01	5.1131E-07	2.0947E+18	2.2041E+17
Np-239	2.4448E+03	1.0538E-05	2.6553E+19	1.5246E+19
Pu-238	1.2783E+00	7.4669E-05	1.8894E+20	6.5307E+15
Pu-239	7.5944E-02	1.2218E-03	3.0787E+21	3.8727E+14
Pu-240	7.6328E-02	3.3497E-04	8.4051E+20	3.8997E+14
Pu-241	4.5493E+01	4.4162E-04	1.1035E+21	2.3245E+17
Am-241	3.2399E-02	9.4397E-06	2.3588E+19	1.6485E+14
Cm-242	6.3028E+00	1.9017E-06	4.7323E+18	3.2293E+16
Cm-244	8.1334E-01	1.0053E-05	2.4813E+19	4.1558E+15

## Sprayed Drywell Transport Group Inventory:

Time (h) =	24.0000	Atmosphere	Sump	
Noble gases (atoms)	1.6678E+25	0.0000E+00		
Elemental I (atoms)	4.6881E+20	5.5507E+22		
Organic I (atoms)	8.1376E+20	0.0000E+00		
Aerosols (kg)	1.7326E-01	5.0877E+01		
Dose Effective (Ci/cc)	I-131 (Thyroid)		4.5740E-05	
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		5.0290E-05	

Total I (Ci) 2.5026E+05

Sprayed Drywell to Reactor Building Transport Group Inventory:  
Time (h) = 24.0000 Leakage Transport

Noble gases (atoms)	4.9122E+23
Elemental I (atoms)	1.8932E+19
Organic I (atoms)	2.6463E+19
Aerosols (kg)	9.3640E-03

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

Time (h) = 24.0000	Pathway	
	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.2121E+26
Elemental I (atoms)	0.0000E+00	2.0102E+22
Organic I (atoms)	0.0000E+00	2.8079E+22
Aerosols (kg)	0.0000E+00	9.9499E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

Time (h) = 24.0000	Pathway	
	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.0960E+26
Elemental I (atoms)	0.0000E+00	1.9675E+22
Organic I (atoms)	0.0000E+00	2.7384E+22
Aerosols (kg)	0.0000E+00	9.8386E+00

Reactor Building Compartment Nuclide Inventory:

Time (h) = 24.0000	Ci	kg	Atoms	Decay
Co-58	9.0985E-02	2.8613E-09	2.9709E+16	3.2882E+14
Co-60	1.0993E-01	9.7248E-08	9.7607E+17	3.9539E+14
Kr-85	1.3993E+04	3.5665E-02	2.5268E+23	2.9970E+19
Kr-85m	5.5012E+03	6.6847E-07	4.7360E+18	7.0389E+19
Kr-87	9.0815E-01	3.2061E-11	2.2193E+14	1.0983E+19
Kr-88	1.7546E+03	1.3993E-07	9.5756E+17	8.7228E+19
Rb-86	3.2268E+00	3.9657E-08	2.7770E+17	1.3185E+16
Sr-89	1.2874E+02	4.4313E-06	2.9984E+19	4.6620E+17
Sr-90	1.8012E+01	1.3204E-04	8.8355E+20	6.4776E+16
Sr-91	2.8221E+01	7.7852E-09	5.1521E+16	2.7513E+17
Sr-92	3.7835E-01	3.0101E-11	1.9703E+14	8.9437E+16
Y-90	4.0503E+00	7.4445E-09	4.9813E+16	7.2160E+15
Y-91	1.9856E+00	8.0964E-08	5.3580E+17	6.6923E+15
Y-92	3.6906E+00	3.8354E-10	2.5106E+15	8.1256E+16
Y-93	3.8686E-01	1.1595E-10	7.5085E+14	3.5342E+15
Zr-95	2.1918E+00	1.0203E-07	6.4675E+17	7.9256E+15
Zr-97	8.2185E-01	4.2991E-10	2.6691E+15	5.0445E+15
Nb-95	2.2306E+00	5.7044E-08	3.6161E+17	8.0219E+15
Mo-99	2.3847E+01	4.9720E-08	3.0245E+17	9.7680E+16
Tc-99m	2.3876E+01	4.5407E-09	2.7621E+16	8.9998E+16
Ru-103	2.5446E+01	7.8845E-07	4.6099E+18	9.2333E+16
Ru-105	4.3627E-01	6.4901E-11	3.7223E+14	1.6553E+16
Ru-106	1.1336E+01	3.3883E-06	1.9250E+19	4.0805E+16
Rh-105	1.2490E+01	1.4797E-08	8.4867E+16	5.5357E+16
Sb-127	2.9853E+01	1.1179E-07	5.3008E+17	1.1776E+17
Sb-129	2.2536E+00	4.0075E-10	1.8708E+15	9.2243E+16

Te-127	3.2294E+01	1.2237E-08	5.8024E+16	1.2005E+17
Te-127m	4.7891E+00	5.0772E-07	2.4075E+18	1.7210E+16
Te-129	1.6402E+01	7.8320E-10	3.6562E+15	1.2963E+17
Te-129m	1.5307E+01	5.0812E-07	2.3721E+18	5.5526E+16
Te-131m	2.7231E+01	3.4150E-08	1.5699E+17	1.3121E+17
Te-132	3.7365E+02	1.2308E-06	5.6150E+18	1.4993E+18
I-131	2.0486E+03	1.6525E-05	7.5964E+19	7.5109E+18
I-132	4.4702E+02	4.3307E-08	1.9758E+17	3.0800E+18
I-133	2.0532E+03	1.8125E-06	8.2067E+18	1.1065E+19
I-134	2.8892E-05	1.0830E-15	4.8673E+09	5.0974E+17
I-135	3.4447E+02	9.8089E-08	4.3756E+17	5.4063E+18
Xe-133	1.4210E+06	7.5917E-03	3.4375E+22	3.1987E+21
Xe-135	1.2724E+05	4.9824E-05	2.2226E+20	5.9290E+20
Cs-134	4.1350E+02	3.1960E-04	1.4363E+21	1.6573E+18
Cs-136	9.5952E+01	1.3092E-06	5.7972E+18	3.9541E+17
Cs-137	2.6277E+02	3.0209E-03	1.3279E+22	1.0527E+18
Ba-139	1.3705E-03	8.3788E-14	3.6301E+11	4.6560E+16
Ba-140	2.1885E+02	2.9894E-06	1.2859E+19	8.0913E+17
La-140	7.3984E+01	1.3311E-07	5.7256E+17	1.3420E+17
La-141	3.1681E-02	5.6019E-12	2.3926E+13	1.7190E+15
La-142	4.3319E-05	3.0261E-15	1.2833E+10	4.8914E+14
Ce-141	5.3579E+00	1.8804E-07	8.0313E+17	1.9469E+16
Ce-143	3.0810E+00	4.6394E-09	1.9538E+16	1.4442E+16
Ce-144	4.5318E+00	1.4209E-06	5.9421E+18	1.6317E+16
Pr-143	2.0679E+00	3.0709E-08	1.2932E+17	7.2817E+15
Nd-147	8.1870E-01	1.0120E-08	4.1459E+16	3.0404E+15
Np-239	4.8387E+01	2.0857E-07	5.2555E+17	2.0267E+17
Pu-238	2.5301E-02	1.4779E-06	3.7395E+18	9.0982E+13
Pu-239	1.5031E-03	2.4183E-05	6.0934E+19	5.3976E+12
Pu-240	1.5107E-03	6.6298E-06	1.6636E+19	5.4327E+12
Pu-241	9.0041E-01	8.7408E-06	2.1842E+19	3.2382E+15
Am-241	6.4125E-04	1.8684E-07	4.6687E+17	2.2987E+12
Cm-242	1.2475E-01	3.7639E-08	9.3664E+16	4.4958E+14
Cm-244	1.6098E-02	1.9898E-07	4.9110E+17	5.7894E+13

## Reactor Building Transport Group Inventory:

Time (h) = 24.0000	Atmosphere	Sump	
Noble gases (atoms)	2.8729E+23	0.0000E+00	
Elemental I (atoms)	8.4581E+18	0.0000E+00	
Organic I (atoms)	1.4033E+19	0.0000E+00	
Aerosols (kg)	3.5454E-03	0.0000E+00	
Dose Effective (Ci/cc) I-131 (Thyroid)			3.6111E-08
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			3.9706E-08
Total I (Ci)			4.8933E+03

## Sprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 24.0000 Leakage Transport

Noble gases (atoms)	4.9122E+23
Elemental I (atoms)	1.8932E+19
Organic I (atoms)	2.6463E+19
Aerosols (kg)	9.3640E-03

## Reactor Building to Environment Transport Group Inventory:

	Pathway	
Time (h) = 24.0000	Filtered	Transported

Noble gases (atoms)	0.0000E+00	5.1847E+23
Elemental I (atoms)	1.8839E+19	2.1138E+18
Organic I (atoms)	2.4603E+19	2.7346E+18
Aerosols (kg)	1.1709E-02	2.6003E-04

Unsprayed Drywell to Reactor Building Transport Group Inventory:  
Time (h) = 24.0000 Leakage Transport

Noble gases (atoms)	3.1850E+23
Elemental I (atoms)	1.2297E+19
Organic I (atoms)	1.7115E+19
Aerosols (kg)	6.1489E-03

Exclusion Area Boundary Doses:

Time (h) = 48.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.3031E-01	4.1056E-01	1.4960E-01
Accumulated dose (rem)	6.0832E-01	7.5005E+00	9.4541E-01

Low Population Zone Doses:

Time (h) = 48.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	4.6567E-02	9.6417E-02	5.1099E-02
Accumulated dose (rem)	5.4292E-01	1.1288E+00	5.9652E-01

Control Room Doses:

Time (h) = 48.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	5.7738E-04	6.6603E-03	8.9083E-04
Accumulated dose (rem)	8.0516E-03	5.0757E+00	2.3416E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 48.0000	Ci	kg	Atoms	Decay
Co-58	4.4844E+00	1.4103E-07	1.4643E+18	3.8150E+16
Co-60	5.4694E+00	4.8385E-06	4.8564E+19	4.5997E+16
Kr-85	8.0010E+05	2.0393E+00	1.4448E+25	5.1004E+21
Kr-85m	7.6756E+03	9.3269E-07	6.6080E+18	9.8580E+21
Kr-87	1.0819E-04	3.8194E-15	2.6438E+10	3.7395E+21
Kr-88	2.8679E+02	2.2872E-08	1.5652E+17	1.5640E+22
Rb-86	1.4939E+02	1.8359E-06	1.2856E+19	1.4209E+18
Sr-89	6.3203E+03	2.1755E-04	1.4720E+21	5.4028E+19
Sr-90	8.9643E+02	6.5718E-03	4.3973E+22	7.5362E+18
Sr-91	2.4382E+02	6.7261E-08	4.4512E+17	2.8626E+19
Sr-92	4.0638E-02	3.2331E-12	2.1163E+13	1.6398E+19
Y-90	3.6152E+02	6.6449E-07	4.4463E+18	1.2481E+18
Y-91	1.0088E+02	4.1134E-06	2.7222E+19	7.8479E+17
Y-92	2.1387E+00	2.2227E-10	1.4549E+15	3.6151E+18
Y-93	3.7087E+00	1.1116E-09	7.1982E+15	3.6468E+17
Zr-95	1.0792E+02	5.0234E-06	3.1844E+19	9.1925E+17
Zr-97	1.5286E+01	7.9960E-09	4.9642E+16	5.0970E+17
Nb-95	1.1095E+02	2.8374E-06	1.7987E+19	9.3313E+17
Mo-99	9.2247E+02	1.9233E-06	1.1700E+19	1.0677E+19
Tc-99m	9.4395E+02	1.7952E-07	1.0920E+18	9.8828E+18
Ru-103	1.2444E+03	3.8557E-05	2.2543E+20	1.0688E+19
Ru-105	5.1233E-01	7.6217E-11	4.3713E+14	2.2216E+18
Ru-106	5.6315E+02	1.6833E-04	9.5632E+20	4.7449E+18



Rh-105	3.9024E+02	4.6234E-07	2.6517E+18	5.7571E+18
Sb-127	1.2411E+03	4.6473E-06	2.2037E+19	1.3076E+19
Sb-129	2.3849E+00	4.2411E-10	1.9799E+15	1.2562E+19
Te-127	1.4101E+03	5.3433E-07	2.5337E+18	1.3498E+19
Te-127m	2.3840E+02	2.5275E-05	1.1985E+20	2.0026E+18
Te-129	6.4883E+02	3.0982E-08	1.4463E+17	1.6416E+19
Te-129m	7.4646E+02	2.4778E-05	1.1567E+20	6.4202E+18
Te-131m	7.7845E+02	9.7623E-07	4.4878E+18	1.3653E+19
Te-132	1.5034E+04	4.9519E-05	2.2592E+20	1.6526E+20
I-131	9.4870E+04	7.6523E-04	3.5178E+21	8.6993E+20
I-132	1.7944E+04	1.7384E-06	7.9311E+18	4.9436E+20
I-133	4.6546E+04	4.1089E-05	1.8605E+20	1.1411E+21
I-135	1.4027E+03	3.9941E-07	1.7817E+18	6.1582E+20
Xe-133	7.1215E+07	3.8046E-01	1.7227E+24	5.1845E+23
Xe-135	1.1699E+06	4.5813E-04	2.0437E+21	7.3166E+22
Cs-134	1.9850E+04	1.5342E-02	6.8948E+22	1.8023E+20
Cs-136	4.3727E+03	5.9662E-05	2.6419E+20	4.2448E+19
Cs-137	1.2624E+04	1.4514E-01	6.3799E+23	1.1450E+20
Ba-139	3.9106E-07	2.3908E-17	1.0358E+08	1.4779E+19
Ba-140	1.0316E+04	1.4091E-04	6.0613E+20	9.2716E+19
La-140	6.0445E+03	1.0875E-05	4.6778E+19	2.2029E+19
La-141	2.2879E-02	4.0455E-12	1.7279E+13	2.4691E+17
La-142	4.4397E-08	3.1015E-18	1.3153E+07	1.4073E+17
Ce-141	2.6106E+02	9.1622E-06	3.9132E+19	2.2512E+18
Ce-143	9.2628E+01	1.3948E-07	5.8740E+17	1.5125E+18
Ce-144	2.2501E+02	7.0548E-05	2.9503E+20	1.8971E+18
Pr-143	1.0378E+02	1.5412E-06	6.4902E+18	8.5124E+17
Nd-147	3.8256E+01	4.7288E-07	1.9373E+18	3.4757E+17
Np-239	1.7943E+03	7.7343E-06	1.9488E+19	2.1966E+19
Pu-238	1.2594E+00	7.3564E-05	1.8614E+20	1.0586E+16
Pu-239	7.4978E-02	1.2063E-03	3.0395E+21	6.2842E+14
Pu-240	7.5191E-02	3.2998E-04	8.2799E+20	6.3208E+14
Pu-241	4.4810E+01	4.3499E-04	1.0870E+21	3.7674E+17
Am-241	3.2113E-02	9.3565E-06	2.3380E+19	2.6792E+14
Cm-242	6.1825E+00	1.8654E-06	4.6421E+18	5.2242E+16
Cm-244	8.0115E-01	9.9027E-06	2.4441E+19	6.7355E+15

## Sprayed Drywell Transport Group Inventory:

Time (h) = 48.0000	Atmosphere	Sump	
Noble gases (atoms)	1.6173E+25	0.0000E+00	
Elemental I (atoms)	4.0092E+20	5.5507E+22	
Organic I (atoms)	6.9593E+20	0.0000E+00	
Aerosols (kg)	1.7054E-01	5.0877E+01	
Dose Effective (Ci/cc) I-131 (Thyroid)			3.8201E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			4.0175E-05
Total I (Ci)			1.6076E+05

## Sprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 48.0000 Leakage Transport

Noble gases (atoms)	7.3760E+23
Elemental I (atoms)	2.5437E+19
Organic I (atoms)	3.7755E+19
Aerosols (kg)	1.1942E-02

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 48.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.0441E+27
Elemental I (atoms)	0.0000E+00	3.3907E+22
Organic I (atoms)	0.0000E+00	5.2042E+22
Aerosols (kg)	0.0000E+00	1.5422E+01

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 48.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.0325E+27
Elemental I (atoms)	0.0000E+00	3.3480E+22
Organic I (atoms)	0.0000E+00	5.1347E+22
Aerosols (kg)	0.0000E+00	1.5310E+01

Reactor Building Compartment Nuclide Inventory:

Time (h) = 48.0000	Ci	kg	Atoms	Decay
Co-58	4.4947E-02	1.4135E-09	1.4676E+16	5.1406E+14
Co-60	5.4819E-02	4.8496E-08	4.8675E+17	6.2013E+14
Kr-85	7.8786E+03	2.0081E-02	1.4227E+23	6.0665E+19
Kr-85m	7.5582E+01	9.1843E-09	6.5069E+16	7.4063E+19
Kr-87	1.0653E-06	3.7610E-17	2.6034E+08	1.0983E+19
Kr-88	2.8241E+00	2.2522E-10	1.5413E+15	8.8027E+19
Rb-86	1.5045E+00	1.8491E-08	1.2948E+17	1.9566E+16
Sr-89	6.3348E+01	2.1805E-06	1.4754E+19	7.2785E+17
Sr-90	8.9848E+00	6.5868E-05	4.4074E+20	1.0160E+17
Sr-91	2.4438E+00	6.7415E-10	4.4613E+15	3.0506E+17
Sr-92	4.0731E-04	3.2405E-14	2.1211E+11	8.9598E+16
Y-90	3.6238E+00	6.6607E-09	4.4568E+16	1.8358E+16
Y-91	1.0112E+00	4.1232E-08	2.7286E+17	1.0805E+16
Y-92	2.1443E-02	2.2285E-12	1.4587E+13	8.3346E+16
Y-93	3.7172E-02	1.1142E-11	7.2146E+13	3.9581E+15
Zr-95	1.0816E+00	5.0349E-08	3.1916E+17	1.2386E+16
Zr-97	1.5321E-01	8.0143E-11	4.9756E+14	6.1734E+15
Nb-95	1.1121E+00	2.8439E-08	1.8028E+17	1.2580E+16
Mo-99	9.2458E+00	1.9277E-08	1.1726E+17	1.4139E+17
Tc-99m	9.4611E+00	1.7993E-09	1.0945E+16	1.3209E+17
Ru-103	1.2472E+01	3.8645E-07	2.2595E+18	1.4396E+17
Ru-105	5.1350E-03	7.6391E-13	4.3813E+12	1.6831E+16
Ru-106	5.6444E+00	1.6871E-06	9.5850E+18	6.3965E+16
Rh-105	3.9113E+00	4.6340E-09	2.6578E+16	7.6331E+16
Sb-127	1.2439E+01	4.6579E-08	2.2087E+17	1.7419E+17
Sb-129	2.3904E-02	4.2508E-12	1.9844E+13	9.3650E+16
Te-127	1.4134E+01	5.3555E-09	2.5395E+16	1.8044E+17
Te-127m	2.3895E+00	2.5332E-07	1.2012E+18	2.7003E+16
Te-129	6.5031E+00	3.1053E-10	1.4496E+15	1.5144E+17
Te-129m	7.4816E+00	2.4835E-07	1.1594E+18	8.6545E+16
Te-131m	7.8023E+00	9.7846E-09	4.4980E+16	1.7529E+17
Te-132	1.5068E+02	4.9632E-07	2.2643E+18	2.1957E+18
I-131	9.4916E+02	7.6561E-06	3.5195E+19	1.1571E+19
I-132	1.7985E+02	1.7424E-08	7.9492E+16	3.8013E+18
I-133	4.6569E+02	4.1109E-07	1.8614E+18	1.4104E+19
I-135	1.4033E+01	3.9960E-09	1.7826E+16	5.7008E+18
Xe-133	7.0126E+05	3.7464E-03	1.6963E+22	6.1365E+21
Xe-135	1.1522E+04	4.5117E-06	2.0126E+19	7.3185E+20

Cs-134	1.9992E+02	1.5451E-04	6.9441E+20	2.4882E+18
Cs-136	4.4040E+01	6.0089E-07	2.6608E+18	5.8385E+17
Cs-137	1.2715E+02	1.4618E-03	6.4256E+21	1.5809E+18
Ba-139	3.9195E-09	2.3962E-19	1.0382E+06	4.6560E+16
Ba-140	1.0340E+02	1.4123E-06	6.0752E+18	1.2460E+18
La-140	6.0588E+01	1.0900E-07	4.6889E+17	3.2890E+17
La-141	2.2931E-04	4.0548E-14	1.7318E+11	1.7374E+15
La-142	4.4499E-10	3.1086E-20	1.3183E+05	4.8915E+14
Ce-141	2.6166E+00	9.1831E-08	3.9221E+17	3.0322E+16
Ce-143	9.2840E-01	1.3980E-09	5.8875E+15	1.9531E+16
Ce-144	2.2553E+00	7.0709E-07	2.9571E+18	2.5574E+16
Pr-143	1.0402E+00	1.5447E-08	6.5052E+16	1.1531E+16
Nd-147	3.8343E-01	4.7397E-09	1.9417E+16	4.6684E+15
Np-239	1.7984E+01	7.7520E-08	1.9533E+17	2.8979E+17
Pu-238	1.2623E-02	7.3732E-07	1.8657E+18	1.4272E+14
Pu-239	7.5150E-04	1.2090E-05	3.0464E+19	8.4742E+12
Pu-240	7.5364E-04	3.3074E-06	8.2989E+18	8.5218E+12
Pu-241	4.4912E-01	4.3599E-06	1.0895E+19	5.0793E+15
Am-241	3.2187E-04	9.3779E-08	2.3434E+17	3.6134E+12
Cm-242	6.1967E-02	1.8697E-08	4.6527E+16	7.0417E+14
Cm-244	8.0299E-03	9.9253E-08	2.4497E+17	9.0809E+13

## Reactor Building Transport Group Inventory:

Time (h) = 48.0000	Atmosphere	Sump	
Noble gases (atoms)	1.5926E+23	0.0000E+00	
Elemental I (atoms)	3.9703E+18	0.0000E+00	
Organic I (atoms)	6.8538E+18	0.0000E+00	
Aerosols (kg)	1.7172E-03	0.0000E+00	
Dose Effective (Ci/cc) I-131 (Thyroid)			1.5450E-08
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			1.6249E-08
Total I (Ci)			1.6087E+03

## Sprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 48.0000 Leakage Transport

Noble gases (atoms)	7.3760E+23
Elemental I (atoms)	2.5437E+19
Organic I (atoms)	3.7755E+19
Aerosols (kg)	1.1942E-02

## Reactor Building to Environment Transport Group Inventory:

	Pathway	
Time (h) = 48.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.0532E+24
Elemental I (atoms)	3.1927E+19	3.5681E+18
Organic I (atoms)	4.6801E+19	5.2010E+18
Aerosols (kg)	1.7702E-02	3.8233E-04

## Unsprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 48.0000 Leakage Transport

Noble gases (atoms)	4.8189E+23
Elemental I (atoms)	1.6611E+19
Organic I (atoms)	2.4603E+19
Aerosols (kg)	7.8589E-03

## Exclusion Area Boundary Doses:

Time (h) =	96.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		1.2071E-01	4.9136E-01	1.4515E-01
Accumulated dose (rem)		7.2903E-01	7.9919E+00	1.0906E+00

## Low Population Zone Doses:

Time (h) =	96.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		4.3139E-02	1.1539E-01	4.8878E-02
Accumulated dose (rem)		5.8606E-01	1.2442E+00	6.4540E-01

## Control Room Doses:

Time (h) =	96.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		4.5312E-04	6.8438E-03	7.9352E-04
Accumulated dose (rem)		8.5047E-03	5.0826E+00	2.3495E-01

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =	Ci	kg	Atoms	Decay
Co-58	4.2675E+00	1.3421E-07	1.3935E+18	6.6114E+16
Co-60	5.3039E+00	4.6921E-06	4.7095E+19	8.0424E+16
Kr-85	7.7618E+05	1.9784E+00	1.4016E+25	1.0137E+22
Kr-85m	4.4337E+00	5.3875E-10	3.8170E+15	9.8646E+21
Kr-88	2.2736E-03	1.8132E-13	1.2408E+12	1.5641E+22
Rb-86	1.3459E+02	1.6541E-06	1.1583E+19	2.3276E+18
Sr-89	5.9674E+03	2.0540E-04	1.3899E+21	9.3286E+19
Sr-90	8.6983E+02	6.3767E-03	4.2668E+22	1.3180E+19
Sr-91	7.1293E+00	1.9667E-09	1.3015E+16	2.9055E+19
Sr-92	1.8366E-07	1.4611E-17	9.5643E+07	1.6398E+19
Y-90	5.6317E+02	1.0351E-06	6.9262E+18	4.2388E+18
Y-91	9.6245E+01	3.9245E-06	2.5971E+19	1.4156E+18
Y-92	1.8307E-04	1.9025E-14	1.2453E+11	3.6165E+18
Y-93	1.3352E-01	4.0021E-11	2.5915E+14	3.7156E+17
Zr-95	1.0248E+02	4.7704E-06	3.0240E+19	1.5915E+18
Zr-97	2.0714E+00	1.0835E-09	6.7271E+15	5.5196E+17
Nb-95	1.0748E+02	2.7485E-06	1.7423E+19	1.6309E+18
Mo-99	5.4074E+02	1.1275E-06	6.8583E+18	1.5245E+19
Tc-99m	5.5439E+02	1.0543E-07	6.4134E+17	1.4328E+19
Ru-103	1.1657E+03	3.6120E-05	2.1118E+20	1.8388E+19
Ru-105	2.7679E-04	4.1176E-14	2.3616E+11	2.2220E+18
Ru-106	5.4446E+02	1.6274E-04	9.2456E+20	8.2843E+18
Rh-105	1.4782E+02	1.7514E-07	1.0045E+18	7.3533E+18
Sb-127	8.4020E+02	3.1462E-06	1.4919E+19	1.9645E+19
Sb-129	1.0463E-03	1.8607E-13	8.6862E+11	1.2564E+19
Te-127	1.0300E+03	3.9027E-07	1.8506E+18	2.0971E+19
Te-127m	2.3073E+02	2.4461E-05	1.1599E+20	3.5021E+18
Te-129	6.0108E+02	2.8702E-08	1.3399E+17	1.9417E+19
Te-129m	6.9512E+02	2.3074E-05	1.0772E+20	1.1025E+19
Te-131m	2.4920E+02	3.1252E-07	1.4367E+18	1.6623E+19
Te-132	9.5337E+03	3.1403E-05	1.4327E+20	2.4245E+20
I-131	7.7540E+04	6.2545E-04	2.8752E+21	1.4191E+21
I-132	1.1379E+04	1.1024E-06	5.0295E+18	5.7426E+20
I-133	9.1236E+03	8.0540E-06	3.6468E+19	1.2878E+21
I-135	8.8701E+00	2.5258E-09	1.1267E+16	6.1758E+20
Xe-133	5.3063E+07	2.8349E-01	1.2836E+24	9.1278E+23

Xe-135	2.9272E+04	1.1463E-05	5.1133E+19	7.5143E+22
Cs-134	1.9227E+04	1.4861E-02	6.6787E+22	3.0510E+20
Cs-136	3.8173E+03	5.2085E-05	2.3063E+20	6.8581E+19
Cs-137	1.2250E+04	1.4083E-01	6.1906E+23	1.9399E+20
Ba-140	8.9789E+03	1.2265E-04	5.2757E+20	1.5428E+20
La-140	7.9074E+03	1.4226E-05	6.1195E+19	6.7509E+19
La-141	4.6742E-06	8.2650E-16	3.5300E+09	2.4693E+17
Ce-141	2.4277E+02	8.5201E-06	3.6390E+19	3.8606E+18
Ce-143	3.2798E+01	4.9389E-08	2.0799E+17	1.8808E+18
Ce-144	2.1730E+02	6.8130E-05	2.8492E+20	3.3105E+18
Pr-143	9.6387E+01	1.4314E-06	6.0279E+18	1.4932E+18
Nd-147	3.2722E+01	4.0448E-07	1.6570E+18	5.7394E+17
Np-239	9.6653E+02	4.1662E-06	1.0498E+19	3.0518E+19
Pu-238	1.2224E+00	7.1402E-05	1.8067E+20	1.8516E+16
Pu-239	7.2970E-02	1.1740E-03	2.9581E+21	1.1013E+15
Pu-240	7.2970E-02	3.2023E-04	8.0353E+20	1.1055E+15
Pu-241	4.3474E+01	4.2202E-04	1.0546E+21	6.5886E+17
Am-241	3.1545E-02	9.1911E-06	2.2967E+19	4.7133E+14
Cm-242	5.9489E+00	1.7949E-06	4.4667E+18	9.1007E+16
Cm-244	7.7731E-01	9.6080E-06	2.3713E+19	1.1780E+16

## Sprayed Drywell Transport Group Inventory:

Time (h) = 96.0000	Atmosphere	Sump	
Noble gases (atoms)	1.5300E+25	0.0000E+00	
Elemental I (atoms)	3.1489E+20	5.5507E+22	
Organic I (atoms)	5.4660E+20	0.0000E+00	
Aerosols (kg)	1.6530E-01	5.0877E+01	
Dose Effective (Ci/cc) I-131 (Thyroid)			2.9414E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			2.9884E-05
Total I (Ci)			9.8052E+04

## Sprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 96.0000 Leakage Transport

Noble gases (atoms)	1.2095E+24
Elemental I (atoms)	3.6099E+19
Organic I (atoms)	5.6261E+19
Aerosols (kg)	1.6980E-02

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.0454E+27
Elemental I (atoms)	0.0000E+00	5.6531E+22
Organic I (atoms)	0.0000E+00	9.1314E+22
Aerosols (kg)	0.0000E+00	2.6111E+01

## Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.0338E+27
Elemental I (atoms)	0.0000E+00	5.6105E+22
Organic I (atoms)	0.0000E+00	9.0619E+22
Aerosols (kg)	0.0000E+00	2.6000E+01

## Reactor Building Compartment Nuclide Inventory:

Time (h) = 96.0000	Ci	kg	Atoms	Decay
Co-58	3.9722E-02	1.2492E-09	1.2970E+16	7.7783E+14
Co-60	4.9369E-02	4.3675E-08	4.3836E+17	9.4484E+14
Kr-85	7.2240E+03	1.8413E-02	1.3045E+23	1.0802E+20
Kr-85m	4.1265E-02	5.0143E-12	3.5525E+13	7.4126E+19
Kr-88	2.1161E-05	1.6876E-15	1.1549E+10	8.8028E+19
Rb-86	1.2528E+00	1.5397E-08	1.0782E+17	2.8129E+16
Sr-89	5.5545E+01	1.9119E-06	1.2937E+19	1.0982E+18
Sr-90	8.0964E+00	5.9354E-05	3.9716E+20	1.5484E+17
Sr-91	6.6360E-02	1.8306E-11	1.2115E+14	3.0916E+17
Sr-92	1.7095E-09	1.3600E-19	8.9025E+05	8.9598E+16
Y-90	5.2420E+00	9.6349E-09	6.4470E+16	4.6508E+16
Y-91	8.9585E-01	3.6530E-08	2.4174E+17	1.6756E+16
Y-92	1.7040E-06	1.7709E-16	1.1592E+09	8.3361E+16
Y-93	1.2428E-03	3.7252E-13	2.4122E+12	4.0239E+15
Zr-95	9.5391E-01	4.4403E-08	2.8148E+17	1.8727E+16
Zr-97	1.9280E-02	1.0086E-11	6.2616E+13	6.5756E+15
Nb-95	1.0004E+00	2.5584E-08	1.6218E+17	1.9161E+16
Mo-99	5.0332E+00	1.0494E-08	6.3837E+16	1.8457E+17
Tc-99m	5.1602E+00	9.8136E-10	5.9696E+15	1.7411E+17
Ru-103	1.0851E+01	3.3620E-07	1.9657E+18	2.1659E+17
Ru-105	2.5763E-06	3.8327E-16	2.1982E+09	1.6835E+16
Ru-106	5.0678E+00	1.5148E-06	8.6059E+18	9.7348E+16
Rh-105	1.3760E+00	1.6302E-09	9.3496E+15	9.1450E+16
Sb-127	7.8206E+00	2.9285E-08	1.3886E+17	2.3624E+17
Sb-129	9.7392E-06	1.7319E-15	8.0851E+09	9.3669E+16
Te-127	9.5868E+00	3.6326E-09	1.7225E+16	2.5102E+17
Te-127m	2.1477E+00	2.2769E-07	1.0797E+18	4.1146E+16
Te-129	5.5948E+00	2.6715E-10	1.2472E+15	1.7976E+17
Te-129m	6.4702E+00	2.1478E-07	1.0026E+18	1.2999E+17
Te-131m	2.3196E+00	2.9089E-09	1.3372E+16	2.0344E+17
Te-132	8.8740E+01	2.9230E-07	1.3335E+18	2.9250E+18
I-131	7.2174E+02	5.8217E-06	2.6763E+19	1.6753E+19
I-132	1.0592E+02	1.0261E-08	4.6815E+16	4.5562E+18
I-133	8.4922E+01	7.4966E-08	3.3944E+17	1.5498E+19
I-135	8.2562E-02	2.3510E-11	1.0487E+14	5.7178E+18
Xe-133	4.9387E+05	2.6385E-03	1.1947E+22	9.8468E+21
Xe-135	2.7244E+02	1.0668E-07	4.7590E+17	7.5067E+20
Cs-134	1.7897E+02	1.3833E-04	6.2167E+20	3.6671E+18
Cs-136	3.5533E+01	4.8482E-07	2.1468E+18	8.3068E+17
Cs-137	1.1402E+02	1.3109E-03	5.7623E+21	2.3313E+18
Ba-140	8.3575E+01	1.1416E-06	4.9106E+18	1.8269E+18
La-140	7.3602E+01	1.3242E-07	5.6960E+17	7.5729E+17
La-141	4.3507E-08	7.6931E-18	3.2857E+07	1.7376E+15
Ce-141	2.2597E+00	7.9306E-08	3.3872E+17	4.5504E+16
Ce-143	3.0529E-01	4.5972E-10	1.9360E+15	2.3021E+16
Ce-144	2.0226E+00	6.3415E-07	2.6521E+18	3.8905E+16
Pr-143	8.9717E-01	1.3323E-08	5.6108E+16	1.7587E+16
Nd-147	3.0457E-01	3.7649E-09	1.5424E+16	6.8046E+15
Np-239	8.9965E+00	3.8779E-08	9.7713E+16	3.7067E+17
Pu-238	1.1378E-02	6.6461E-07	1.6817E+18	2.1752E+14
Pu-239	6.7920E-04	1.0927E-05	2.7534E+19	1.2934E+13
Pu-240	6.7920E-04	2.9807E-06	7.4793E+18	1.2987E+13
Pu-241	4.0466E-01	3.9282E-06	9.8159E+18	7.7401E+15
Am-241	2.9363E-04	8.5551E-08	2.1378E+17	5.5318E+12

Cm-242	5.5373E-02	1.6707E-08	4.1576E+16	1.0698E+15
Cm-244	7.2352E-03	8.9431E-08	2.2072E+17	1.3838E+14

## Reactor Building Transport Group Inventory:

Time (h) = 96.0000	Atmosphere	Sump		
Noble gases (atoms)	1.4240E+23	0.0000E+00		
Elemental I (atoms)	2.9309E+18	0.0000E+00		
Organic I (atoms)	5.0873E+18	0.0000E+00		
Aerosols (kg)	1.5387E-03	0.0000E+00		
Dose Effective (Ci/cc) I-131 (Thyroid)			1.1068E-08	
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			1.1245E-08	
Total I (Ci)			9.1267E+02	

## Sprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 96.0000 Leakage Transport

Noble gases (atoms)	1.2095E+24
Elemental I (atoms)	3.6099E+19
Organic I (atoms)	5.6261E+19
Aerosols (kg)	1.6980E-02

## Reactor Building to Environment Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.8510E+24
Elemental I (atoms)	4.8182E+19	5.3742E+18
Organic I (atoms)	7.4982E+19	8.3323E+18
Aerosols (kg)	2.6085E-02	5.5341E-04

## Unsprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 96.0000 Leakage Transport

Noble gases (atoms)	7.9480E+23
Elemental I (atoms)	2.3681E+19
Organic I (atoms)	3.6876E+19
Aerosols (kg)	1.1199E-02

## Exclusion Area Boundary Doses:

Time (h) = 720.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.2927E-01	1.9264E+00	4.8293E-01
Accumulated dose (rem)	1.0583E+00	9.9183E+00	1.5735E+00

## Low Population Zone Doses:

Time (h) = 720.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.1327E-02	1.2044E-01	4.0934E-02
Accumulated dose (rem)	6.1738E-01	1.3647E+00	6.8633E-01

## Control Room Doses:

Time (h) = 720.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.4834E-04	5.3660E-03	6.7404E-04
Accumulated dose (rem)	8.7531E-03	5.0879E+00	2.3562E-01

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 720.0000	Ci	kg	Atoms	Decay
Co-58	2.2400E+00	7.0445E-08	7.3143E+17	3.2748E+17
Co-60	3.5576E+00	3.1472E-06	3.1589E+19	4.4376E+17
Kr-85	5.2310E+05	1.3333E+00	9.4463E+24	6.3427E+22
Rb-86	3.4689E+01	4.2633E-07	2.9854E+18	8.4501E+18
Sr-89	2.8277E+03	9.7330E-05	6.5858E+20	4.4259E+20
Sr-90	5.8792E+02	4.3101E-03	2.8840E+22	7.2981E+19
Y-90	5.9102E+02	1.0863E-06	7.2687E+18	6.0435E+19
Y-91	4.7899E+01	1.9532E-06	1.2925E+19	7.1730E+18
Zr-95	5.2353E+01	2.4370E-06	1.5448E+19	7.7928E+18
Zr-97	1.0763E-11	5.6301E-21	3.4954E+04	5.5858E+17
Nb-95	6.7315E+01	1.7215E-06	1.0913E+19	8.8134E+18
Mo-99	5.2181E-01	1.0880E-09	6.6182E+15	2.1710E+19
Tc-99m	5.3498E-01	1.0174E-10	6.1889E+14	2.0621E+19
Ru-103	4.9884E+02	1.5457E-05	9.0370E+19	8.3670E+19
Ru-106	3.5102E+02	1.0492E-04	5.9608E+20	4.4901E+19
Rh-105	4.8762E-04	5.7771E-13	3.3134E+12	8.3264E+18
Sb-127	5.2733E+00	1.9746E-08	9.3633E+16	3.3325E+19
Te-127	1.4331E+02	5.4304E-08	2.5750E+17	4.8218E+19
Te-127m	1.3556E+02	1.4371E-05	6.8146E+19	1.8476E+19
Te-129	2.3802E+02	1.1366E-08	5.3058E+16	4.3942E+19
Te-129m	2.7526E+02	9.1372E-06	4.2655E+19	4.8685E+19
Te-131m	9.2417E-05	1.1590E-13	5.3279E+11	1.8021E+19
Te-132	2.5574E+01	8.4239E-08	3.8432E+17	3.7588E+20
I-131	5.5831E+03	4.5034E-05	2.0702E+20	3.6921E+21
I-132	3.0526E+01	2.9573E-09	1.3492E+16	7.1237E+20
I-133	5.7530E-06	5.0785E-15	2.2995E+10	1.3236E+21
Xe-133	1.1566E+06	6.1792E-03	2.7979E+22	2.0401E+24
Cs-134	1.2710E+04	9.8238E-03	4.4149E+22	1.6133E+21
Cs-136	6.5301E+02	8.9098E-06	3.9453E+19	2.1749E+20
Cs-137	8.2802E+03	9.5195E-02	4.1845E+23	1.0362E+21
Ba-140	1.4774E+03	2.0181E-05	8.6808E+19	4.9968E+20
La-140	1.7162E+03	3.0876E-06	1.3281E+19	4.4692E+20
Ce-141	9.4406E+01	3.3133E-06	1.4151E+19	1.6912E+19
Ce-143	4.5110E-05	6.7929E-14	2.8607E+11	2.0827E+18
Ce-144	1.3809E+02	4.3294E-05	1.8106E+20	1.7827E+19
Pr-143	1.7940E+01	2.6642E-07	1.1220E+18	5.4410E+18
Nd-147	4.2918E+00	5.3051E-08	2.1734E+17	1.7369E+18
Np-239	3.1072E-01	1.3393E-09	3.3748E+15	4.0500E+19
Pu-238	8.2930E-01	4.8441E-05	1.2257E+20	1.0270E+17
Pu-239	4.9580E-02	7.9766E-04	2.0099E+21	6.1370E+15
Pu-240	4.9408E-02	2.1683E-04	5.4407E+20	6.1263E+15
Pu-241	2.9334E+01	2.8476E-04	7.1156E+20	3.6453E+18
Am-241	2.4710E-02	7.1995E-06	1.7990E+19	2.8009E+15
Cm-242	3.6057E+00	1.0879E-06	2.7073E+18	4.7987E+17
Cm-244	5.2485E-01	6.4875E-06	1.6012E+19	6.5194E+16

## Sprayed Drywell Transport Group Inventory:

Time (h) = 720.0000	Atmosphere	Sump	
Noble gases (atoms)	9.4743E+24	0.0000E+00	
Elemental I (atoms)	2.2352E+19	5.5507E+22	
Organic I (atoms)	3.8799E+19	0.0000E+00	
Aerosols (kg)	1.1105E-01	5.0877E+01	
Dose Effective (Ci/cc)	I-131 (Thyroid)		2.0755E-06
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		2.0758E-06
Total I (Ci)			5.6136E+03



Sprayed Drywell to Reactor Building Transport Group Inventory:  
Time (h) = 720.0000 Leakage Transport

Noble gases (atoms)	5.8546E+24
Elemental I (atoms)	7.8994E+19
Organic I (atoms)	1.3072E+20
Aerosols (kg)	7.0138E-02

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.1903E+28
Elemental I (atoms)	0.0000E+00	1.4756E+23
Organic I (atoms)	0.0000E+00	2.4932E+23
Aerosols (kg)	0.0000E+00	1.3892E+02

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.1891E+28
Elemental I (atoms)	0.0000E+00	1.4713E+23
Organic I (atoms)	0.0000E+00	2.4863E+23
Aerosols (kg)	0.0000E+00	1.3881E+02

Reactor Building Compartment Nuclide Inventory:

Time (h) = 720.0000	Ci	kg	Atoms	Decay
Co-58	2.0843E-02	6.5547E-10	6.8057E+15	3.2098E+15
Co-60	3.3102E-02	2.9284E-08	2.9392E+17	4.3256E+15
Kr-85	4.8673E+03	1.2406E-02	8.7895E+22	6.0386E+20
Rb-86	3.2277E-01	3.9669E-09	2.7778E+16	8.5097E+16
Sr-89	2.6310E+01	9.0562E-07	6.1279E+18	4.3484E+18
Sr-90	5.4704E+00	4.0104E-05	2.6835E+20	7.1126E+17
Y-90	5.4992E+00	1.0108E-08	6.7633E+16	5.6940E+17
Y-91	4.4568E-01	1.8173E-08	1.2027E+17	7.0327E+16
Zr-95	4.8713E-01	2.2675E-08	1.4374E+17	7.6428E+16
Nb-95	6.2635E-01	1.6018E-08	1.0154E+17	8.5992E+16
Mo-99	4.8553E-03	1.0123E-11	6.1580E+13	2.4472E+17
Tc-99m	4.9778E-03	9.4668E-13	5.7586E+12	2.3267E+17
Ru-103	4.6416E+00	1.4382E-07	8.4086E+17	8.2402E+17
Ru-106	3.2661E+00	9.7625E-07	5.5463E+18	4.3806E+17
Rh-105	4.5371E-06	5.3754E-15	3.0830E+10	1.0050E+17
Sb-127	4.9066E-02	1.8373E-10	8.7123E+14	3.6353E+17
Te-127	1.3335E+00	5.0528E-10	2.3959E+15	5.0454E+17
Te-127m	1.2613E+00	1.3372E-07	6.3407E+17	1.8047E+17
Te-129	2.2147E+00	1.0575E-10	4.9369E+14	4.0796E+17
Te-129m	2.5612E+00	8.5018E-08	3.9689E+17	4.8040E+17
Te-131m	8.5991E-07	1.0784E-15	4.9574E+09	2.1645E+17
Te-132	2.3796E-01	7.8382E-10	3.5759E+15	4.1666E+18
I-131	5.1949E+01	4.1903E-07	1.9263E+18	3.7902E+19
I-132	2.8403E-01	2.7517E-11	1.2554E+14	5.8413E+18
I-133	5.3530E-08	4.7254E-17	2.1396E+08	1.5831E+19
Xe-133	1.0762E+04	5.7495E-05	2.6034E+20	2.0336E+22
Cs-134	1.1826E+02	9.1407E-05	4.1079E+20	1.5840E+19

Cs-136	6.0760E+00	8.2903E-08	3.6710E+17	2.2162E+18
Cs-137	7.7044E+01	8.8575E-04	3.8935E+21	1.0168E+19
Ba-140	1.3747E+01	1.8777E-07	8.0772E+17	5.0408E+18
La-140	1.5968E+01	2.8729E-08	1.2358E+17	4.2876E+18
Ce-141	8.7842E-01	3.0829E-08	1.3167E+17	1.6695E+17
Ce-143	4.1974E-07	6.3205E-16	2.6618E+09	2.4900E+16
Ce-144	1.2849E+00	4.0284E-07	1.6847E+18	1.7398E+17
Pr-143	1.6693E-01	2.4789E-09	1.0439E+16	5.4320E+16
Nd-147	3.9934E-02	4.9363E-10	2.0222E+15	1.7625E+16
Np-239	2.8911E-03	1.2462E-11	3.1401E+13	4.6355E+17
Pu-238	7.7163E-03	4.5073E-07	1.1405E+18	1.0008E+15
Pu-239	4.6132E-04	7.4220E-06	1.8701E+19	5.9790E+13
Pu-240	4.5973E-04	2.0175E-06	5.0624E+18	5.9704E+13
Pu-241	2.7294E-01	2.6496E-06	6.6208E+18	3.5528E+16
Am-241	2.2992E-04	6.6989E-08	1.6739E+17	2.7208E+13
Cm-242	3.3550E-02	1.0123E-08	2.5190E+16	4.6881E+15
Cm-244	4.8836E-03	6.0364E-08	1.4898E+17	6.3539E+14

Reactor Building Transport Group Inventory:

Time (h) = 720.0000	Atmosphere	Sump	
Noble gases (atoms)	8.8155E+22	0.0000E+00	
Elemental I (atoms)	2.0798E+17	0.0000E+00	
Organic I (atoms)	3.6101E+17	0.0000E+00	
Aerosols (kg)	1.0333E-03	0.0000E+00	
Dose Effective (Ci/cc) I-131 (Thyroid)			7.8068E-10
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			7.8081E-10
Total I (Ci)			5.2233E+01

Sprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 720.0000 Leakage Transport

Noble gases (atoms)	5.8546E+24
Elemental I (atoms)	7.8994E+19
Organic I (atoms)	1.3072E+20
Aerosols (kg)	7.0138E-02

Reactor Building to Environment Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	9.6199E+24
Elemental I (atoms)	1.1275E+20	1.2548E+19
Organic I (atoms)	1.8706E+20	2.0785E+19
Aerosols (kg)	1.1321E-01	2.3315E-03

Unsprayed Drywell to Reactor Building Transport Group Inventory:

Time (h) = 720.0000 Leakage Transport

Noble gases (atoms)	3.8753E+24
Elemental I (atoms)	5.2128E+19
Organic I (atoms)	8.6254E+19
Aerosols (kg)	4.6451E-02

1021

#####

#####

Time (hr)	Sprayed Drywell		Reactor Building		Environment	
	I-131 (Curies)		I-131 (Curies)		I-131 (Curies)	
0.000	4.5258E+03		0.0000E+00		0.0000E+00	
0.033	2.6557E+05		0.0000E+00		0.0000E+00	
0.167	1.2318E+06		1.3502E+02		7.8809E-01	
0.417	5.4249E+05		4.0969E+02		8.7824E+00	
0.500	5.3661E+05		4.8825E+02		8.8835E+00	
0.667	8.5232E+05		6.9671E+02		9.1497E+00	
0.920	8.8880E+05		1.0711E+03		9.7599E+00	
1.170	9.0005E+05		1.4600E+03		1.0629E+01	
1.420	9.0781E+05		1.8563E+03		1.1773E+01	
1.670	9.1354E+05		2.2533E+03		1.3200E+01	
1.920	9.1800E+05		2.6472E+03		1.4910E+01	
2.000	9.1924E+05		2.7721E+03		1.5517E+01	
2.200	1.1450E+05		2.9221E+03		1.7128E+01	
2.300	7.9886E+04		2.9525E+03		1.7958E+01	
2.600	1.6496E+05		3.0157E+03		2.0507E+01	
2.900	1.6680E+05		3.0553E+03		2.3130E+01	
3.200	1.4869E+05		3.0714E+03		2.5808E+01	
3.500	1.2837E+05		3.0678E+03		2.8526E+01	
3.800	1.1035E+05		3.0485E+03		3.1270E+01	
4.000	1.0005E+05		3.0287E+03		3.3109E+01	
4.300	1.0962E+05		2.9960E+03		3.5876E+01	
4.600	1.1304E+05		2.9643E+03		3.8652E+01	
4.900	1.1420E+05		2.9335E+03		4.1438E+01	
5.200	1.1452E+05		2.9037E+03		4.4232E+01	
5.500	1.1453E+05		2.8748E+03		4.7033E+01	
5.800	1.1443E+05		2.8468E+03		4.9843E+01	
6.100	1.1429E+05		2.8197E+03		5.2659E+01	
6.400	1.1414E+05		2.7933E+03		5.5483E+01	
6.700	1.1398E+05		2.7678E+03		5.8313E+01	
7.000	1.1382E+05		2.7431E+03		6.1148E+01	
7.300	1.1365E+05		2.7191E+03		6.3990E+01	
7.600	1.1349E+05		2.6958E+03		6.6837E+01	
7.900	1.1333E+05		2.6732E+03		6.9689E+01	
8.000	1.1327E+05		2.6658E+03		7.0640E+01	
8.300	1.1311E+05		2.6441E+03		7.3498E+01	
8.600	1.1295E+05		2.6231E+03		7.6361E+01	
8.900	1.1278E+05		2.6026E+03		7.9227E+01	
9.200	1.1262E+05		2.5828E+03		8.2097E+01	
9.500	1.1246E+05		2.5635E+03		8.4970E+01	
9.800	1.1230E+05		2.5448E+03		8.7847E+01	
10.100	1.1214E+05		2.5267E+03		9.0726E+01	
10.400	1.1198E+05		2.5090E+03		9.3609E+01	
16.000	1.0901E+05		2.2561E+03		1.4759E+02	
24.000	1.0490E+05		2.0486E+03		2.2413E+02	
48.000	9.4870E+04		9.4916E+02		3.7116E+02	
96.000	7.7540E+04		7.2174E+02		5.6140E+02	
720.000	5.5831E+03		5.1949E+01		1.3385E+03	

Time (hr)	Control Room		Unsprayed Drywell	
	I-131 (Curies)		I-131 (Curies)	
0.000	0.0000E+00		1.6670E+00	
0.033	0.0000E+00		5.7769E+03	
0.167	1.2444E-03		1.2579E+05	

0.417	1.1846E-02	2.5195E+05
0.500	1.0015E-02	2.6795E+05
0.667	7.1492E-03	3.3544E+05
0.920	5.9565E-03	4.3317E+05
1.170	4.9750E-03	4.9590E+05
1.420	4.1556E-03	5.3630E+05
1.670	3.4717E-03	5.6248E+05
1.920	2.9009E-03	5.7965E+05
2.000	2.7390E-03	5.8382E+05
2.200	2.3720E-03	4.5885E+05
2.300	2.2074E-03	3.8671E+05
2.600	1.7793E-03	2.5337E+05
2.900	1.4345E-03	1.8941E+05
3.200	1.1567E-03	1.5087E+05
3.500	9.3304E-04	1.2377E+05
3.800	7.5286E-04	1.0318E+05
4.000	6.5267E-04	9.1986E+04
4.300	5.2704E-04	8.2135E+04
4.600	4.2585E-04	7.8440E+04
4.900	3.4435E-04	7.7010E+04
5.200	2.7870E-04	7.6415E+04
5.500	2.2582E-04	7.6127E+04
5.800	1.8324E-04	7.5952E+04
6.100	1.4894E-04	7.5818E+04
6.400	1.2131E-04	7.5701E+04
6.700	9.9061E-05	7.5589E+04
7.000	8.1142E-05	7.5479E+04
7.300	6.6711E-05	7.5370E+04
7.600	5.5089E-05	7.5262E+04
7.900	4.5731E-05	7.5154E+04
8.000	4.3035E-05	7.5117E+04
8.300	3.5583E-05	7.5010E+04
8.600	2.9581E-05	7.4902E+04
8.900	2.4748E-05	7.4794E+04
9.200	2.0856E-05	7.4687E+04
9.500	1.7722E-05	7.4579E+04
9.800	1.5199E-05	7.4472E+04
10.100	1.3168E-05	7.4365E+04
10.400	1.1532E-05	7.4258E+04
16.000	4.9022E-06	7.2290E+04
24.000	4.7173E-06	6.9566E+04
48.000	9.9898E-07	6.2914E+04
96.000	7.5650E-07	5.1421E+04
720.000	1.6118E-08	3.7025E+03

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

Time (hr)	Exclusion Area Bounda		Low Population Zone		Control Room	
	Thyroid (rem)	TEDE (rem)	Thyroid (rem)	TEDE (rem)	Thyroid (rem)	TEDE (rem)
0.000	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.033	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.167	5.7626E-01	2.8768E-02	4.4067E-02	2.1999E-03	1.7984E-02	8.0337E-04
0.417	6.4077E+00	3.2035E-01	4.9000E-01	2.4498E-02	5.6915E-01	2.5422E-02
0.500	6.4162E+00	3.2132E-01	4.9163E-01	2.4682E-02	9.0392E-01	4.0375E-02

0.667	6.4171E+00	3.2144E-01	4.9455E-01	2.5089E-02	1.4273E+00	6.3749E-02
0.920	6.4192E+00	3.2189E-01	5.0128E-01	2.6536E-02	2.0368E+00	9.0975E-02
1.170	6.4222E+00	3.2282E-01	5.1089E-01	2.9508E-02	2.5370E+00	1.1332E-01
1.420	6.4261E+00	3.2437E-01	5.2356E-01	3.4505E-02	2.9536E+00	1.3194E-01
1.670	6.4311E+00	3.2668E-01	5.3935E-01	4.1899E-02	3.3005E+00	1.4747E-01
1.920	6.4369E+00	3.2981E-01	5.5825E-01	5.1966E-02	3.5895E+00	1.6043E-01
2.000	6.4390E+00	3.3100E-01	5.6495E-01	5.5786E-02	3.6714E+00	1.6410E-01
2.200	6.4446E+00	3.3439E-01	5.7255E-01	6.0445E-02	3.8566E+00	1.7243E-01
2.300	6.4474E+00	3.3628E-01	5.7646E-01	6.3035E-02	3.9395E+00	1.7616E-01
2.600	6.4561E+00	3.4259E-01	5.8844E-01	7.1701E-02	4.1549E+00	1.8586E-01
2.900	6.4651E+00	3.4973E-01	6.0071E-01	8.1509E-02	4.3279E+00	1.9369E-01
3.200	6.4742E+00	3.5754E-01	6.1321E-01	9.2228E-02	4.4669E+00	2.0001E-01
3.500	6.4834E+00	3.6587E-01	6.2584E-01	1.0366E-01	4.5787E+00	2.0513E-01
3.800	6.4926E+00	3.7460E-01	6.3855E-01	1.1565E-01	4.6687E+00	2.0927E-01
4.000	6.4988E+00	3.8059E-01	6.4704E-01	1.2388E-01	4.7186E+00	2.1159E-01
4.300	6.5081E+00	3.8977E-01	6.5978E-01	1.3648E-01	4.7812E+00	2.1453E-01
4.600	6.5174E+00	3.9911E-01	6.7252E-01	1.4931E-01	4.8317E+00	2.1692E-01
4.900	6.5266E+00	4.0856E-01	6.8525E-01	1.6229E-01	4.8723E+00	2.1889E-01
5.200	6.5359E+00	4.1806E-01	6.9798E-01	1.7533E-01	4.9051E+00	2.2051E-01
5.500	6.5452E+00	4.2757E-01	7.1070E-01	1.8838E-01	4.9316E+00	2.2185E-01
5.800	6.5544E+00	4.3705E-01	7.2342E-01	2.0139E-01	4.9530E+00	2.2296E-01
6.100	6.5637E+00	4.4646E-01	7.3613E-01	2.1432E-01	4.9703E+00	2.2389E-01
6.400	6.5729E+00	4.5579E-01	7.4883E-01	2.2713E-01	4.9844E+00	2.2468E-01
6.700	6.5822E+00	4.6501E-01	7.6151E-01	2.3980E-01	4.9959E+00	2.2535E-01
7.000	6.5914E+00	4.7412E-01	7.7419E-01	2.5229E-01	5.0052E+00	2.2593E-01
7.300	6.6006E+00	4.8308E-01	7.8686E-01	2.6461E-01	5.0129E+00	2.2643E-01
7.600	6.6099E+00	4.9191E-01	7.9951E-01	2.7672E-01	5.0192E+00	2.2687E-01
7.900	6.6191E+00	5.0058E-01	8.1214E-01	2.8863E-01	5.0243E+00	2.2725E-01
8.000	6.6221E+00	5.0343E-01	8.1635E-01	2.9255E-01	5.0259E+00	2.2737E-01
8.300	6.6313E+00	5.1189E-01	8.2060E-01	2.9995E-01	5.0299E+00	2.2770E-01
8.600	6.6405E+00	5.2019E-01	8.2484E-01	3.0720E-01	5.0333E+00	2.2799E-01
8.900	6.6497E+00	5.2833E-01	8.2907E-01	3.1431E-01	5.0360E+00	2.2824E-01
9.200	6.6588E+00	5.3630E-01	8.3330E-01	3.2127E-01	5.0384E+00	2.2846E-01
9.500	6.6679E+00	5.4410E-01	8.3752E-01	3.2808E-01	5.0403E+00	2.2866E-01
9.800	6.6771E+00	5.5175E-01	8.4173E-01	3.3475E-01	5.0420E+00	2.2884E-01
10.100	6.6862E+00	5.5923E-01	8.4594E-01	3.4128E-01	5.0435E+00	2.2901E-01
10.400	6.6953E+00	5.6656E-01	8.5014E-01	3.4766E-01	5.0447E+00	2.2917E-01
16.000	6.8624E+00	6.8145E-01	9.2734E-01	4.4736E-01	5.0568E+00	2.3122E-01
24.000	7.0899E+00	7.9580E-01	1.0324E+00	5.4542E-01	5.0691E+00	2.3326E-01
48.000	7.5005E+00	9.4541E-01	1.1288E+00	5.9652E-01	5.0757E+00	2.3416E-01
96.000	7.9919E+00	1.0906E+00	1.2442E+00	6.4540E-01	5.0826E+00	2.3495E-01
720.000	9.9183E+00	1.5735E+00	1.3647E+00	6.8633E-01	5.0879E+00	2.3562E-01

#####  
 Worst Two-Hour Doses  
 #####

Exclusion Area Boundary

Time (hr)	Whole Body (rem)	Thyroid (rem)	TEDE (rem)
0.0	4.5048E-02	6.4390E+00	3.3100E-01

Attachment A4.2 - RADTRAD Output File "QDC39ESF01.o0"

```
#####
RADTRAD Version 3.03 (Spring 2001) run on 2/28/2019 at 22:07:13
#####
```

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

```
Plant file =
C:\Users\jhead\Desktop\RADTRAD\westinghouse\QDC39ESF01.psf
Inventory file =
C:\Users\jhead\Desktop\RADTRAD\westinghouse\DQ39GWD_DEF.nif
Release file = c:\users\jhead\desktop\radtrad\rev2_files\bwr_i.rft
Dose Conversion file =
c:\users\jhead\desktop\radtrad\rev2_files\fgr11&12.inp
```

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

```
Radtrad 3.03 4/15/2001
Quad Cities ESF Leakage - Optima Fuel With 39 GWD/MTU, ESF Leakage = 2 gpm,
Flashing Factor 10%, CR Unfiltered Inleakage = 2,000 cfm for <0.6667 hrs and
400 cfm for >0.6667 hrs, CREV Charcoal @ 99%, and CREV Initiation @ 40
Minutes
```

```
Nuclide Inventory File:
C:\Users\jhead\Desktop\RADTRAD\westinghouse\DQ39GWD_DEF.nif
Plant Power Level:
3.0161E+03
Compartments:
4
Compartment 1:
Suppression Pool
3
1.1000E+05
0
0
0
0
0
Compartment 2:
Reactor Building
```

```
3
2.3500E+06
0
0
0
0
0
Compartment 3:
Environment
2
0.0000E+00
0
0
0
0
0
Compartment 4:
Control Room
1
1.8400E+05
0
0
0
0
0
Pathways:
5
Pathway 1:
Suppression Pool to Reactor Building
1
2
2
Pathway 2:
Reactor Building to Environment
2
3
2
Pathway 3:
Filtered Intake to Control Room
3
4
2
Pathway 4:
Unfiltered Inleakage to Control Room
3
4
2
Pathway 5:
Control Room Exhaust to Environment
4
3
2
End of Plant Model File
Scenario Description Name:

Plant Model Filename:
```

Source Term:

1

1 1.0000E+00

c:\users\jhead\desktop\radtrad\rev2\_files\fgr11&12.inp

c:\users\jhead\desktop\radtrad\rev2\_files\bwr\_i.rft

0.0000E+00

1

0.0000E+00 9.7000E-01 3.0000E-02 1.0000E+00

Overlying Pool:

0

0.0000E+00

0

0

0

0

Compartments:

4

Compartment 1:

0

1

0

0

0

0

0

0

0

Compartment 2:

1

1

0

0

0

0

0

0

0

Compartment 3:

0

1

0

0

0

0

0

0

0

Compartment 4:

0

1

0

0

0

0

0

0

0



Pathways:

5

Pathway 1:

0

0

0

0

0

1

3

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
------------	------------	------------	------------	------------

3.3300E-02	2.6740E-02	0.0000E+00	0.0000E+00	0.0000E+00
------------	------------	------------	------------	------------

7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
------------	------------	------------	------------	------------

0

0

0

0

0

0

Pathway 2:

0

0

0

0

0

1

4

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
------------	------------	------------	------------	------------

3.3300E-02	4.4000E+03	0.0000E+00	0.0000E+00	0.0000E+00
------------	------------	------------	------------	------------

4.1700E-01	4.4000E+03	9.8000E+01	9.0000E+01	9.0000E+01
------------	------------	------------	------------	------------

7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
------------	------------	------------	------------	------------

0

0

0

0

0

0

Pathway 3:

0

0

0

0

0

1

10

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
------------	------------	------------	------------	------------

3.3300E-02	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
------------	------------	------------	------------	------------

6.6670E-01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
------------	------------	------------	------------	------------

2.0000E+00	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
------------	------------	------------	------------	------------

4.0000E+00	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
------------	------------	------------	------------	------------

8.0000E+00	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
------------	------------	------------	------------	------------

1.6000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
------------	------------	------------	------------	------------

2.4000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
------------	------------	------------	------------	------------

4.8000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
------------	------------	------------	------------	------------

7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
------------	------------	------------	------------	------------

0

0

0  
0  
0  
0

Pathway 4:

0  
0  
0  
0  
0

1

10

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	4.0000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
4.0000E+00	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
8.0000E+00	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
1.6000E+01	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
4.8000E+01	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

0  
0  
0  
0  
0  
0

Pathway 5:

0  
0  
0  
0  
0

1

10

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	6.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
4.0000E+00	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
8.0000E+00	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
1.6000E+01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
4.8000E+01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

0  
0  
0  
0  
0  
0

Dose Locations:

3

Location 1:

Exclusion Area Boundary

3

1  
4  
0.0000E+00 1.3600E-03  
4.1700E-01 1.5700E-04  
5.0000E-01 6.3800E-06  
7.2000E+02 0.0000E+00

1  
2  
0.0000E+00 3.5000E-04  
7.2000E+02 0.0000E+00  
0

## Location 2:

Low Population Zone

3  
1  
8  
0.0000E+00 1.0400E-04  
4.1700E-01 3.0100E-05  
5.0000E-01 2.0500E-05  
2.0000E+00 8.7600E-06  
8.0000E+00 5.7300E-06  
2.4000E+01 2.2800E-06  
9.6000E+01 6.0700E-07  
7.2000E+02 0.0000E+00

1  
4  
0.0000E+00 3.5000E-04  
8.0000E+00 1.8000E-04  
2.4000E+01 2.3000E-04  
7.2000E+02 0.0000E+00  
0

## Location 3:

Control Room

4  
0  
1  
2  
0.0000E+00 3.5000E-04  
7.2000E+02 0.0000E+00  
1  
4  
0.0000E+00 1.0000E+00  
2.4000E+01 6.0000E-01  
9.6000E+01 4.0000E-01  
7.2000E+02 0.0000E+00

Effective Volume Location:

1  
7  
0.0000E+00 5.8400E-04  
4.1700E-01 5.8400E-06  
2.0000E+00 2.6800E-06  
8.0000E+00 1.8100E-06  
2.4000E+01 7.7700E-07  
9.6000E+01 2.3000E-07  
7.2000E+02 0.0000E+00

Simulation Parameters:

8

```
0.0000E+00  1.0000E-02
4.1700E-01  1.0000E-02
2.0000E+00  1.0000E-01
4.0000E+00  1.0000E+00
8.0000E+00  2.0000E+00
2.4000E+01  4.0000E+00
9.6000E+01  8.0000E+00
7.2000E+02  0.0000E+00
```

Output Filename:

C:\Users\jhead\Desktop\RADTRAD\QDC39ESF02.o0

```
1
1
1
0
0
```

End of Scenario File

```
#####
RADTRAD Version 3.03 (Spring 2001) run on 2/28/2019 at 22:07:13
#####
```

```
#####
Plant Description
#####
```

Number of Nuclides = 60

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

Number of compartments = 4

Compartment information

Compartment number 1 (Source term fraction = 1.0000E+00  
)

Name: Suppression Pool

Compartment volume = 1.1000E+05 (Cubic feet)

Compartment type is Normal

Pathways into and out of compartment 1

Exit Pathway Number 1: Suppression Pool to Reactor Building

Compartment number 2

Name: Reactor Building

Compartment volume = 2.3500E+06 (Cubic feet)

Compartment type is Normal

Pathways into and out of compartment 2

Inlet Pathway Number 1: Suppression Pool to Reactor Building

Exit Pathway Number 2: Reactor Building to Environment

Compartment number 3

Name: Environment

Compartment type is Environment

Pathways into and out of compartment 3

Inlet Pathway Number 2: Reactor Building to Environment

Inlet Pathway Number 5: Control Room Exhaust to Environment

Exit Pathway Number 3: Filtered Intake to Control Room

Exit Pathway Number 4: Unfiltered Inleakage to Control Room

Compartment number 4

Name: Control Room

Compartment volume = 1.8400E+05 (Cubic feet)

Compartment type is Control Room

Pathways into and out of compartment 4

Inlet Pathway Number 3: Filtered Intake to Control Room

Inlet Pathway Number 4: Unfiltered Inleakage to Control Room

Exit Pathway Number 5: Control Room Exhaust to Environment

Total number of pathways = 5

#####  
 RADTRAD Version 3.03 (Spring 2001) run on 2/28/2019 at 22:07:13  
 #####

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

Radioactive Decay is enabled  
 Calculation of Daughters is enabled

Release Fractions and Timings

	GAP	EARLY IN-VESSEL	LATE RELEASE	RELEASE MASS
	0.500000 hr	1.5000 hrs	0.0000 hrs	(gm)
NOBLES	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
IODINE	5.0000E-02	2.5000E-01	0.0000E+00	2.603E+02
CESIUM	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
TELLURIUM	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
STRONTIUM	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
BARIUM	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
RUTHENIUM	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
CERIUM	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
LANTHANUM	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Inventory Power = 3016. MWt

Nuclide Name	Group	Specific Inventory (Ci/MWt)	half life (s)	Whole Body DCF (Sv-m3/Bq-s)	Inhaled Thyroid (Sv/Bq)	Inhaled Effective (Sv/Bq)
I-131	2	2.702E+04	6.947E+05	1.820E-14	2.920E-07	8.890E-09
I-132	2	3.912E+04	8.280E+03	1.120E-13	1.740E-09	1.030E-10
I-133	2	5.537E+04	7.488E+04	2.940E-14	4.860E-08	1.580E-09
I-134	2	6.101E+04	3.156E+03	1.300E-13	2.880E-10	3.550E-11
I-135	2	5.172E+04	2.380E+04	8.294E-14	8.460E-09	3.320E-10

Nuclide	Daughter	Fraction	Daughter	Fraction	Daughter	Fraction
Kr-85m	Kr-85	0.21	none	0.00	none	0.00
Kr-87	Rb-87	1.00	none	0.00	none	0.00
Kr-88	Rb-88	1.00	none	0.00	none	0.00
Sr-90	Y-90	1.00	none	0.00	none	0.00
Sr-91	Y-91m	0.58	Y-91	0.42	none	0.00
Sr-92	Y-92	1.00	none	0.00	none	0.00
Y-93	Zr-93	1.00	none	0.00	none	0.00
Zr-95	Nb-95m	0.01	Nb-95	0.99	none	0.00
Zr-97	Nb-97m	0.95	Nb-97	0.05	none	0.00
Mo-99	Tc-99m	0.88	Tc-99	0.12	none	0.00
Tc-99m	Tc-99	1.00	none	0.00	none	0.00
Ru-103	Rh-103m	1.00	none	0.00	none	0.00
Ru-105	Rh-105	1.00	none	0.00	none	0.00
Ru-106	Rh-106	1.00	none	0.00	none	0.00
Sb-127	Te-127m	0.18	Te-127	0.82	none	0.00
Sb-129	Te-129m	0.22	Te-129	0.77	none	0.00
Te-127m	Te-127	0.98	none	0.00	none	0.00
Te-129	I-129	1.00	none	0.00	none	0.00
Te-129m	Te-129	0.65	I-129	0.35	none	0.00
Te-131m	Te-131	0.22	I-131	0.78	none	0.00

Te-132	I-132	1.00	none	0.00	none	0.00
I-131	Xe-131m	0.01	none	0.00	none	0.00
I-133	Xe-133m	0.03	Xe-133	0.97	none	0.00
I-135	Xe-135m	0.15	Xe-135	0.85	none	0.00
Xe-135	Cs-135	1.00	none	0.00	none	0.00
Cs-137	Ba-137m	0.95	none	0.00	none	0.00
Ba-140	La-140	1.00	none	0.00	none	0.00
La-141	Ce-141	1.00	none	0.00	none	0.00
Ce-143	Pr-143	1.00	none	0.00	none	0.00
Ce-144	Pr-144m	0.02	Pr-144	0.98	none	0.00
Nd-147	Pm-147	1.00	none	0.00	none	0.00
Np-239	Pu-239	1.00	none	0.00	none	0.00
Pu-238	U-234	1.00	none	0.00	none	0.00
Pu-239	U-235	1.00	none	0.00	none	0.00
Pu-240	U-236	1.00	none	0.00	none	0.00
Pu-241	U-237	0.00	Am-241	1.00	none	0.00
Am-241	Np-237	1.00	none	0.00	none	0.00
Cm-242	Pu-238	1.00	none	0.00	none	0.00
Cm-244	Pu-240	1.00	none	0.00	none	0.00

Iodine fractions

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

COMPARTMENT DATA

- Compartment number 1: Suppression Pool
- Compartment number 2: Reactor Building
- Compartment number 3: Environment
- Compartment number 4: Control Room

PATHWAY DATA

Pathway number 1: Suppression Pool to Reactor Building

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	2.6740E-02	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 2: Reactor Building to Environment

Pathway Filter: Removal Data

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

Pathway number 3: Filtered Intake to Control Room

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
2.0000E+00	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
4.0000E+00	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
8.0000E+00	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
1.6000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
2.4000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
4.8000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 4: Unfiltered Inleakage to Control Room

Pathway Filter: Removal Data

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

Pathway number 5: Control Room Exhaust to Environment

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	6.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
4.0000E+00	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
8.0000E+00	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
1.6000E+01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
4.8000E+01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

LOCATION DATA

Location Exclusion Area Boundary is in compartment 3

Location X/Q Data

Time (hr) X/Q (s \* m<sup>-3</sup>)



0.0000E+00	1.3600E-03
4.1700E-01	1.5700E-04
5.0000E-01	6.3800E-06
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 Low Population Zone is in compartment 3

## Location X/Q Data

Time (hr)	X/Q (s * m <sup>-3</sup> )
0.0000E+00	1.0400E-04
4.1700E-01	3.0100E-05
5.0000E-01	2.0500E-05
2.0000E+00	8.7600E-06
8.0000E+00	5.7300E-06
2.4000E+01	2.2800E-06
9.6000E+01	6.0700E-07
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
8.0000E+00	1.8000E-04
2.4000E+01	2.3000E-04
7.2000E+02	0.0000E+00

Location Control Room is in compartment 4

## Location X/Q Data

Time (hr)	X/Q (s * m <sup>-3</sup> )
0.0000E+00	5.8400E-04
4.1700E-01	5.8400E-06
2.0000E+00	2.6800E-06
8.0000E+00	1.8100E-06
2.4000E+01	7.7700E-07
9.6000E+01	2.3000E-07
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 Occupancy Factor Data

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

## USER SPECIFIED TIME STEP DATA - SUPPLEMENTAL TIME STEPS

Time	Time step
0.0000E+00	1.0000E-02
4.1700E-01	1.0000E-02
2.0000E+00	1.0000E-01

4.0000E+00	1.0000E+00
8.0000E+00	2.0000E+00
2.4000E+01	4.0000E+00
9.6000E+01	8.0000E+00
7.2000E+02	0.0000E+00

#####  
 RADTRAD Version 3.03 (Spring 2001) run on 2/28/2019 at 22:07:13  
 #####

```

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

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

Exclusion Area Boundary Doses:

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

Low Population Zone Doses:

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

Control Room Doses:

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

Reactor Building Compartment Nuclide Inventory:

Time (h) =	0.0333	Ci	kg	Atoms	Decay
------------	--------	----	----	-------	-------

Reactor Building Transport Group Inventory:

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

Suppression Pool to Reactor Building Transport Group Inventory:

Pathway

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

Reactor Building to Environment Transport Group Inventory:

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

Exclusion Area Boundary Doses:

Time (h) =	0.4170	Whole Body	Thyroid	TEDE
Delta dose (rem)	4.8432E-04	1.1279E-01	4.0441E-03	
Accumulated dose (rem)	4.8432E-04	1.1279E-01	4.0441E-03	

Low Population Zone Doses:

Time (h) =	0.4170	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.7036E-05	8.6248E-03	3.0926E-04	
Accumulated dose (rem)	3.7036E-05	8.6248E-03	3.0926E-04	

Control Room Doses:

Time (h) =	0.4170	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.8795E-06	8.6039E-03	2.7341E-04	
Accumulated dose (rem)	1.8795E-06	8.6039E-03	2.7341E-04	

Reactor Building Compartment Nuclide Inventory:

Time (h) =	0.4170	Ci	kg	Atoms	Decay
I-131		1.0097E+01	8.1448E-08	3.7442E+17	1.9223E+14
I-132		1.3447E+01	1.3027E-09	5.9432E+15	2.6149E+14
I-133		2.0436E+01	1.8040E-08	8.1683E+16	3.9027E+14
I-134		1.6420E+01	6.1550E-10	2.7662E+15	3.3998E+14
I-135		1.8528E+01	5.2757E-09	2.3534E+16	3.5648E+14
Xe-133		3.0860E-02	1.6487E-10	7.4651E+14	4.2926E+11
Xe-135		3.3968E-01	1.3301E-10	5.9336E+14	4.7531E+12

Reactor Building Transport Group Inventory:

Time (h) =	0.4170	Atmosphere	Sump	
Noble gases (atoms)	1.3399E+15	0.0000E+00		
Elemental I (atoms)	4.7370E+17	0.0000E+00		
Organic I (atoms)	1.4650E+16	0.0000E+00		
Aerosols (kg)	0.0000E+00	0.0000E+00		
Dose Effective (Ci/cc) I-131 (Thyroid)				2.1237E-10
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)				2.6848E-10
Total I (Ci)				7.8927E+01

Suppression Pool to Reactor Building Transport Group Inventory:

Pathway

Time (h) =	0.4170	Filtered	Transported
Noble gases (atoms)	0.0000E+00	6.7888E+14	
Elemental I (atoms)	0.0000E+00	4.8254E+17	
Organic I (atoms)	0.0000E+00	1.4924E+16	
Aerosols (kg)	0.0000E+00	0.0000E+00	

Reactor Building to Environment Transport Group Inventory:

		Pathway	
Time (h) =	0.4170	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.5396E+13	
Elemental I (atoms)	0.0000E+00	7.3544E+15	
Organic I (atoms)	0.0000E+00	2.2746E+14	
Aerosols (kg)	0.0000E+00	0.0000E+00	

Exclusion Area Boundary Doses:

Time (h) =	0.5000	Whole Body	Thyroid	TEDE
Delta dose (rem)		3.8874E-06	9.4722E-04	3.3763E-05
Accumulated dose (rem)		4.8821E-04	1.1373E-01	4.0779E-03

Low Population Zone Doses:

Time (h) =	0.5000	Whole Body	Thyroid	TEDE
Delta dose (rem)		7.4529E-07	1.8160E-04	6.4730E-06
Accumulated dose (rem)		3.7781E-05	8.8064E-03	3.1573E-04

Control Room Doses:

Time (h) =	0.5000	Whole Body	Thyroid	TEDE
Delta dose (rem)		1.2819E-06	6.1405E-03	1.9494E-04
Accumulated dose (rem)		3.1613E-06	1.4744E-02	4.6835E-04

Reactor Building Compartment Nuclide Inventory:

Time (h) =	0.5000	Ci	kg	Atoms	Decay
I-131		1.4496E+01	1.1693E-07	5.3752E+17	3.3034E+14
I-132		1.8992E+01	1.8399E-09	8.3942E+15	4.4392E+14
I-133		2.9265E+01	2.5834E-08	1.1698E+17	6.6941E+14
I-134		2.2081E+01	8.2774E-10	3.7200E+15	5.5697E+14
I-135		2.6376E+01	7.5105E-09	3.3503E+16	6.0877E+14
Xe-133		5.2913E-02	2.8268E-10	1.2800E+15	8.8506E+11
Xe-135		5.7898E-01	2.2672E-10	1.0114E+15	9.7541E+12

Reactor Building Transport Group Inventory:

Time (h) =	0.5000	Atmosphere	Sump	
Noble gases (atoms)		2.2913E+15	0.0000E+00	
Elemental I (atoms)		6.7911E+17	0.0000E+00	
Organic I (atoms)		2.1004E+16	0.0000E+00	
Aerosols (kg)		0.0000E+00	0.0000E+00	
Dose Effective (Ci/cc)	I-131 (Thyroid)			3.0455E-10
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)			3.8432E-10
Total I (Ci)				1.1121E+02

Suppression Pool to Reactor Building Transport Group Inventory:

Pathway

Time (h) =	0.5000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.1670E+15	
Elemental I (atoms)	0.0000E+00	6.9435E+17	
Organic I (atoms)	0.0000E+00	2.1475E+16	
Aerosols (kg)	0.0000E+00	0.0000E+00	

Reactor Building to Environment Transport Group Inventory:

		Pathway	
Time (h) =	0.5000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.1806E+13	
Elemental I (atoms)	4.8126E+15	7.8891E+15	
Organic I (atoms)	1.4884E+14	2.4399E+14	
Aerosols (kg)	0.0000E+00	0.0000E+00	

Exclusion Area Boundary Doses:

Time (h) =	0.6667	Whole Body	Thyroid	TEDE
Delta dose (rem)		5.0152E-07	1.2733E-04	4.5152E-06
Accumulated dose (rem)		4.8871E-04	1.1386E-01	4.0824E-03

Low Population Zone Doses:

Time (h) =	0.6667	Whole Body	Thyroid	TEDE
Delta dose (rem)		1.6115E-06	4.0913E-04	1.4508E-05
Accumulated dose (rem)		3.9393E-05	9.2155E-03	3.3024E-04

Control Room Doses:

Time (h) =	0.6667	Whole Body	Thyroid	TEDE
Delta dose (rem)		1.9221E-06	9.6170E-03	3.0505E-04
Accumulated dose (rem)		5.0834E-06	2.4361E-02	7.7340E-04

Reactor Building Compartment Nuclide Inventory:

Time (h) =	0.6667	Ci	kg	Atoms	Decay
I-131		2.6741E+01	2.1570E-07	9.9156E+17	7.8652E+14
I-132		3.4052E+01	3.2989E-09	1.5051E+16	1.0324E+15
I-133		5.3717E+01	4.7419E-08	2.1471E+17	1.5878E+15
I-134		3.5724E+01	1.3391E-09	6.0183E+15	1.2039E+15
I-135		4.7839E+01	1.3622E-08	6.0766E+16	1.4311E+15
Xe-133		1.2537E-01	6.6976E-10	3.0326E+15	2.7838E+12
Xe-135		1.3556E+00	5.3083E-10	2.3679E+15	3.0391E+13

Reactor Building Transport Group Inventory:

Time (h) =	0.6667	Atmosphere	Sump	
Noble gases (atoms)		5.4005E+15	0.0000E+00	
Elemental I (atoms)		1.2495E+18	0.0000E+00	
Organic I (atoms)		3.8643E+16	0.0000E+00	
Aerosols (kg)		0.0000E+00	0.0000E+00	
Dose Effective (Ci/cc) I-131 (Thyroid)				5.6061E-10
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)				7.0503E-10
Total I (Ci)				1.9807E+02

Suppression Pool to Reactor Building Transport Group Inventory:

Pathway

Time (h) =	0.6667	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.7772E+15	
Elemental I (atoms)	0.0000E+00	1.2857E+18	
Organic I (atoms)	0.0000E+00	3.9764E+16	
Aerosols (kg)	0.0000E+00	0.0000E+00	

Reactor Building to Environment Transport Group Inventory:

		Pathway	
Time (h) =	0.6667	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.0011E+14	
Elemental I (atoms)	2.0726E+16	9.6573E+15	
Organic I (atoms)	6.4100E+14	2.9868E+14	
Aerosols (kg)	0.0000E+00	0.0000E+00	

Exclusion Area Boundary Doses:

Time (h) =	2.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.1516E-05	6.9520E-03	2.3992E-04	
Accumulated dose (rem)	5.1022E-04	1.2081E-01	4.3223E-03	

Low Population Zone Doses:

Time (h) =	2.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	6.9133E-05	2.2338E-02	7.7091E-04	
Accumulated dose (rem)	1.0853E-04	3.1553E-02	1.1012E-03	

Control Room Doses:

Time (h) =	2.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	6.8204E-06	4.1612E-02	1.3149E-03	
Accumulated dose (rem)	1.1904E-05	6.5973E-02	2.0883E-03	

Reactor Building Compartment Nuclide Inventory:

Time (h) =	2.0000	Ci	kg	Atoms	Decay
I-131		3.0308E+02	2.4447E-06	1.1238E+19	2.5724E+16
I-132		3.0625E+02	2.9669E-08	1.3536E+17	2.8385E+16
I-133		5.8504E+02	5.1645E-07	2.3384E+18	5.0374E+16
I-134		1.4174E+02	5.3133E-09	2.3879E+16	1.8387E+16
I-135		4.7362E+02	1.3486E-07	6.0161E+17	4.2229E+16
Xe-133		3.9369E+00	2.1032E-08	9.5233E+16	2.5398E+14
Xe-135		3.8711E+01	1.5159E-08	6.7621E+16	2.5683E+15

Reactor Building Transport Group Inventory:

Time (h) =	2.0000	Atmosphere	Sump	
Noble gases (atoms)	1.6285E+17	0.0000E+00		
Elemental I (atoms)	1.3908E+19	0.0000E+00		
Organic I (atoms)	4.3013E+17	0.0000E+00		
Aerosols (kg)	0.0000E+00	0.0000E+00		
Dose Effective (Ci/cc) I-131 (Thyroid)			6.2535E-09	
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			7.6988E-09	
Total I (Ci)			1.8097E+03	

Suppression Pool to Reactor Building Transport Group Inventory:

Pathway

Time (h) =	2.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	8.9841E+16	
Elemental I (atoms)	0.0000E+00	1.5062E+19	
Organic I (atoms)	0.0000E+00	4.6582E+17	
Aerosols (kg)	0.0000E+00	0.0000E+00	

Reactor Building to Environment Transport Group Inventory:

Time (h) =	2.0000	Pathway	Filtered	Transported
Noble gases (atoms)	0.0000E+00		8.9216E+15	
Elemental I (atoms)	8.8792E+17		1.0601E+17	
Organic I (atoms)	2.7461E+16		3.2787E+15	
Aerosols (kg)	0.0000E+00		0.0000E+00	

Exclusion Area Boundary Doses:

Time (h) =	4.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.0416E-04	4.3973E-02	1.4803E-03	
Accumulated dose (rem)	6.1438E-04	1.6479E-01	5.8026E-03	

Low Population Zone Doses:

Time (h) =	4.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.4301E-04	6.0377E-02	2.0324E-03	
Accumulated dose (rem)	2.5154E-04	9.1930E-02	3.1336E-03	

Control Room Doses:

Time (h) =	4.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.5117E-06	2.1315E-02	6.6963E-04	
Accumulated dose (rem)	1.4416E-05	8.7288E-02	2.7579E-03	

Reactor Building Compartment Nuclide Inventory:

Time (h) =	4.0000	Ci	kg	Atoms	Decay
I-131	8.7025E+02	7.0195E-06	3.2269E+19	1.8884E+17	
I-132	5.2001E+02	5.0378E-08	2.2984E+17	1.5331E+17	
I-133	1.5827E+03	1.3972E-06	6.3263E+18	3.5465E+17	
I-134	8.4315E+01	3.1606E-09	1.4204E+16	5.2334E+16	
I-135	1.1105E+03	3.1621E-07	1.4106E+18	2.6938E+17	
Xe-133	2.6568E+01	1.4194E-07	6.4268E+17	3.8803E+15	
Xe-135	2.2705E+02	8.8907E-08	3.9660E+17	3.5199E+16	

Reactor Building Transport Group Inventory:

Time (h) =	4.0000	Atmosphere	Sump
Noble gases (atoms)	1.0393E+18	0.0000E+00	
Elemental I (atoms)	3.9043E+19	0.0000E+00	
Organic I (atoms)	1.2075E+18	0.0000E+00	
Aerosols (kg)	0.0000E+00	0.0000E+00	
Dose Effective (Ci/cc) I-131 (Thyroid)			1.7568E-08
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			2.1127E-08
Total I (Ci)			4.1678E+03

Suppression Pool to Reactor Building Transport Group Inventory:

Pathway



Time (h) =	4.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	6.3418E+17	
Elemental I (atoms)	0.0000E+00	4.7113E+19	
Organic I (atoms)	0.0000E+00	1.4571E+18	
Aerosols (kg)	0.0000E+00	0.0000E+00	

Reactor Building to Environment Transport Group Inventory:

		Pathway	
Time (h) =	4.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.2880E+17	
Elemental I (atoms)	6.3673E+18	7.1483E+17	
Organic I (atoms)	1.9693E+17	2.2108E+16	
Aerosols (kg)	0.0000E+00	0.0000E+00	

Exclusion Area Boundary Doses:

Time (h) =	8.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.2958E-04	1.8543E-01	6.1032E-03	
Accumulated dose (rem)	9.4396E-04	3.5021E-01	1.1906E-02	

Low Population Zone Doses:

Time (h) =	8.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	4.5252E-04	2.5460E-01	8.3799E-03	
Accumulated dose (rem)	7.0406E-04	3.4653E-01	1.1514E-02	

Control Room Doses:

Time (h) =	8.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.1137E-06	1.6836E-02	5.2646E-04	
Accumulated dose (rem)	1.6529E-05	1.0412E-01	3.2844E-03	

Reactor Building Compartment Nuclide Inventory:

Time (h) =	8.0000	Ci	kg	Atoms	Decay
I-131		1.6641E+03	1.3423E-05	6.1707E+19	8.8658E+17
I-132		3.0743E+02	2.9783E-08	1.3588E+17	3.8511E+17
I-133		2.6872E+03	2.3721E-06	1.0741E+19	1.5439E+18
I-134		6.9208E+00	2.5943E-10	1.1659E+15	7.0015E+16
I-135		1.4162E+03	4.0326E-07	1.7989E+18	9.8663E+17
Xe-133		1.1015E+02	5.8845E-07	2.6645E+18	3.8754E+16
Xe-135		7.0863E+02	2.7749E-07	1.2378E+18	2.8681E+17

Reactor Building Transport Group Inventory:

Time (h) =	8.0000	Atmosphere	Sump	
Noble gases (atoms)	3.9023E+18	0.0000E+00		
Elemental I (atoms)	7.2152E+19	0.0000E+00		
Organic I (atoms)	2.2315E+18	0.0000E+00		
Aerosols (kg)	0.0000E+00	0.0000E+00		
Dose Effective (Ci/cc) I-131 (Thyroid)				3.2373E-08
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)				3.7740E-08
Total I (Ci)				6.0818E+03

Suppression Pool to Reactor Building Transport Group Inventory:

Pathway

Time (h) =	8.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.0964E+18	
Elemental I (atoms)	0.0000E+00	1.0869E+20	
Organic I (atoms)	0.0000E+00	3.3616E+18	
Aerosols (kg)	0.0000E+00	0.0000E+00	

Reactor Building to Environment Transport Group Inventory:

		Pathway	
Time (h) =	8.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.2048E+18	
Elemental I (atoms)	2.9498E+19	3.2849E+18	
Organic I (atoms)	9.1232E+17	1.0160E+17	
Aerosols (kg)	0.0000E+00	0.0000E+00	

Exclusion Area Boundary Doses:

Time (h) =	16.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	7.7841E-04	5.7668E-01	1.8636E-02	
Accumulated dose (rem)	1.7224E-03	9.2690E-01	3.0541E-02	

Low Population Zone Doses:

Time (h) =	16.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	6.9911E-04	2.6636E-01	8.9472E-03	
Accumulated dose (rem)	1.4032E-03	6.1289E-01	2.0461E-02	

Control Room Doses:

Time (h) =	16.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	4.6753E-06	3.0619E-02	9.5289E-04	
Accumulated dose (rem)	2.1205E-05	1.3474E-01	4.2373E-03	

Reactor Building Compartment Nuclide Inventory:

Time (h) =	16.0000	Ci	kg	Atoms	Decay
I-131		2.4356E+03	1.9646E-05	9.0315E+19	3.1601E+18
I-132		4.1805E+01	4.0501E-09	1.8477E+16	5.3432E+17
I-133		3.1004E+03	2.7369E-06	1.2392E+19	4.7868E+18
I-134		1.8665E-02	6.9966E-13	3.1444E+12	7.1307E+16
I-135		9.2192E+02	2.6252E-07	1.1710E+18	2.2790E+18
Xe-133		3.0679E+02	1.6390E-06	7.4213E+18	2.6018E+17
Xe-135		1.1242E+03	4.4023E-07	1.9638E+18	1.3272E+18

Reactor Building Transport Group Inventory:

Time (h) =	16.0000	Atmosphere	Sump	
Noble gases (atoms)	9.3851E+18	0.0000E+00		
Elemental I (atoms)	1.0078E+20	0.0000E+00		
Organic I (atoms)	3.1169E+18	0.0000E+00		
Aerosols (kg)	0.0000E+00	0.0000E+00		
Dose Effective (Ci/cc) I-131 (Thyroid)				4.4761E-08
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)				5.0231E-08
Total I (Ci)				6.4998E+03

Suppression Pool to Reactor Building Transport Group Inventory:

Pathway

Time (h) = 16.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.1627E+19
Elemental I (atoms)	0.0000E+00	2.2452E+20
Organic I (atoms)	0.0000E+00	6.9439E+18
Aerosols (kg)	0.0000E+00	0.0000E+00

Reactor Building to Environment Transport Group Inventory:

	Pathway	
Time (h) = 16.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	7.2354E+18
Elemental I (atoms)	1.0190E+20	1.1330E+19
Organic I (atoms)	3.1516E+18	3.5041E+17
Aerosols (kg)	0.0000E+00	0.0000E+00

Exclusion Area Boundary Doses:

Time (h) = 24.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	7.0200E-04	6.7412E-01	2.1487E-02
Accumulated dose (rem)	2.4244E-03	1.6010E+00	5.2029E-02

Low Population Zone Doses:

Time (h) = 24.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	6.3048E-04	3.1137E-01	1.0231E-02
Accumulated dose (rem)	2.0336E-03	9.2426E-01	3.0692E-02

Control Room Doses:

Time (h) = 24.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	4.9433E-06	3.5379E-02	1.0958E-03
Accumulated dose (rem)	2.6148E-05	1.7012E-01	5.3331E-03

Reactor Building Compartment Nuclide Inventory:

Time (h) = 24.0000	Ci	kg	Atoms	Decay
I-131	2.6903E+03	2.1700E-05	9.9756E+19	5.9400E+18
I-132	4.2703E+00	4.1370E-10	1.8874E+15	5.5222E+17
I-133	2.6996E+03	2.3831E-06	1.0790E+19	7.9307E+18
I-134	3.7987E-05	1.4240E-15	6.3996E+09	7.1311E+16
I-135	4.5292E+02	1.2897E-07	5.7531E+17	2.9959E+18
Xe-133	4.6313E+02	2.4742E-06	1.1203E+19	6.6985E+17
Xe-135	9.6834E+02	3.7919E-07	1.6915E+18	2.4550E+18

Reactor Building Transport Group Inventory:

Time (h) = 24.0000	Atmosphere	Sump	
Noble gases (atoms)	1.2895E+19	0.0000E+00	
Elemental I (atoms)	1.0779E+20	0.0000E+00	
Organic I (atoms)	3.3337E+18	0.0000E+00	
Aerosols (kg)	0.0000E+00	0.0000E+00	
Dose Effective (Ci/cc) I-131 (Thyroid)			4.7378E-08
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			5.1841E-08
Total I (Ci)			5.8470E+03

Suppression Pool to Reactor Building Transport Group Inventory:

Pathway

Time (h) = 24.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.3046E+19
Elemental I (atoms)	0.0000E+00	3.3297E+20
Organic I (atoms)	0.0000E+00	1.0298E+19
Aerosols (kg)	0.0000E+00	0.0000E+00

## Reactor Building to Environment Transport Group Inventory:

Time (h) = 24.0000	Pathway	
	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.7266E+19
Elemental I (atoms)	1.8739E+20	2.0828E+19
Organic I (atoms)	5.7956E+18	6.4418E+17
Aerosols (kg)	0.0000E+00	0.0000E+00

## Exclusion Area Boundary Doses:

Time (h) = 48.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.2838E-03	1.9873E+00	6.2262E-02
Accumulated dose (rem)	3.7082E-03	3.5884E+00	1.1429E-01

## Low Population Zone Doses:

Time (h) = 48.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	4.5878E-04	4.6671E-01	1.4779E-02
Accumulated dose (rem)	2.4924E-03	1.3910E+00	4.5471E-02

## Control Room Doses:

Time (h) = 48.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.6280E-06	2.9687E-02	9.1371E-04
Accumulated dose (rem)	2.8776E-05	1.9981E-01	6.2468E-03

## Reactor Building Compartment Nuclide Inventory:

Time (h) = 48.0000	Ci	kg	Atoms	Decay
I-131	2.6574E+03	2.1435E-05	9.8538E+19	1.4633E+19
I-132	3.3244E-03	3.2206E-13	1.4693E+12	5.5415E+17
I-133	1.3063E+03	1.1532E-06	5.2215E+18	1.4175E+19
I-135	3.9367E+01	1.1210E-08	5.0004E+16	3.5469E+18
Xe-133	6.7571E+02	3.6099E-06	1.6345E+19	2.5552E+18
Xe-135	2.5870E+02	1.0130E-07	4.5190E+17	4.2587E+18

## Reactor Building Transport Group Inventory:

Time (h) = 48.0000	Atmosphere	Sump
Noble gases (atoms)	1.6797E+19	0.0000E+00
Elemental I (atoms)	1.0070E+20	0.0000E+00
Organic I (atoms)	3.1143E+18	0.0000E+00
Aerosols (kg)	0.0000E+00	0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)		4.3219E-08
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)		4.5231E-08
Total I (Ci)		4.0031E+03

## Suppression Pool to Reactor Building Transport Group Inventory:

Time (h) = 48.0000	Pathway	
	Filtered	Transported

Noble gases (atoms)	0.0000E+00	6.5383E+19
Elemental I (atoms)	0.0000E+00	6.2601E+20
Organic I (atoms)	0.0000E+00	1.9361E+19
Aerosols (kg)	0.0000E+00	0.0000E+00

Reactor Building to Environment Transport Group Inventory:

	Pathway	
Time (h) = 48.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.8537E+19
Elemental I (atoms)	4.4399E+20	4.9339E+19
Organic I (atoms)	1.3732E+19	1.5260E+18
Aerosols (kg)	0.0000E+00	0.0000E+00

Exclusion Area Boundary Doses:

Time (h) = 96.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.0819E-03	3.3376E+00	1.0300E-01
Accumulated dose (rem)	4.7901E-03	6.9260E+00	2.1729E-01

Low Population Zone Doses:

Time (h) = 96.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.8664E-04	7.8381E-01	2.4320E-02
Accumulated dose (rem)	2.8791E-03	2.1748E+00	6.9791E-02

Control Room Doses:

Time (h) = 96.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.5384E-06	4.6330E-02	1.4162E-03
Accumulated dose (rem)	3.0314E-05	2.4614E-01	7.6630E-03

Reactor Building Compartment Nuclide Inventory:

Time (h) = 96.0000	Ci	kg	Atoms	Decay
I-131	2.2465E+03	1.8121E-05	8.3301E+19	3.0300E+19
I-132	1.7430E-09	1.6886E-19	7.7037E+05	5.5415E+17
I-133	2.6503E+02	2.3396E-07	1.0594E+18	1.8356E+19
I-135	2.5767E-01	7.3371E-11	3.2730E+14	3.5967E+18
Xe-133	6.6401E+02	3.5474E-06	1.6062E+19	6.9685E+18
Xe-135	8.4740E+00	3.3183E-09	1.4802E+16	4.7395E+18

Reactor Building Transport Group Inventory:

Time (h) = 96.0000	Atmosphere	Sump	
Noble gases (atoms)	1.6077E+19	0.0000E+00	
Elemental I (atoms)	8.1830E+19	0.0000E+00	
Organic I (atoms)	2.5308E+18	0.0000E+00	
Aerosols (kg)	0.0000E+00	0.0000E+00	
Dose Effective (Ci/cc)	I-131 (Thyroid)		3.4422E-08
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		3.4824E-08
Total I (Ci)			2.5118E+03

Suppression Pool to Reactor Building Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.5648E+20

Elemental I (atoms)	0.0000E+00	1.1165E+21
Organic I (atoms)	0.0000E+00	3.4531E+19
Aerosols (kg)	0.0000E+00	0.0000E+00

Reactor Building to Environment Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.4956E+20
Elemental I (atoms)	8.8503E+20	9.8344E+19
Organic I (atoms)	2.7372E+19	3.0416E+18
Aerosols (kg)	0.0000E+00	0.0000E+00

Exclusion Area Boundary Doses:

Time (h) = 720.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.2749E-03	1.5167E+01	4.6510E-01
Accumulated dose (rem)	8.0650E-03	2.2093E+01	6.8239E-01

Low Population Zone Doses:

Time (h) = 720.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.1158E-04	9.4824E-01	2.9186E-02
Accumulated dose (rem)	3.1907E-03	3.1230E+00	9.8977E-02

Control Room Doses:

Time (h) = 720.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	7.8409E-07	4.2140E-02	1.2840E-03
Accumulated dose (rem)	3.1098E-05	2.8828E-01	8.9470E-03

Reactor Building Compartment Nuclide Inventory:

Time (h) = 720.0000	Ci	kg	Atoms	Decay
I-131	2.3664E+02	1.9087E-06	8.7746E+18	1.0453E+20
I-133	2.4460E-07	2.1592E-16	9.7769E+08	1.9415E+19
Xe-133	2.2811E+01	1.2187E-07	5.5181E+17	2.3463E+19

Reactor Building Transport Group Inventory:

Time (h) = 720.0000	Atmosphere	Sump	
Noble gases (atoms)	5.5181E+17	0.0000E+00	
Elemental I (atoms)	8.5114E+18	0.0000E+00	
Organic I (atoms)	2.6324E+17	0.0000E+00	
Aerosols (kg)	0.0000E+00	0.0000E+00	
Dose Effective (Ci/cc) I-131 (Thyroid)			3.5561E-09
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			3.5561E-09
Total I (Ci)			2.3664E+02

Suppression Pool to Reactor Building Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.9390E+20
Elemental I (atoms)	0.0000E+00	3.3755E+21
Organic I (atoms)	0.0000E+00	1.0440E+20
Aerosols (kg)	0.0000E+00	0.0000E+00

Reactor Building to Environment Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.8702E+20
Elemental I (atoms)	2.9184E+21	3.2427E+20
Organic I (atoms)	9.0259E+19	1.0029E+19
Aerosols (kg)	0.0000E+00	0.0000E+00

1020

#####

I-131 Summary

#####

Time (hr)	Suppression Pool	Reactor Building	Environment
	I-131 (Curies)	I-131 (Curies)	I-131 (Curies)
0.000	4.5275E+03	0.0000E+00	0.0000E+00
0.033	2.7135E+05	0.0000E+00	0.0000E+00
0.290	2.3610E+06	4.8755E+00	5.1846E-02
0.417	3.3935E+06	1.0097E+01	1.5647E-01
0.500	4.0678E+06	1.4496E+01	1.6788E-01
0.667	6.3247E+06	2.6741E+01	2.0567E-01
0.920	9.7491E+06	5.5260E+01	3.1954E-01
1.170	1.3123E+07	9.4814E+01	5.2766E-01
1.420	1.6491E+07	1.4535E+02	8.6238E-01
1.670	1.9854E+07	2.0655E+02	1.3541E+00
1.920	2.3211E+07	2.7806E+02	2.0322E+00
2.000	2.4284E+07	3.0308E+02	2.2933E+00
2.400	2.4249E+07	4.2769E+02	3.9371E+00
2.700	2.4222E+07	5.1729E+02	5.5301E+00
3.000	2.4196E+07	6.0372E+02	7.4197E+00
3.300	2.4170E+07	6.8708E+02	9.5953E+00
3.600	2.4144E+07	7.6748E+02	1.2047E+01
3.900	2.4118E+07	8.4502E+02	1.4764E+01
4.000	2.4109E+07	8.7025E+02	1.5728E+01
4.300	2.4083E+07	9.4412E+02	1.8785E+01
4.600	2.4057E+07	1.0154E+03	2.2087E+01
4.900	2.4031E+07	1.0841E+03	2.5625E+01
5.200	2.4005E+07	1.1503E+03	2.9390E+01
5.500	2.3979E+07	1.2141E+03	3.3374E+01
5.800	2.3953E+07	1.2757E+03	3.7570E+01
6.100	2.3927E+07	1.3351E+03	4.1969E+01
6.400	2.3901E+07	1.3923E+03	4.6565E+01
6.700	2.3876E+07	1.4474E+03	5.1350E+01
7.000	2.3850E+07	1.5005E+03	5.6317E+01
7.300	2.3824E+07	1.5518E+03	6.1460E+01
7.600	2.3798E+07	1.6011E+03	6.6772E+01
7.900	2.3772E+07	1.6487E+03	7.2248E+01
8.000	2.3764E+07	1.6641E+03	7.4109E+01
8.300	2.3738E+07	1.7094E+03	7.9793E+01
8.600	2.3712E+07	1.7530E+03	8.5627E+01
8.900	2.3687E+07	1.7950E+03	9.1605E+01
9.200	2.3661E+07	1.8354E+03	9.7722E+01
9.500	2.3636E+07	1.8744E+03	1.0397E+02
9.800	2.3610E+07	1.9119E+03	1.1035E+02
10.100	2.3585E+07	1.9480E+03	1.1686E+02

10.400	2.3559E+07	1.9828E+03	1.2348E+02
16.000	2.3088E+07	2.4356E+03	2.6404E+02
24.000	2.2431E+07	2.6903E+03	4.9627E+02
48.000	2.0571E+07	2.6574E+03	1.2270E+03
96.000	1.7301E+07	2.2465E+03	2.5459E+03
720.000	1.8224E+06	2.3664E+02	8.7949E+03

Time (hr)	Control Room I-131 (Curies)
0.000	0.0000E+00
0.033	0.0000E+00
0.290	7.7286E-05
0.417	2.1981E-04
0.500	1.8598E-04
0.667	1.3325E-04
0.920	1.1113E-04
1.170	9.3021E-05
1.420	7.8034E-05
1.670	6.5684E-05
1.920	5.5569E-05
2.000	5.2747E-05
2.400	4.0293E-05
2.700	3.3216E-05
3.000	2.7656E-05
3.300	2.3314E-05
3.600	1.9947E-05
3.900	1.7362E-05
4.000	1.6646E-05
4.300	1.4864E-05
4.600	1.3545E-05
4.900	1.2595E-05
5.200	1.1938E-05
5.500	1.1512E-05
5.800	1.1270E-05
6.100	1.1171E-05
6.400	1.1185E-05
6.700	1.1287E-05
7.000	1.1455E-05
7.300	1.1674E-05
7.600	1.1931E-05
7.900	1.2215E-05
8.000	1.2315E-05
8.300	1.1746E-05
8.600	1.1336E-05
8.900	1.1052E-05
9.200	1.0867E-05
9.500	1.0762E-05
9.800	1.0718E-05
10.100	1.0723E-05
10.400	1.0765E-05
16.000	1.3049E-05
24.000	1.4812E-05
48.000	6.3726E-06
96.000	5.3924E-06
720.000	1.6814E-07

#####



Cumulative Dose Summary

#####

Time (hr)	Exclusion Area Bounda		Low Population Zone		Control Room	
	Thyroid (rem)	TEDE (rem)	Thyroid (rem)	TEDE (rem)	Thyroid (rem)	TEDE (rem)
0.000	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.033	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.290	3.7417E-02	1.3478E-03	2.8613E-03	1.0307E-04	2.0496E-03	6.5182E-05
0.417	1.1279E-01	4.0441E-03	8.6248E-03	3.0926E-04	8.6039E-03	2.7341E-04
0.500	1.1373E-01	4.0779E-03	8.8064E-03	3.1573E-04	1.4744E-02	4.6835E-04
0.667	1.1386E-01	4.0824E-03	9.2155E-03	3.3024E-04	2.4361E-02	7.7340E-04
0.920	1.1424E-01	4.0959E-03	1.0445E-02	3.7350E-04	3.5592E-02	1.1291E-03
1.170	1.1494E-01	4.1202E-03	1.2685E-02	4.5174E-04	4.4822E-02	1.4210E-03
1.420	1.1606E-01	4.1590E-03	1.6277E-02	5.7635E-04	5.2531E-02	1.6645E-03
1.670	1.1770E-01	4.2155E-03	2.1538E-02	7.5780E-04	5.8988E-02	1.8682E-03
1.920	1.1995E-01	4.2927E-03	2.8773E-02	1.0060E-03	6.4420E-02	2.0394E-03
2.000	1.2081E-01	4.3223E-03	3.1553E-02	1.1012E-03	6.5973E-02	2.0883E-03
2.400	1.2625E-01	4.5077E-03	3.9019E-02	1.3557E-03	7.2591E-02	2.2966E-03
2.700	1.3150E-01	4.6857E-03	4.6225E-02	1.6000E-03	7.6509E-02	2.4197E-03
3.000	1.3770E-01	4.8952E-03	5.4745E-02	1.8877E-03	7.9743E-02	2.5213E-03
3.300	1.4482E-01	5.1347E-03	6.4522E-02	2.2166E-03	8.2442E-02	2.6060E-03
3.600	1.5282E-01	5.4029E-03	7.5503E-02	2.5848E-03	8.4726E-02	2.6777E-03
3.900	1.6166E-01	5.6983E-03	8.7638E-02	2.9904E-03	8.6691E-02	2.7392E-03
4.000	1.6479E-01	5.8026E-03	9.1930E-02	3.1336E-03	8.7288E-02	2.7579E-03
4.300	1.7469E-01	6.1324E-03	1.0553E-01	3.5865E-03	8.8941E-02	2.8097E-03
4.600	1.8535E-01	6.4867E-03	1.2017E-01	4.0730E-03	9.0427E-02	2.8563E-03
4.900	1.9674E-01	6.8644E-03	1.3580E-01	4.5915E-03	9.1791E-02	2.8989E-03
5.200	2.0882E-01	7.2643E-03	1.5240E-01	5.1406E-03	9.3068E-02	2.9389E-03
5.500	2.2157E-01	7.6856E-03	1.6990E-01	5.7190E-03	9.4285E-02	2.9770E-03
5.800	2.3496E-01	8.1271E-03	1.8829E-01	6.3253E-03	9.5464E-02	3.0139E-03
6.100	2.4896E-01	8.5881E-03	2.0751E-01	6.9583E-03	9.6623E-02	3.0501E-03
6.400	2.6355E-01	9.0677E-03	2.2754E-01	7.6167E-03	9.7775E-02	3.0861E-03
6.700	2.7869E-01	9.5650E-03	2.4833E-01	8.2995E-03	9.8929E-02	3.1222E-03
7.000	2.9437E-01	1.0079E-02	2.6986E-01	9.0055E-03	1.0009E-01	3.1586E-03
7.300	3.1056E-01	1.0610E-02	2.9209E-01	9.7337E-03	1.0128E-01	3.1955E-03
7.600	3.2724E-01	1.1155E-02	3.1499E-01	1.0483E-02	1.0248E-01	3.2331E-03
7.900	3.4440E-01	1.1716E-02	3.3854E-01	1.1253E-02	1.0371E-01	3.2714E-03
8.000	3.5021E-01	1.1906E-02	3.4653E-01	1.1514E-02	1.0412E-01	3.2844E-03
8.300	3.6796E-01	1.2485E-02	3.5473E-01	1.1793E-02	1.0534E-01	3.3224E-03
8.600	3.8612E-01	1.3077E-02	3.6312E-01	1.2079E-02	1.0651E-01	3.3588E-03
8.900	4.0469E-01	1.3682E-02	3.7169E-01	1.2371E-02	1.0764E-01	3.3940E-03
9.200	4.2365E-01	1.4299E-02	3.8045E-01	1.2668E-02	1.0874E-01	3.4284E-03
9.500	4.4297E-01	1.4927E-02	3.8937E-01	1.2971E-02	1.0983E-01	3.4622E-03
9.800	4.6265E-01	1.5567E-02	3.9846E-01	1.3279E-02	1.1090E-01	3.4958E-03
10.100	4.8266E-01	1.6216E-02	4.0770E-01	1.3592E-02	1.1197E-01	3.5292E-03
10.400	5.0299E-01	1.6876E-02	4.1710E-01	1.3909E-02	1.1304E-01	3.5625E-03
16.000	9.2690E-01	3.0541E-02	6.1289E-01	2.0461E-02	1.3474E-01	4.2373E-03
24.000	1.6010E+00	5.2029E-02	9.2426E-01	3.0692E-02	1.7012E-01	5.3331E-03
48.000	3.5884E+00	1.1429E-01	1.3910E+00	4.5471E-02	1.9981E-01	6.2468E-03
96.000	6.9260E+00	2.1729E-01	2.1748E+00	6.9791E-02	2.4614E-01	7.6630E-03
720.000	2.2093E+01	6.8239E-01	3.1230E+00	9.8977E-02	2.8828E-01	8.9470E-03

#####

Worst Two-Hour Doses

#####

## Exclusion Area Boundary

Time (hr)	Whole Body (rem)	Thyroid (rem)	TEDE (rem)
16.0	1.7550E-04	1.6853E-01	5.3718E-03

**Attachment A4.3 - RADTRAD Output File "QDC39MS00.o0"**

```
#####
RADTRAD Version 3.03 (Spring 2001) run on 1/28/2020 at 9:41:47
#####

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

```
Plant file          = D:\Projects\RabaioliBrosius\Exelon_RAIs\QDC-0000-N-1481\Westinghouse\QDC39MS00.psf
Inventory file      = D:\Projects\RabaioliBrosius\Exelon_RAIs\QDC-0000-N-1481\Westinghouse\DQ39GWD_DEF.nif
Release file       = c:\program files
(x86)\radtrad3.03\defaults\bwr_dba.rft
Dose Conversion file = c:\program files
(x86)\radtrad3.03\defaults\fgr11&12.inp
```

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

```
Radtrad 3.03 4/15/2001
Quad Cities MSIV Leakeg - Optima Fuel With 39 GWD/MTU, MSIV Leakage =
100/100/50/0 scfh, 40% Aerosol Settling Velocity, CREV Initiated @ 40
Minutes, CR Unfiltered Inleakage = 4,000 cfm for <0.6667 hrs and 400 cfm
>0.6667 hrs
```

```
Nuclide Inventory File:
D:\Projects\RabaioliBrosius\Exelon_RAIs\QDC-0000-N-1481\Westinghouse\DQ39GWD_DEF.nif
Plant Power Level:
3.0161E+03
Compartments:
9
Compartment 1:
Sprayed Drywell
3
9.5000E+04
1
0
0
0
0
Compartment 2:
```

MSIV Failed Control Vol 1

3

2.0024E+02

0

0

0

0

0

Compartment 3:

Intact Control Volume 2

3

1.5293E+02

0

0

0

0

0

Compartment 4:

Intact Control Volume 3

3

4.9110E+01

0

0

0

0

0

Compartment 5:

Intact Control Volume 4

3

1.6375E+02

0

0

0

0

0

Compartment 6:

Intact Control Volume 5

3

4.9110E+01

0

0

0

0

0

Compartment 7:

Environment

2

0.0000E+00

0

0

0

0

0

Compartment 8:

Control Room

1

1.8400E+05

0  
0  
0  
0  
0

Compartment 9:  
Unsprayed Drywell

3  
6.3000E+04  
0  
0  
0  
0  
0

Pathways:

13

Pathway 1:

Drywell to MSIV Failed Control Vol 1

1  
2  
2

Pathway 2:

MSIV Failed Control Vol 1 to Environment

2  
7  
2

Pathway 3:

Drywell to Intact Control Volume 2

1  
3  
2

Pathway 4:

Intact Control Volume 2 to Intact Control Volume 3

3  
4  
2

Pathway 5:

Intact Control Volume 3 to Environment

4  
7  
2

Pathway 6:

Drywell to Intact Control Volume 4

1  
5  
2

Pathway 7:

Intact Control Volume 4 to Intact Control Volume 5

5  
6  
2

Pathway 8:

Intact Control Volume 5 to Environment

6  
7  
2

Pathway 9:

Filtered Intake to Control Room

7

8

2

Pathway 10:

Unfiltered Inleakage to Control Room

7

8

2

Pathway 11:

Control Room Exhaust to Environment

8

7

2

Pathway 12:

Sprayed Drywell to Unsprayed Drywell

1

9

2

Pathway 13:

Unsprayed Drywell to Sprayed Drywell

9

1

2

End of Plant Model File

Scenario Description Name:

Plant Model Filename:

Source Term:

1

1 1.0000E+00

c:\program files (x86)\radtrad3.03\defaults\fgr11&12.inp

c:\program files (x86)\radtrad3.03\defaults\bwr\_dba.rft

0.0000E+00

1

9.5000E-01 4.8500E-02 1.5000E-03 1.0000E+00

Overlying Pool:

0

0.0000E+00

0

0

0

0

Compartments:

9

Compartment 1:

1

1

1

0.0000E+00

6

0.0000E+00 0.0000E+00

1.6670E-01 1.5000E+01

2.2000E+00 1.5000E+00

2.3000E+00 1.5000E+00

4.0000E+00 0.0000E+00

7.2000E+02 0.0000E+00

1

0.0000E+00

6

0.0000E+00 0.0000E+00

1.6670E-01 1.5000E+01

2.2000E+00 1.5000E+01

2.3000E+00 0.0000E+00

4.0000E+00 0.0000E+00

7.2000E+02 0.0000E+00

1

0.0000E+00

0

0

0

0

0

Compartment 2:

0

1

0

0

0

0

0

0

0

Compartment 3:

0

1

0

0

0

0

0

0

0

Compartment 4:

0

1

0

0

0

0

0

0

0

Compartment 5:

0

1

0

0

0

0

0

0

0

Compartment 6:

0  
1  
0  
0  
0  
0  
0  
0  
0

Compartment 7:

0  
1  
0  
0  
0  
0  
0  
0  
0

Compartment 8:

0  
1  
0  
0  
0  
0  
0  
0  
0

Compartment 9:

0  
1  
0  
0  
0  
0  
0  
0  
0

Pathways:

13

Pathway 1:

0  
0  
0  
0  
0  
1  
5  
0.0000E+00  
3.3300E-02  
2.0000E+00  
2.4000E+01  
7.2000E+02  
0  
0

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	5.9500E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	3.4900E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	1.7500E-01	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00



0  
0  
0  
0

Pathway 2:

0  
0  
0  
0  
0

1

10

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	1.6670E+00	8.7820E+01	6.8400E+00	0.0000E+00
2.0000E+00	9.7900E-01	8.7820E+01	6.8400E+00	0.0000E+00
8.0000E+00	9.7900E-01	8.7820E+01	9.1100E+00	0.0000E+00
2.4000E+01	4.8900E-01	8.7820E+01	1.5690E+01	0.0000E+00
4.8000E+01	4.8900E-01	8.7820E+01	3.1540E+01	0.0000E+00
7.2000E+01	4.8900E-01	8.7820E+01	5.2530E+01	0.0000E+00
9.6000E+01	4.8900E-01	8.7820E+01	7.2070E+01	0.0000E+00
2.4000E+02	4.8900E-01	8.7820E+01	9.7260E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

0  
0  
0  
0  
0  
0

Pathway 3:

0  
0  
0  
0  
0

1

5

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	5.9500E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	3.4900E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	1.7500E-01	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

0  
0  
0  
0  
0  
0

Pathway 4:

0  
0  
0  
0  
0

1

10

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	1.6670E+00	7.6750E+01	4.1600E+00	0.0000E+00

2.0000E+00	9.7900E-01	7.6750E+01	4.1600E+00	0.0000E+00
8.0000E+00	9.7900E-01	7.6750E+01	5.5700E+00	0.0000E+00
2.4000E+01	4.8900E-01	7.6750E+01	9.7400E+00	0.0000E+00
4.8000E+01	4.8900E-01	7.6750E+01	2.0390E+01	0.0000E+00
7.2000E+01	4.8900E-01	7.6750E+01	3.6240E+01	0.0000E+00
9.6000E+01	4.8900E-01	7.6750E+01	5.4010E+01	0.0000E+00
2.4000E+02	4.8900E-01	7.6750E+01	9.3310E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

0  
0  
0  
0  
0  
0

Pathway 5:

0  
0  
0  
0  
0  
1

10

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	1.6670E+00	8.0220E+01	1.4970E+01	0.0000E+00
2.0000E+00	9.7900E-01	8.0220E+01	1.4970E+01	0.0000E+00
8.0000E+00	9.7900E-01	8.0220E+01	1.9630E+01	0.0000E+00
2.4000E+01	4.8900E-01	8.0220E+01	3.2260E+01	0.0000E+00
4.8000E+01	4.8900E-01	8.0220E+01	5.7570E+01	0.0000E+00
7.2000E+01	4.8900E-01	8.0220E+01	8.0730E+01	0.0000E+00
9.6000E+01	4.8900E-01	8.0220E+01	9.2810E+01	0.0000E+00
2.4000E+02	4.8900E-01	8.0220E+01	9.7840E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

0  
0  
0  
0  
0  
0

Pathway 6:

0  
0  
0  
0  
0  
1  
5

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	2.9700E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	1.7500E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	8.7000E-02	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

0  
0  
0  
0  
0  
0

Pathway 7:

0				
0				
0				
0				
0				
1				
10				
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	8.3300E-01	8.9010E+01	4.7500E+00	0.0000E+00
2.0000E+00	4.8900E-01	8.9010E+01	4.7500E+00	0.0000E+00
8.0000E+00	4.8900E-01	8.9010E+01	6.3500E+00	0.0000E+00
2.4000E+01	2.4500E-01	8.9010E+01	1.1060E+01	0.0000E+00
4.8000E+01	2.4500E-01	8.9010E+01	2.2950E+01	0.0000E+00
7.2000E+01	2.4500E-01	8.9010E+01	4.0200E+01	0.0000E+00
9.6000E+01	2.4500E-01	8.9010E+01	5.8780E+01	0.0000E+00
2.4000E+02	2.4500E-01	8.9010E+01	9.4930E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0				
0				
0				
0				
0				
0				

Pathway 8:

0				
0				
0				
0				
0				
1				
10				
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	8.3300E-01	8.9030E+01	1.4970E+01	0.0000E+00
2.0000E+00	4.8900E-01	8.9030E+01	1.4970E+01	0.0000E+00
8.0000E+00	4.8900E-01	8.9030E+01	1.9630E+01	0.0000E+00
2.4000E+01	2.4500E-01	8.9030E+01	3.2260E+01	0.0000E+00
4.8000E+01	2.4500E-01	8.9030E+01	5.7570E+01	0.0000E+00
7.2000E+01	2.4500E-01	8.9030E+01	8.0730E+01	0.0000E+00
9.6000E+01	2.4500E-01	8.9030E+01	9.2810E+01	0.0000E+00
2.4000E+02	2.4500E-01	8.9030E+01	9.7840E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0				
0				
0				
0				
0				
0				

Pathway 9:

0				
0				
0				
0				
0				
1				
8				
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

3.3300E-02	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
2.0000E+00	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
8.0000E+00	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
2.4000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
9.6000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

0  
0  
0  
0  
0  
0

Pathway 10:

0  
0  
0  
0  
0  
1  
8

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	4.0000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
8.0000E+00	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
9.6000E+01	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

0  
0  
0  
0  
0  
0

Pathway 11:

0  
0  
0  
0  
0  
1  
8

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	6.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
8.0000E+00	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
9.6000E+01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

0  
0  
0  
0  
0  
0

## Pathway 12:

0				
0				
0				
0				
0				
1				
2				
0.0000E+00	2.1000E+03	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0				
0				
0				
0				
0				
0				

## Pathway 13:

0				
0				
0				
0				
0				
1				
2				
0.0000E+00	2.1000E+03	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0				
0				
0				
0				
0				
0				

## Dose Locations:

3

## Location 1:

## Exclusion Area Boundary

7		
1		
2		
0.0000E+00	1.3600E-03	
7.2000E+02	0.0000E+00	
1		
2		
0.0000E+00	3.5000E-04	
7.2000E+02	0.0000E+00	
0		

## Location 2:

## Low Population Zone

7		
1		
6		
0.0000E+00	1.0400E-04	
2.0000E+00	4.1400E-05	
8.0000E+00	2.6200E-05	
2.4000E+01	9.9600E-06	
9.6000E+01	2.5200E-06	
7.2000E+02	0.0000E+00	

1  
4  
0.0000E+00 3.5000E-04  
8.0000E+00 1.8000E-04  
2.4000E+01 2.3000E-04  
7.2000E+02 0.0000E+00  
0

Location 3:  
Control Room

8  
0  
1  
2  
0.0000E+00 3.5000E-04  
7.2000E+02 0.0000E+00  
1  
4  
0.0000E+00 1.0000E+00  
2.4000E+01 6.0000E-01  
9.6000E+01 4.0000E-01  
7.2000E+02 0.0000E+00

Effective Volume Location:

1  
6  
0.0000E+00 1.0200E-03  
2.0000E+00 8.2300E-04  
8.0000E+00 3.5500E-04  
2.4000E+01 2.3200E-04  
9.6000E+01 1.3800E-04  
7.2000E+02 0.0000E+00

Simulation Parameters:

7  
0.0000E+00 1.0000E-01  
1.0000E+00 1.0000E-02  
2.0000E+00 5.0000E-01  
8.0000E+00 1.0000E+00  
2.4000E+01 2.0000E+00  
9.6000E+01 5.0000E+00  
7.2000E+02 0.0000E+00

Output Filename:

D:\Projects\RabaioliBrosius\Exelon\_RAIs\QDC-0000-N-1481\Westinghouse\QDC39MS00.o0

1  
1  
1  
0  
0

End of Scenario File

```
#####  
RADTRAD Version 3.03 (Spring 2001) run on 1/28/2020 at 9:41:47  
#####
```

```
#####  
Plant Description  
#####
```

Number of Nuclides = 60

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

Number of compartments = 9

Compartment information

Compartment number 1 (Source term fraction = 1.0000E+00  
)

Name: Sprayed Drywell

Compartment volume = 9.5000E+04 (Cubic feet)

Compartment type is Normal

Removal devices within compartment:

Spray(s)

Pathways into and out of compartment 1

Inlet Pathway Number 13: Unsprayed Drywell to Sprayed Drywell

Exit Pathway Number 1: Drywell to MSIV Failed Control Vol 1

Exit Pathway Number 3: Drywell to Intact Control Volume 2

Exit Pathway Number 6: Drywell to Intact Control Volume 4

Exit Pathway Number 12: Sprayed Drywell to Unsprayed Drywell

Compartment number 2

Name: MSIV Failed Control Vol 1

Compartment volume = 2.0024E+02 (Cubic feet)

Compartment type is Normal

Pathways into and out of compartment 2

Inlet Pathway Number 1: Drywell to MSIV Failed Control Vol 1

Exit Pathway Number 2: MSIV Failed Control Vol 1 to Environment

Compartment number 3

Name: Intact Control Volume 2

Compartment volume = 1.5293E+02 (Cubic feet)

Compartment type is Normal

Pathways into and out of compartment 3

Inlet Pathway Number 3: Drywell to Intact Control Volume 2

Exit Pathway Number 4: Intact Control Volume 2 to Intact Control  
Volume 3

Compartment number 4

Name: Intact Control Volume 3

Compartment volume = 4.9110E+01 (Cubic feet)

Compartment type is Normal

Pathways into and out of compartment 4

Inlet Pathway Number 4: Intact Control Volume 2 to Intact Control  
Volume 3

Exit Pathway Number 5: Intact Control Volume 3 to Environment

Compartment number 5

Name: Intact Control Volume 4

Compartment volume = 1.6375E+02 (Cubic feet)

Compartment type is Normal

Pathways into and out of compartment 5

Inlet Pathway Number 6: Drywell to Intact Control Volume 4

Exit Pathway Number 7: Intact Control Volume 4 to Intact Control Volume 5

Compartment number 6

Name: Intact Control Volume 5

Compartment volume = 4.9110E+01 (Cubic feet)

Compartment type is Normal

Pathways into and out of compartment 6

Inlet Pathway Number 7: Intact Control Volume 4 to Intact Control Volume 5

Exit Pathway Number 8: Intact Control Volume 5 to Environment

Compartment number 7

Name: Environment

Compartment type is Environment

Pathways into and out of compartment 7

Inlet Pathway Number 2: MSIV Failed Control Vol 1 to Environment

Inlet Pathway Number 5: Intact Control Volume 3 to Environment

Inlet Pathway Number 8: Intact Control Volume 5 to Environment

Inlet Pathway Number 11: Control Room Exhaust to Environment

Exit Pathway Number 9: Filtered Intake to Control Room

Exit Pathway Number 10: Unfiltered Inleakage to Control Room

Compartment number 8

Name: Control Room

Compartment volume = 1.8400E+05 (Cubic feet)

Compartment type is Control Room

Pathways into and out of compartment 8

Inlet Pathway Number 9: Filtered Intake to Control Room

Inlet Pathway Number 10: Unfiltered Inleakage to Control Room

Exit Pathway Number 11: Control Room Exhaust to Environment

Compartment number 9

Name: Unsprayed Drywell

Compartment volume = 6.3000E+04 (Cubic feet)

Compartment type is Normal

Pathways into and out of compartment 9

Inlet Pathway Number 12: Sprayed Drywell to Unsprayed Drywell

Exit Pathway Number 13: Unsprayed Drywell to Sprayed Drywell

Total number of pathways = 13



```
#####
RADTRAD Version 3.03 (Spring 2001) run on 1/28/2020 at 9:41:47
#####
#####
Scenario Description
#####
```

Radioactive Decay is enabled  
 Calculation of Daughters is enabled

Release Fractions and Timings

	GAP	EARLY IN-VESSEL	LATE RELEASE	RELEASE MASS
	0.500000 hr	1.5000 hrs	0.0000 hrs	(gm)
NOBLES	5.0000E-02	9.5000E-01	0.0000E+00	4.433E+03
IODINE	5.0000E-02	2.5000E-01	0.0000E+00	2.603E+02
CESIUM	5.0000E-02	2.0000E-01	0.0000E+00	4.865E+04
TELLURIUM	0.0000E+00	5.0000E-02	0.0000E+00	3.482E+01
STRONTIUM	0.0000E+00	2.0000E-02	0.0000E+00	1.714E+03
BARIUM	0.0000E+00	2.0000E-02	0.0000E+00	3.979E+01
RUTHENIUM	0.0000E+00	2.5000E-03	0.0000E+00	5.508E+01
CERIUM	0.0000E+00	5.0000E-04	0.0000E+00	5.379E+02
LANTHANUM	0.0000E+00	2.0000E-04	0.0000E+00	8.763E+00

Inventory Power = 3016. MWt

Nuclide Name	Group	Specific Inventory (Ci/MWt)	half life (s)	Whole Body DCF (Sv-m3/Bq-s)	Inhaled Thyroid (Sv/Bq)	Inhaled Effective (Sv/Bq)
Co-58	7	1.529E+02	6.117E+06	4.760E-14	8.720E-10	2.940E-09
Co-60	7	1.830E+02	1.663E+08	1.260E-13	1.620E-08	5.910E-08
Kr-85	1	4.609E+02	3.383E+08	1.190E-16	0.000E+00	0.000E+00
Kr-85m	1	7.427E+03	1.613E+04	7.480E-15	0.000E+00	0.000E+00
Kr-87	1	1.436E+04	4.578E+03	4.120E-14	0.000E+00	0.000E+00
Kr-88	1	2.022E+04	1.022E+04	1.020E-13	0.000E+00	0.000E+00
Rb-86	3	6.465E+01	1.612E+06	4.810E-15	1.330E-09	1.790E-09
Sr-89	5	2.715E+04	4.363E+06	7.730E-17	7.960E-12	1.120E-08
Sr-90	5	3.747E+03	9.190E+08	7.530E-18	2.690E-10	3.510E-07
Sr-91	5	3.382E+04	3.420E+04	4.924E-14	9.930E-12	4.547E-10
Sr-92	5	3.647E+04	9.756E+03	6.790E-14	3.920E-12	2.180E-10
Y-90	9	3.846E+03	2.304E+05	1.900E-16	5.170E-13	2.280E-09
Y-91	9	3.481E+04	5.055E+06	2.600E-16	8.500E-12	1.320E-08
Y-92	9	3.647E+04	1.274E+04	1.300E-14	1.050E-12	2.110E-10
Y-93	9	4.178E+04	3.636E+04	4.800E-15	9.260E-13	5.820E-10
Zr-95	9	4.609E+04	5.528E+06	3.600E-14	1.440E-09	6.390E-09
Zr-97	9	4.575E+04	6.084E+04	4.432E-14	2.315E-11	1.171E-09
Nb-95	9	4.642E+04	3.037E+06	3.740E-14	3.580E-10	1.570E-09
Mo-99	7	5.106E+04	2.376E+05	7.280E-15	1.520E-11	1.070E-09
Tc-99m	7	4.476E+04	2.167E+04	5.890E-15	5.010E-11	8.800E-12
Ru-103	7	4.310E+04	3.394E+06	2.251E-14	2.570E-10	2.421E-09
Ru-105	7	3.077E+04	1.598E+04	3.810E-14	4.150E-12	1.230E-10
Ru-106	7	1.890E+04	3.181E+07	1.040E-14	1.720E-09	1.290E-07
Rh-105	7	2.901E+04	1.273E+05	3.720E-15	2.880E-12	2.580E-10
Sb-127	4	2.974E+03	3.326E+05	3.330E-14	6.150E-11	1.630E-09
Sb-129	4	8.819E+03	1.555E+04	7.140E-14	9.720E-12	1.740E-10
Te-127	4	2.957E+03	3.366E+04	2.420E-16	1.840E-12	8.600E-11

Te-127m	4	3.979E+02	9.418E+06	1.470E-16	9.660E-11	5.810E-09
Te-129	4	8.687E+03	4.176E+03	2.750E-15	5.090E-13	2.090E-11
Te-129m	4	1.290E+03	2.903E+06	3.337E-15	1.563E-10	6.484E-09
Te-131m	4	3.945E+03	1.080E+05	7.463E-14	3.669E-08	1.758E-09
Te-132	4	3.846E+04	2.815E+05	1.030E-14	6.280E-08	2.550E-09
I-131	2	2.702E+04	6.947E+05	1.820E-14	2.920E-07	8.890E-09
I-132	2	3.912E+04	8.280E+03	1.120E-13	1.740E-09	1.030E-10
I-133	2	5.537E+04	7.488E+04	2.940E-14	4.860E-08	1.580E-09
I-134	2	6.101E+04	3.156E+03	1.300E-13	2.880E-10	3.550E-11
I-135	2	5.172E+04	2.380E+04	8.294E-14	8.460E-09	3.320E-10
Xe-133	1	5.305E+04	4.532E+05	1.560E-15	0.000E+00	0.000E+00
Xe-135	1	2.195E+04	3.272E+04	1.190E-14	0.000E+00	0.000E+00
Cs-134	3	7.990E+03	6.507E+07	7.570E-14	1.110E-08	1.250E-08
Cs-136	3	1.953E+03	1.132E+06	1.060E-13	1.730E-09	1.980E-09
Cs-137	3	5.073E+03	9.467E+08	2.725E-14	7.930E-09	8.630E-09
Ba-139	6	4.973E+04	4.962E+03	2.170E-15	2.400E-12	4.640E-11
Ba-140	6	4.807E+04	1.101E+06	8.580E-15	2.560E-10	1.010E-09
La-140	9	5.172E+04	1.450E+05	1.170E-13	6.870E-11	1.310E-09
La-141	9	4.542E+04	1.415E+04	2.390E-15	9.400E-12	1.570E-10
La-142	9	4.376E+04	5.550E+03	1.440E-13	8.740E-12	6.840E-11
Ce-141	8	4.542E+04	2.808E+06	3.430E-15	2.550E-11	2.420E-09
Ce-143	8	4.244E+04	1.188E+05	1.290E-14	6.230E-12	9.160E-10
Ce-144	8	3.780E+04	2.456E+07	2.773E-15	2.920E-10	1.010E-07
Pr-143	9	4.111E+04	1.172E+06	2.100E-17	1.680E-18	2.190E-09
Nd-147	9	1.814E+04	9.487E+05	6.190E-15	1.820E-11	1.850E-09
Np-239	8	5.404E+05	2.035E+05	7.690E-15	7.620E-12	6.780E-10
Pu-238	8	2.105E+02	2.769E+09	4.880E-18	3.860E-10	7.790E-05
Pu-239	8	1.247E+01	7.594E+11	4.240E-18	3.750E-10	8.330E-05
Pu-240	8	1.257E+01	2.063E+11	4.750E-18	3.760E-10	8.330E-05
Pu-241	8	7.493E+03	4.544E+08	7.250E-20	9.150E-12	1.340E-06
Am-241	9	1.326E+01	1.364E+10	8.180E-16	1.600E-09	1.200E-04
Cm-242	9	2.606E+03	1.407E+07	5.690E-18	9.410E-10	4.670E-06
Cm-244	9	3.349E+02	5.715E+08	4.910E-18	1.010E-09	6.700E-05

Nuclide	Daughter	Fraction	Daughter	Fraction	Daughter	Fraction
Kr-85m	Kr-85	0.21	none	0.00	none	0.00
Kr-87	Rb-87	1.00	none	0.00	none	0.00
Kr-88	Rb-88	1.00	none	0.00	none	0.00
Sr-90	Y-90	1.00	none	0.00	none	0.00
Sr-91	Y-91m	0.58	Y-91	0.42	none	0.00
Sr-92	Y-92	1.00	none	0.00	none	0.00
Y-93	Zr-93	1.00	none	0.00	none	0.00
Zr-95	Nb-95m	0.01	Nb-95	0.99	none	0.00
Zr-97	Nb-97m	0.95	Nb-97	0.05	none	0.00
Mo-99	Tc-99m	0.88	Tc-99	0.12	none	0.00
Tc-99m	Tc-99	1.00	none	0.00	none	0.00
Ru-103	Rh-103m	1.00	none	0.00	none	0.00
Ru-105	Rh-105	1.00	none	0.00	none	0.00
Ru-106	Rh-106	1.00	none	0.00	none	0.00
Sb-127	Te-127m	0.18	Te-127	0.82	none	0.00
Sb-129	Te-129m	0.22	Te-129	0.77	none	0.00
Te-127m	Te-127	0.98	none	0.00	none	0.00
Te-129	I-129	1.00	none	0.00	none	0.00
Te-129m	Te-129	0.65	I-129	0.35	none	0.00
Te-131m	Te-131	0.22	I-131	0.78	none	0.00
Te-132	I-132	1.00	none	0.00	none	0.00
I-131	Xe-131m	0.01	none	0.00	none	0.00

I-133	Xe-133m	0.03	Xe-133	0.97	none	0.00
I-135	Xe-135m	0.15	Xe-135	0.85	none	0.00
Xe-135	Cs-135	1.00	none	0.00	none	0.00
Cs-137	Ba-137m	0.95	none	0.00	none	0.00
Ba-140	La-140	1.00	none	0.00	none	0.00
La-141	Ce-141	1.00	none	0.00	none	0.00
Ce-143	Pr-143	1.00	none	0.00	none	0.00
Ce-144	Pr-144m	0.02	Pr-144	0.98	none	0.00
Nd-147	Pm-147	1.00	none	0.00	none	0.00
Np-239	Pu-239	1.00	none	0.00	none	0.00
Pu-238	U-234	1.00	none	0.00	none	0.00
Pu-239	U-235	1.00	none	0.00	none	0.00
Pu-240	U-236	1.00	none	0.00	none	0.00
Pu-241	U-237	0.00	Am-241	1.00	none	0.00
Am-241	Np-237	1.00	none	0.00	none	0.00
Cm-242	Pu-238	1.00	none	0.00	none	0.00
Cm-244	Pu-240	1.00	none	0.00	none	0.00

## Iodine fractions

Aerosol	=	9.5000E-01
Elemental	=	4.8500E-02
Organic	=	1.5000E-03

## COMPARTMENT DATA

Compartment number 1: Sprayed Drywell

## Sprays: Aerosol Removal Data

Time (hr)	Removal Coef. (hr <sup>-1</sup> )
0.0000E+00	0.0000E+00
1.6670E-01	1.5000E+01
2.2000E+00	1.5000E+00
2.3000E+00	1.5000E+00
4.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00

## Sprays: Elemental Removal Data

Time (hr)	Removal Coef. (hr <sup>-1</sup> )
0.0000E+00	0.0000E+00
1.6670E-01	1.5000E+01
2.2000E+00	1.5000E+01
2.3000E+00	0.0000E+00
4.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00

Compartment number 2: MSIV Failed Control Vol 1

Compartment number 3: Intact Control Volume 2

Compartment number 4: Intact Control Volume 3

Compartment number 5: Intact Control Volume 4

Compartment number 6: Intact Control Volume 5

Compartment number 7: Environment

Compartment number 8: Control Room

Compartment number 9: Unsprayed Drywell

PATHWAY DATA

Pathway number 1: Drywell to MSIV Failed Control Vol 1

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	5.9500E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	3.4900E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	1.7500E-01	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 2: MSIV Failed Control Vol 1 to Environment

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	1.6670E+00	8.7820E+01	6.8400E+00	0.0000E+00
2.0000E+00	9.7900E-01	8.7820E+01	6.8400E+00	0.0000E+00
8.0000E+00	9.7900E-01	8.7820E+01	9.1100E+00	0.0000E+00
2.4000E+01	4.8900E-01	8.7820E+01	1.5690E+01	0.0000E+00
4.8000E+01	4.8900E-01	8.7820E+01	3.1540E+01	0.0000E+00
7.2000E+01	4.8900E-01	8.7820E+01	5.2530E+01	0.0000E+00
9.6000E+01	4.8900E-01	8.7820E+01	7.2070E+01	0.0000E+00
2.4000E+02	4.8900E-01	8.7820E+01	9.7260E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 3: Drywell to Intact Control Volume 2

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	5.9500E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	3.4900E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	1.7500E-01	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 4: Intact Control Volume 2 to Intact Control Volume 3

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	1.6670E+00	7.6750E+01	4.1600E+00	0.0000E+00
2.0000E+00	9.7900E-01	7.6750E+01	4.1600E+00	0.0000E+00
8.0000E+00	9.7900E-01	7.6750E+01	5.5700E+00	0.0000E+00

2.4000E+01	4.8900E-01	7.6750E+01	9.7400E+00	0.0000E+00
4.8000E+01	4.8900E-01	7.6750E+01	2.0390E+01	0.0000E+00
7.2000E+01	4.8900E-01	7.6750E+01	3.6240E+01	0.0000E+00
9.6000E+01	4.8900E-01	7.6750E+01	5.4010E+01	0.0000E+00
2.4000E+02	4.8900E-01	7.6750E+01	9.3310E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 5: Intact Control Volume 3 to Environment

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	1.6670E+00	8.0220E+01	1.4970E+01	0.0000E+00
2.0000E+00	9.7900E-01	8.0220E+01	1.4970E+01	0.0000E+00
8.0000E+00	9.7900E-01	8.0220E+01	1.9630E+01	0.0000E+00
2.4000E+01	4.8900E-01	8.0220E+01	3.2260E+01	0.0000E+00
4.8000E+01	4.8900E-01	8.0220E+01	5.7570E+01	0.0000E+00
7.2000E+01	4.8900E-01	8.0220E+01	8.0730E+01	0.0000E+00
9.6000E+01	4.8900E-01	8.0220E+01	9.2810E+01	0.0000E+00
2.4000E+02	4.8900E-01	8.0220E+01	9.7840E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 6: Drywell to Intact Control Volume 4

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	2.9700E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	1.7500E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	8.7000E-02	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 7: Intact Control Volume 4 to Intact Control Volume 5

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	8.3300E-01	8.9010E+01	4.7500E+00	0.0000E+00
2.0000E+00	4.8900E-01	8.9010E+01	4.7500E+00	0.0000E+00
8.0000E+00	4.8900E-01	8.9010E+01	6.3500E+00	0.0000E+00
2.4000E+01	2.4500E-01	8.9010E+01	1.1060E+01	0.0000E+00
4.8000E+01	2.4500E-01	8.9010E+01	2.2950E+01	0.0000E+00
7.2000E+01	2.4500E-01	8.9010E+01	4.0200E+01	0.0000E+00
9.6000E+01	2.4500E-01	8.9010E+01	5.8780E+01	0.0000E+00
2.4000E+02	2.4500E-01	8.9010E+01	9.4930E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 8: Intact Control Volume 5 to Environment

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	8.3300E-01	8.9030E+01	1.4970E+01	0.0000E+00
2.0000E+00	4.8900E-01	8.9030E+01	1.4970E+01	0.0000E+00
8.0000E+00	4.8900E-01	8.9030E+01	1.9630E+01	0.0000E+00
2.4000E+01	2.4500E-01	8.9030E+01	3.2260E+01	0.0000E+00
4.8000E+01	2.4500E-01	8.9030E+01	5.7570E+01	0.0000E+00
7.2000E+01	2.4500E-01	8.9030E+01	8.0730E+01	0.0000E+00
9.6000E+01	2.4500E-01	8.9030E+01	9.2810E+01	0.0000E+00
2.4000E+02	2.4500E-01	8.9030E+01	9.7840E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 9: Filtered Intake to Control Room

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
2.0000E+00	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
8.0000E+00	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
2.4000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
9.6000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 10: Unfiltered Inleakage to Control Room

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	4.0000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
8.0000E+00	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
9.6000E+01	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 11: Control Room Exhaust to Environment

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	6.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
8.0000E+00	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
9.6000E+01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 12: Sprayed Drywell to Unsprayed Drywell

Pathway Filter: Removal Data

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

Pathway number 13: Unsprayed Drywell to Sprayed Drywell

Pathway Filter: Removal Data

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

#### LOCATION DATA

Location Exclusion Area Boundary is in compartment 7

Location X/Q Data

Time (hr)	X/Q (s * m <sup>-3</sup> )
0.0000E+00	1.3600E-03
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 Low Population Zone is in compartment 7

Location X/Q Data

Time (hr)	X/Q (s * m <sup>-3</sup> )
0.0000E+00	1.0400E-04
2.0000E+00	4.1400E-05
8.0000E+00	2.6200E-05
2.4000E+01	9.9600E-06
9.6000E+01	2.5200E-06
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
8.0000E+00	1.8000E-04
2.4000E+01	2.3000E-04
7.2000E+02	0.0000E+00

Location Control Room is in compartment 8

Location X/Q Data

Time (hr)	X/Q (s * m <sup>-3</sup> )
0.0000E+00	1.0200E-03
2.0000E+00	8.2300E-04
8.0000E+00	3.5500E-04
2.4000E+01	2.3200E-04
9.6000E+01	1.3800E-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 Occupancy Factor Data

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

## USER SPECIFIED TIME STEP DATA - SUPPLEMENTAL TIME STEPS

Time	Time step
0.0000E+00	1.0000E-01
1.0000E+00	1.0000E-02
2.0000E+00	5.0000E-01
8.0000E+00	1.0000E+00
2.4000E+01	2.0000E+00
9.6000E+01	5.0000E+00
7.2000E+02	0.0000E+00



#####  
 RADTRAD Version 3.03 (Spring 2001) run on 1/28/2020 at 9:41:47  
 #####

```

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

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

Exclusion Area Boundary Doses:

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

Low Population Zone Doses:

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

Control Room Doses:

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

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =	0.0333	Ci	kg	Atoms	Decay
------------	--------	----	----	-------	-------

Sprayed Drywell Transport Group Inventory:

Time (h) =	0.0333	Atmosphere	Sump
Noble gases (atoms)		9.5010E+22	0.0000E+00
Elemental I (atoms)		6.2714E+20	0.0000E+00
Organic I (atoms)		1.9396E+19	0.0000E+00
Aerosols (kg)		6.3695E-01	0.0000E+00
Dose Effective (Ci/cc)		I-131 (Thyroid)	1.3887E-04
Dose Effective (Ci/cc)		I-131 (ICRP2 Thyroid)	1.7722E-04
Total I (Ci)			2.2808E+06

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

Pathway

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

Drywell to Intact Control Volume 2 Transport Group Inventory:

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

Drywell to Intact Control Volume 4 Transport Group Inventory:

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

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

		Pathway	
Time (h) =	0.0333	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.1133E+21	
Elemental I (atoms)	0.0000E+00	1.3960E+19	
Organic I (atoms)	0.0000E+00	4.3176E+17	
Aerosols (kg)	0.0000E+00	1.4168E-02	

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

		Pathway	
Time (h) =	0.0333	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.5936E+19	
Elemental I (atoms)	0.0000E+00	3.0345E+17	
Organic I (atoms)	0.0000E+00	9.3849E+15	
Aerosols (kg)	0.0000E+00	3.0796E-04	

Exclusion Area Boundary Doses:

Time (h) =	0.1667	Whole Body	Thyroid	TEDE
Delta dose (rem)		1.1925E-03	1.2262E-01	6.2282E-03
Accumulated dose (rem)		1.1925E-03	1.2262E-01	6.2282E-03

Low Population Zone Doses:

Time (h) =	0.1667	Whole Body	Thyroid	TEDE
Delta dose (rem)		9.1195E-05	9.3765E-03	4.7628E-04
Accumulated dose (rem)		9.1195E-05	9.3765E-03	4.7628E-04

Control Room Doses:

Time (h) =	0.1667	Whole Body	Thyroid	TEDE
------------	--------	------------	---------	------

Delta dose (rem)	3.9185E-06	7.8822E-03	3.2776E-04
Accumulated dose (rem)	3.9185E-06	7.8822E-03	3.2776E-04

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =	Ci	kg	Atoms	Decay
Kr-85	2.1025E+04	5.3588E-02	3.7967E+23	3.2238E+17
Kr-85m	3.3017E+05	4.0120E-05	2.8424E+20	5.1134E+18
Kr-87	5.9815E+05	2.1117E-05	1.4617E+20	9.5020E+18
Kr-88	8.8559E+05	7.0625E-05	4.8331E+20	1.3795E+19
Rb-86	2.9483E+03	3.6235E-05	2.5373E+20	4.5213E+16
I-131	1.2318E+06	9.9362E-03	4.5677E+22	1.8893E+19
I-132	1.7255E+06	1.6717E-04	7.6266E+20	2.6857E+19
I-133	2.5118E+06	2.2173E-03	1.0040E+22	3.8597E+19
I-134	2.4394E+06	9.1442E-05	4.1095E+20	3.9380E+19
I-135	2.3184E+06	6.6016E-04	2.9449E+21	3.5790E+19
Xe-133	2.4200E+06	1.2928E-02	5.8539E+22	3.7100E+19
Xe-135	1.0138E+06	3.9699E-04	1.7709E+21	1.5397E+19
Cs-134	3.6447E+05	2.8170E-01	1.2660E+24	5.5886E+18
Cs-136	8.9056E+04	1.2151E-03	5.3805E+21	1.3657E+18
Cs-137	2.3141E+05	2.6605E+00	1.1695E+25	3.5483E+18

## Sprayed Drywell Transport Group Inventory:

Time (h) =	Atmosphere	Sump
Noble gases (atoms)	4.4089E+23	0.0000E+00
Elemental I (atoms)	2.9020E+21	0.0000E+00
Organic I (atoms)	8.9753E+19	0.0000E+00
Aerosols (kg)	2.9558E+00	0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)		6.4301E-04
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)		8.1779E-04
Total I (Ci)		1.0227E+07

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

Time (h) =	Pathway	
	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.3642E+19
Elemental I (atoms)	0.0000E+00	8.9969E+16
Organic I (atoms)	0.0000E+00	2.7825E+15
Aerosols (kg)	0.0000E+00	9.1457E-05

## Drywell to Intact Control Volume 2 Transport Group Inventory:

Time (h) =	Pathway	
	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.3642E+19
Elemental I (atoms)	0.0000E+00	8.9969E+16
Organic I (atoms)	0.0000E+00	2.7825E+15
Aerosols (kg)	0.0000E+00	9.1457E-05

## Drywell to Intact Control Volume 4 Transport Group Inventory:

Time (h) =	Pathway	
	Filtered	Transported
Noble gases (atoms)	0.0000E+00	6.8095E+18
Elemental I (atoms)	0.0000E+00	4.4909E+16
Organic I (atoms)	0.0000E+00	1.3889E+15

Aerosols (kg) 0.0000E+00 4.5652E-05

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 0.1667	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.0261E+22
Elemental I (atoms)	0.0000E+00	3.3150E+20
Organic I (atoms)	0.0000E+00	1.0253E+19
Aerosols (kg)	0.0000E+00	3.3696E-01

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 0.1667	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.2156E+21
Elemental I (atoms)	0.0000E+00	3.4390E+19
Organic I (atoms)	0.0000E+00	1.0636E+18
Aerosols (kg)	0.0000E+00	3.4966E-02

Exclusion Area Boundary Doses:

Time (h) = 0.5000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.5310E-02	1.8460E+00	1.0034E-01
Accumulated dose (rem)	2.6503E-02	1.9686E+00	1.0657E-01

Low Population Zone Doses:

Time (h) = 0.5000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.9355E-03	1.4116E-01	7.6730E-03
Accumulated dose (rem)	2.0267E-03	1.5054E-01	8.1493E-03

Control Room Doses:

Time (h) = 0.5000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.2428E-04	3.6554E-01	1.5127E-02
Accumulated dose (rem)	2.2820E-04	3.7342E-01	1.5455E-02

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 0.5000	Ci	kg	Atoms	Decay
Kr-85	5.5286E+04	1.4091E-01	9.9836E+23	2.2514E+18
Kr-85m	8.2455E+05	1.0019E-04	7.0987E+20	3.4544E+19
Kr-87	1.3116E+06	4.6304E-05	3.2052E+20	5.9118E+19
Kr-88	2.1468E+06	1.7120E-04	1.1716E+21	9.1437E+19
Rb-86	1.2754E+03	1.5674E-05	1.0976E+20	1.0863E+17
I-131	5.3661E+05	4.3284E-03	1.9898E+22	4.5514E+19
I-132	7.4559E+05	7.2232E-05	3.2954E+20	6.4371E+19
I-133	1.0833E+06	9.5626E-04	4.3298E+21	9.2628E+19
I-134	8.1734E+05	3.0639E-05	1.3769E+20	8.6221E+19
I-135	9.7629E+05	2.7800E-04	1.2401E+21	8.5117E+19
Xe-133	6.3570E+06	3.3961E-02	1.5377E+23	2.5901E+20
Xe-135	2.6558E+06	1.0400E-03	4.6392E+21	1.0819E+20
Cs-134	1.5774E+05	1.2192E-01	5.4791E+23	1.3431E+19
Cs-136	3.8514E+04	5.2550E-04	2.3269E+21	3.2812E+18
Cs-137	1.0015E+05	1.1514E+00	5.0613E+24	8.5274E+18

## Sprayed Drywell Transport Group Inventory:

Time (h) =	0.5000	Atmosphere	Sump
Noble gases (atoms)	1.1590E+24	0.0000E+00	
Elemental I (atoms)	1.2484E+21	7.6315E+21	
Organic I (atoms)	2.3445E+20	0.0000E+00	
Aerosols (kg)	1.2792E+00	7.7865E+00	
Dose Effective (Ci/cc)	I-131 (Thyroid)		2.7896E-04
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		3.5248E-04
Total I (Ci)			4.1591E+06

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

		Pathway	
Time (h) =	0.5000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.1538E+20	
Elemental I (atoms)	0.0000E+00	2.8116E+17	
Organic I (atoms)	0.0000E+00	2.3439E+16	
Aerosols (kg)	0.0000E+00	2.8653E-04	

## Drywell to Intact Control Volume 2 Transport Group Inventory:

		Pathway	
Time (h) =	0.5000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.1538E+20	
Elemental I (atoms)	0.0000E+00	2.8116E+17	
Organic I (atoms)	0.0000E+00	2.3439E+16	
Aerosols (kg)	0.0000E+00	2.8653E-04	

## Drywell to Intact Control Volume 4 Transport Group Inventory:

		Pathway	
Time (h) =	0.5000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.7592E+19	
Elemental I (atoms)	0.0000E+00	1.4034E+17	
Organic I (atoms)	0.0000E+00	1.1700E+16	
Aerosols (kg)	0.0000E+00	1.4302E-04	

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

		Pathway	
Time (h) =	0.5000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.0933E+23	
Elemental I (atoms)	0.0000E+00	1.0063E+21	
Organic I (atoms)	0.0000E+00	8.3158E+19	
Aerosols (kg)	0.0000E+00	1.0254E+00	

## Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

		Pathway	
Time (h) =	0.5000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.1136E+23	
Elemental I (atoms)	0.0000E+00	3.8188E+20	
Organic I (atoms)	0.0000E+00	2.2603E+19	
Aerosols (kg)	0.0000E+00	3.8988E-01	

## Exclusion Area Boundary Doses:

Time (h) =	0.6667	Whole Body	Thyroid	TEDE
Delta dose (rem)		3.3404E-02	1.6237E+00	1.0098E-01
Accumulated dose (rem)		5.9907E-02	3.5923E+00	2.0755E-01

## Low Population Zone Doses:

Time (h) =	0.6667	Whole Body	Thyroid	TEDE
Delta dose (rem)		2.5544E-03	1.2416E-01	7.7223E-03
Accumulated dose (rem)		4.5811E-03	2.7470E-01	1.5872E-02

## Control Room Doses:

Time (h) =	0.6667	Whole Body	Thyroid	TEDE
Delta dose (rem)		3.8736E-04	4.9051E-01	2.0429E-02
Accumulated dose (rem)		6.1555E-04	8.6393E-01	3.5884E-02

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =	0.6667	Ci	kg	Atoms	Decay
Co-58		4.4405E+01	1.3965E-06	1.4500E+19	9.0095E+14
Co-60		5.3161E+01	4.7029E-05	4.7202E+20	1.0786E+15
Kr-85		1.8269E+05	4.6564E-01	3.2990E+24	5.6628E+18
Kr-85m		2.6553E+06	3.2266E-04	2.2860E+21	8.4723E+19
Kr-87		3.9576E+06	1.3972E-04	9.6713E+20	1.3622E+20
Kr-88		6.8110E+06	5.4318E-04	3.7171E+21	2.2104E+20
Rb-86		1.6517E+03	2.0299E-05	1.4215E+20	1.4457E+17
Sr-89		6.3072E+04	2.1710E-03	1.4690E+22	1.2797E+18
Sr-90		8.7080E+03	6.3838E-02	4.2716E+23	1.7667E+17
Sr-91		7.4866E+04	2.0653E-05	1.3667E+20	1.5278E+18
Sr-92		7.1468E+04	5.6859E-06	3.7219E+19	1.4801E+18
Y-90		9.8349E+01	1.8077E-07	1.2096E+18	1.8368E+15
Y-91		8.1031E+02	3.3042E-05	2.1866E+20	1.6414E+16
Y-92		2.1882E+03	2.2740E-07	1.4885E+18	2.0672E+16
Y-93		9.2754E+02	2.7801E-07	1.8002E+18	1.8922E+16
Zr-95		1.0708E+03	4.9845E-05	3.1597E+20	2.1726E+16
Zr-97		1.0345E+03	5.4117E-07	3.3598E+18	2.1059E+16
Nb-95		1.0788E+03	2.7588E-05	1.7488E+20	2.1886E+16
Mo-99		1.4729E+04	3.0711E-05	1.8681E+20	2.9909E+17
Tc-99m		1.3008E+04	2.4738E-06	1.5048E+19	2.6261E+17
Ru-103		1.2514E+04	3.8775E-04	2.2671E+21	2.5391E+17
Ru-105		8.0551E+03	1.1983E-06	6.8728E+18	1.6549E+17
Ru-106		5.4901E+03	1.6410E-03	9.3230E+21	1.1139E+17
Rh-105		8.4283E+03	9.9854E-06	5.7270E+19	1.7087E+17
Sb-127		1.7193E+04	6.4379E-05	3.0528E+20	3.4902E+17
Sb-129		4.6040E+04	8.1872E-06	3.8221E+19	9.4621E+17
Te-127		1.7145E+04	6.4965E-06	3.0805E+19	3.4688E+17
Te-127m		2.3119E+03	2.4510E-04	1.1622E+21	4.6905E+16
Te-129		4.8091E+04	2.2964E-06	1.0720E+19	9.6086E+17
Te-129m		7.4967E+03	2.4885E-04	1.1617E+21	1.5209E+17
Te-131m		2.2570E+04	2.8304E-05	1.3012E+20	4.5876E+17
Te-132		2.2214E+05	7.3169E-04	3.3381E+21	4.5100E+18
I-131		8.5233E+05	6.8751E-03	3.1605E+22	6.3821E+19
I-132		1.1991E+06	1.1616E-04	5.2996E+20	9.0284E+19
I-133		1.7119E+06	1.5112E-03	6.8428E+21	1.2949E+20
I-134		1.1385E+06	4.2678E-05	1.9180E+20	1.1233E+20
I-135		1.5246E+06	4.3413E-04	1.9366E+21	1.1814E+20
Xe-133		2.1007E+07	1.1223E-01	5.0817E+23	6.5137E+20

Xe-135	8.8891E+06	3.4808E-03	1.5527E+22	2.7431E+20
Cs-134	2.0434E+05	1.5793E-01	7.0977E+23	1.7876E+19
Cs-136	4.9874E+04	6.8050E-04	3.0133E+21	4.3663E+18
Cs-137	1.2974E+05	1.4916E+00	6.5566E+24	1.1350E+19
Ba-139	8.2650E+04	5.0529E-06	2.1892E+19	1.7464E+18
Ba-140	1.1155E+05	1.5237E-03	6.5541E+21	2.2635E+18
La-140	1.3839E+03	2.4898E-06	1.0710E+19	2.4851E+16
La-141	9.3846E+02	1.6594E-07	7.0874E+17	1.9312E+16
La-142	7.5358E+02	5.2643E-08	2.2325E+17	1.5854E+16
Ce-141	2.6387E+03	9.2607E-05	3.9552E+20	5.3536E+16
Ce-143	2.4315E+03	3.6614E-06	1.5419E+19	4.9414E+16
Ce-144	2.1960E+03	6.8852E-04	2.8794E+21	4.4554E+16
Pr-143	9.5573E+02	1.4193E-05	5.9770E+19	1.9383E+16
Nd-147	4.2083E+02	5.2020E-06	2.1311E+19	8.5399E+15
Np-239	3.1141E+04	1.3424E-04	3.3824E+20	6.3244E+17
Pu-238	1.2230E+01	7.1439E-04	1.8076E+21	2.4813E+14
Pu-239	7.2457E-01	1.1657E-02	2.9373E+22	1.4700E+13
Pu-240	7.3031E-01	3.2050E-03	8.0421E+21	1.4817E+13
Pu-241	4.3534E+02	4.2261E-03	1.0560E+22	8.8324E+15
Am-241	3.0819E-01	8.9794E-05	2.2438E+20	6.2525E+12
Cm-242	6.0556E+01	1.8271E-05	4.5468E+19	1.2286E+15
Cm-244	7.7830E+00	9.6202E-05	2.3744E+20	1.5791E+14

## Sprayed Drywell Transport Group Inventory:

Time (h) =	0.6667	Atmosphere	Sump	
Noble gases (atoms)	3.8297E+24	0.0000E+00		
Elemental I (atoms)	1.9793E+21	1.2075E+22		
Organic I (atoms)	3.5761E+20	0.0000E+00		
Aerosols (kg)	1.7508E+00	1.1832E+01		
Dose Effective (Ci/cc)	I-131 (Thyroid)		4.4225E-04	
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		5.5738E-04	
Total I (Ci)			6.4264E+06	

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

		Pathway	
Time (h) =	0.6667	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.7405E+20	
Elemental I (atoms)	0.0000E+00	3.9248E+17	
Organic I (atoms)	0.0000E+00	4.2080E+16	
Aerosols (kg)	0.0000E+00	3.8787E-04	

## Drywell to Intact Control Volume 2 Transport Group Inventory:

		Pathway	
Time (h) =	0.6667	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.7405E+20	
Elemental I (atoms)	0.0000E+00	3.9248E+17	
Organic I (atoms)	0.0000E+00	4.2080E+16	
Aerosols (kg)	0.0000E+00	3.8787E-04	

## Drywell to Intact Control Volume 4 Transport Group Inventory:

		Pathway	
Time (h) =	0.6667	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.3680E+20	
Elemental I (atoms)	0.0000E+00	1.9591E+17	

Organic I (atoms)	0.0000E+00	2.1004E+16
Aerosols (kg)	0.0000E+00	1.9361E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 0.6667	Filtered	Transported
Noble gases (atoms)	0.0000E+00	9.6936E+23
Elemental I (atoms)	0.0000E+00	1.3992E+21
Organic I (atoms)	0.0000E+00	1.4895E+20
Aerosols (kg)	0.0000E+00	1.3831E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 0.6667	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.6547E+23
Elemental I (atoms)	0.0000E+00	6.1354E+20
Organic I (atoms)	0.0000E+00	4.8852E+19
Aerosols (kg)	0.0000E+00	6.2255E-01

Exclusion Area Boundary Doses:

Time (h) = 2.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.7878E+00	3.5532E+01	4.5095E+00
Accumulated dose (rem)	2.8477E+00	3.9124E+01	4.7171E+00

Low Population Zone Doses:

Time (h) = 2.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.1318E-01	2.7171E+00	3.4485E-01
Accumulated dose (rem)	2.1776E-01	2.9918E+00	3.6072E-01

Control Room Doses:

Time (h) = 2.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.6250E-02	4.6582E+00	2.2837E-01
Accumulated dose (rem)	2.6865E-02	5.5222E+00	2.6425E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 2.0000	Ci	kg	Atoms	Decay
Co-58	5.0851E+01	1.5992E-06	1.6604E+19	9.7346E+15
Co-60	6.0909E+01	5.3884E-05	5.4082E+20	1.1657E+16
Kr-85	9.4023E+05	2.3965E+00	1.6979E+25	1.0970E+20
Kr-85m	1.1118E+07	1.3510E-03	9.5718E+21	1.4224E+21
Kr-87	9.8475E+06	3.4765E-04	2.4065E+21	1.6206E+21
Kr-88	2.5316E+07	2.0190E-03	1.3817E+22	3.4225E+21
Rb-86	1.7229E+03	2.1174E-05	1.4827E+20	4.4810E+17
Sr-89	7.2212E+04	2.4856E-03	1.6819E+22	1.3825E+19
Sr-90	9.9774E+03	7.3144E-02	4.8943E+23	1.9094E+18
Sr-91	7.7828E+04	2.1470E-05	1.4208E+20	1.5716E+19
Sr-92	5.8225E+04	4.6323E-06	3.0322E+19	1.3507E+19
Y-90	1.1338E+02	2.0840E-07	1.3944E+18	2.0940E+16
Y-91	9.2802E+02	3.7841E-05	2.5042E+20	1.7753E+17
Y-92	2.0811E+03	2.1628E-07	1.4157E+18	3.4679E+17
Y-93	9.6982E+02	2.9069E-07	1.8823E+18	1.9521E+17



Zr-95	1.2262E+03	5.7076E-05	3.6181E+20	2.3474E+17
Zr-97	1.1223E+03	5.8707E-07	3.6447E+18	2.2133E+17
Nb-95	1.2360E+03	3.1609E-05	2.0037E+20	2.3655E+17
Mo-99	1.6642E+04	3.4698E-05	2.1107E+20	3.2094E+18
Tc-99m	1.4885E+04	2.8308E-06	1.7220E+19	2.8454E+18
Ru-103	1.4325E+04	4.4384E-04	2.5950E+21	2.7429E+18
Ru-105	7.4950E+03	1.1150E-06	6.3949E+18	1.6108E+18
Ru-106	6.2898E+03	1.8800E-03	1.0681E+22	1.2038E+18
Rh-105	9.6227E+03	1.1401E-05	6.5386E+19	1.8452E+18
Sb-127	1.9503E+04	7.3030E-05	3.4630E+20	3.7529E+18
Sb-129	4.2592E+04	7.5741E-06	3.5358E+19	9.1839E+18
Te-127	1.9554E+04	7.4094E-06	3.5134E+19	3.7471E+18
Te-127m	2.6493E+03	2.8086E-04	1.3318E+21	5.0698E+17
Te-129	4.7891E+04	2.2868E-06	1.0676E+19	9.8475E+18
Te-129m	8.5917E+03	2.8520E-04	1.3314E+21	1.6440E+18
Te-131m	2.5076E+04	3.1447E-05	1.4456E+20	4.8807E+18
Te-132	2.5153E+05	8.2850E-04	3.7798E+21	4.8449E+19
I-131	9.1931E+05	7.4153E-03	3.4089E+22	2.2415E+20
I-132	1.2944E+06	1.2540E-04	5.7211E+20	3.1679E+20
I-133	1.7738E+06	1.5658E-03	7.0898E+21	4.4508E+20
I-134	4.2974E+05	1.6109E-05	7.2397E+19	2.4436E+20
I-135	1.4360E+06	4.0889E-04	1.8240E+21	3.8620E+20
Xe-133	1.0777E+08	5.7577E-01	2.6070E+24	1.2593E+22
Xe-135	4.5742E+07	1.7912E-02	7.9902E+22	5.3523E+21
Cs-134	2.1357E+05	1.6507E-01	7.4185E+23	5.5464E+19
Cs-136	5.1978E+04	7.0920E-04	3.1404E+21	1.3528E+19
Cs-137	1.3561E+05	1.5591E+00	6.8533E+24	3.5216E+19
Ba-139	4.8434E+04	2.9611E-06	1.2829E+19	1.3683E+19
Ba-140	1.2742E+05	1.7405E-03	7.4868E+21	2.4426E+19
La-140	1.5974E+03	2.8740E-06	1.2363E+19	2.9053E+17
La-141	8.4994E+02	1.5029E-07	6.4188E+17	1.8550E+17
La-142	4.7412E+02	3.3120E-08	1.4046E+17	1.2825E+17
Ce-141	3.0226E+03	1.0608E-04	4.5307E+20	5.7855E+17
Ce-143	2.7090E+03	4.0793E-06	1.7179E+19	5.2646E+17
Ce-144	2.5158E+03	7.8878E-04	3.2987E+21	4.8151E+17
Pr-143	1.0951E+03	1.6262E-05	6.8485E+19	2.0954E+17
Nd-147	4.8049E+02	5.9395E-06	2.4332E+19	9.2132E+16
Np-239	3.5102E+04	1.5131E-04	3.8126E+20	6.7782E+18
Pu-238	1.4013E+01	8.1854E-04	2.0712E+21	2.6818E+15
Pu-239	8.3035E-01	1.3359E-02	3.3661E+22	1.5889E+14
Pu-240	8.3678E-01	3.6722E-03	9.2144E+21	1.6014E+14
Pu-241	4.9880E+02	4.8421E-03	1.2100E+22	9.5459E+16
Am-241	3.5316E-01	1.0290E-04	2.5712E+20	6.7582E+13
Cm-242	6.9367E+01	2.0930E-05	5.2083E+19	1.3277E+16
Cm-244	8.9176E+00	1.1023E-04	2.7205E+20	1.7066E+15

## Sprayed Drywell Transport Group Inventory:

Time (h) =	2.0000	Atmosphere	Sump	
Noble gases (atoms)	1.9692E+25	0.0000E+00		
Elemental I (atoms)	2.0641E+21	5.3236E+22		
Organic I (atoms)	1.1513E+21	0.0000E+00		
Aerosols (kg)	1.8392E+00	4.8224E+01		
Dose Effective (Ci/cc)	I-131 (Thyroid)		4.6997E-04	
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		5.8246E-04	
Total I (Ci)			5.8532E+06	

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
2.0000		
Noble gases (atoms)	0.0000E+00	6.3256E+21
Elemental I (atoms)	0.0000E+00	1.4237E+18
Organic I (atoms)	0.0000E+00	4.2642E+17
Aerosols (kg)	0.0000E+00	1.2996E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
2.0000		
Noble gases (atoms)	0.0000E+00	6.3256E+21
Elemental I (atoms)	0.0000E+00	1.4237E+18
Organic I (atoms)	0.0000E+00	4.2642E+17
Aerosols (kg)	0.0000E+00	1.2996E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
2.0000		
Noble gases (atoms)	0.0000E+00	3.1575E+21
Elemental I (atoms)	0.0000E+00	7.1064E+17
Organic I (atoms)	0.0000E+00	2.1285E+17
Aerosols (kg)	0.0000E+00	6.4870E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
2.0000		
Noble gases (atoms)	0.0000E+00	2.2328E+25
Elemental I (atoms)	0.0000E+00	5.0387E+21
Organic I (atoms)	0.0000E+00	1.5054E+21
Aerosols (kg)	0.0000E+00	4.6010E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
2.0000		
Noble gases (atoms)	0.0000E+00	1.2913E+25
Elemental I (atoms)	0.0000E+00	3.6877E+21
Organic I (atoms)	0.0000E+00	9.2401E+20
Aerosols (kg)	0.0000E+00	3.4220E+00

Exclusion Area Boundary Doses:

Time (h) =	Whole Body	Thyroid	TEDE
2.2000			
Delta dose (rem)	5.5802E-01	4.8314E+00	7.9727E-01
Accumulated dose (rem)	3.4057E+00	4.3955E+01	5.5144E+00

Low Population Zone Doses:

Time (h) =	Whole Body	Thyroid	TEDE
2.2000			
Delta dose (rem)	1.6987E-02	1.4707E-01	2.4270E-02
Accumulated dose (rem)	2.3475E-01	3.1389E+00	3.8499E-01

Control Room Doses:

Time (h) =	2.2000	Whole Body	Thyroid	TEDE
Delta dose (rem)		1.0734E-02	7.6638E-01	4.6239E-02
Accumulated dose (rem)		3.7599E-02	6.2885E+00	3.1049E-01

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =	Ci	kg	Atoms	Decay
Co-58	5.1072E+00	1.6061E-07	1.6677E+18	9.9746E+15
Co-60	6.1179E+00	5.4122E-06	5.4322E+19	1.1944E+16
Kr-85	8.8921E+05	2.2665E+00	1.6058E+25	1.3367E+20
Kr-85m	1.0195E+07	1.2388E-03	8.7766E+21	1.7016E+21
Kr-87	8.3513E+06	2.9483E-04	2.0408E+21	1.8586E+21
Kr-88	2.2802E+07	1.8185E-03	1.2444E+22	4.0526E+21
Rb-86	1.7700E+02	2.1753E-06	1.5233E+19	4.5633E+17
Sr-89	7.2523E+03	2.4963E-04	1.6891E+21	1.4166E+19
Sr-90	1.0022E+03	7.3468E-03	4.9160E+22	1.9565E+18
Sr-91	7.7040E+03	2.1252E-06	1.4064E+19	1.6081E+19
Sr-92	5.5566E+03	4.4208E-07	2.8937E+18	1.3776E+19
Y-90	1.5909E+01	2.9241E-08	1.9566E+17	2.1552E+16
Y-91	9.3894E+01	3.8287E-06	2.5337E+19	1.8193E+17
Y-92	6.7159E+02	6.9795E-08	4.5686E+17	3.6465E+17
Y-93	9.6084E+01	2.8800E-08	1.8649E+17	1.9976E+17
Zr-95	1.2315E+02	5.7324E-06	3.6338E+19	2.4053E+17
Zr-97	1.1180E+02	5.8485E-08	3.6310E+17	2.2661E+17
Nb-95	1.2415E+02	3.1749E-06	2.0126E+19	2.4238E+17
Mo-99	1.6681E+03	3.4779E-06	2.1156E+19	3.2879E+18
Tc-99m	1.4947E+03	2.8426E-07	1.7291E+18	2.9153E+18
Ru-103	1.4386E+03	4.4575E-05	2.6062E+20	2.8105E+18
Ru-105	7.2968E+02	1.0855E-07	6.2258E+17	1.6458E+18
Ru-106	6.3176E+02	1.8883E-04	1.0728E+21	1.2335E+18
Rh-105	9.6566E+02	1.1441E-06	6.5617E+18	1.8905E+18
Sb-127	1.9560E+03	7.3244E-06	3.4731E+19	3.8449E+18
Sb-129	4.1430E+03	7.3674E-07	3.4393E+18	9.3825E+18
Te-127	1.9627E+03	7.4372E-07	3.5266E+18	3.8391E+18
Te-127m	2.6611E+02	2.8211E-05	1.3377E+20	5.1948E+17
Te-129	4.7096E+03	2.2489E-07	1.0498E+18	1.0066E+19
Te-129m	8.6299E+02	2.8647E-05	1.3373E+20	1.6846E+18
Te-131m	2.5071E+03	3.1440E-06	1.4453E+19	4.9988E+18
Te-132	2.5219E+04	8.3070E-05	3.7898E+20	4.9635E+19
I-131	1.1456E+05	9.2406E-04	4.2479E+21	2.2904E+20
I-132	1.4640E+05	1.4183E-05	6.4706E+19	3.2334E+20
I-133	2.1974E+05	1.9398E-04	8.7831E+20	4.5449E+20
I-134	4.5755E+04	1.7152E-06	7.7081E+18	2.4650E+20
I-135	1.7536E+05	4.9935E-05	2.2275E+20	3.9377E+20
Xe-133	1.0180E+08	5.4386E-01	2.4625E+24	1.5339E+22
Xe-135	4.2477E+07	1.6633E-02	7.4199E+22	6.5070E+21
Cs-134	2.1948E+04	1.6964E-02	7.6237E+22	5.6485E+19
Cs-136	5.3393E+03	7.2850E-05	3.2258E+20	1.3776E+19
Cs-137	1.3936E+04	1.6022E-01	7.0428E+23	3.5865E+19
Ba-139	4.3994E+03	2.6896E-07	1.1653E+18	1.3903E+19
Ba-140	1.2793E+04	1.7474E-04	7.5166E+20	2.5027E+19
La-140	2.5197E+02	4.5333E-07	1.9500E+18	2.9962E+17
La-141	8.2411E+01	1.4572E-08	6.2238E+16	1.8945E+17
La-142	4.3527E+01	3.0406E-09	1.2895E+16	1.3041E+17
Ce-141	3.0353E+02	1.0653E-05	4.5498E+19	5.9281E+17
Ce-143	2.7096E+02	4.0802E-07	1.7183E+18	5.3922E+17

Ce-144	2.5269E+02	7.9226E-05	3.3133E+20	4.9338E+17
Pr-143	1.1014E+02	1.6356E-06	6.8880E+18	2.1471E+17
Nd-147	4.8237E+01	5.9626E-07	2.4427E+18	9.4400E+16
Np-239	3.5172E+03	1.5161E-05	3.8201E+19	6.9438E+18
Pu-238	1.4075E+00	8.2217E-05	2.0803E+20	2.7479E+15
Pu-239	8.3406E-02	1.3419E-03	3.3811E+21	1.6281E+14
Pu-240	8.4049E-02	3.6885E-04	9.2553E+20	1.6409E+14
Pu-241	5.0101E+01	4.8636E-04	1.2153E+21	9.7814E+16
Am-241	3.5476E-02	1.0336E-05	2.5828E+19	6.9249E+13
Cm-242	6.9672E+00	2.1022E-06	5.2312E+18	1.3604E+16
Cm-244	8.9571E-01	1.1071E-05	2.7325E+19	1.7487E+15

## Sprayed Drywell Transport Group Inventory:

Time (h) =	2.2000	Atmosphere	Sump	
Noble gases (atoms)	1.8618E+25	0.0000E+00		
Elemental I (atoms)	2.1030E+20	5.5265E+22		
Organic I (atoms)	1.0918E+21	0.0000E+00		
Aerosols (kg)	1.8875E-01	5.0034E+01		
Dose Effective (Ci/cc)	I-131 (Thyroid)		5.8411E-05	
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		7.2094E-05	
Total I (Ci)			7.0182E+05	

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	7.1674E+21
Elemental I (atoms)	0.0000E+00	1.4535E+18
Organic I (atoms)	0.0000E+00	4.7577E+17
Aerosols (kg)	0.0000E+00	1.3262E-03

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	7.1674E+21
Elemental I (atoms)	0.0000E+00	1.4535E+18
Organic I (atoms)	0.0000E+00	4.7577E+17
Aerosols (kg)	0.0000E+00	1.3262E-03

## Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.5796E+21
Elemental I (atoms)	0.0000E+00	7.2559E+17
Organic I (atoms)	0.0000E+00	2.3760E+17
Aerosols (kg)	0.0000E+00	6.6204E-04

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.7393E+25
Elemental I (atoms)	0.0000E+00	5.2181E+21
Organic I (atoms)	0.0000E+00	1.8024E+21
Aerosols (kg)	0.0000E+00	4.7610E+00

## Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 2.2000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.6912E+25
Elemental I (atoms)	0.0000E+00	4.1678E+21
Organic I (atoms)	0.0000E+00	1.1653E+21
Aerosols (kg)	0.0000E+00	3.8528E+00

## Exclusion Area Boundary Doses:

Time (h) = 2.3000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.9370E-01	2.4158E+00	4.1284E-01
Accumulated dose (rem)	3.6994E+00	4.6371E+01	5.9272E+00

## Low Population Zone Doses:

Time (h) = 2.3000	Whole Body	Thyroid	TEDE
Delta dose (rem)	8.9406E-03	7.3539E-02	1.2567E-02
Accumulated dose (rem)	2.4369E-01	3.2125E+00	3.9756E-01

## Control Room Doses:

Time (h) = 2.3000	Whole Body	Thyroid	TEDE
Delta dose (rem)	5.5236E-03	3.7159E-01	2.2834E-02
Accumulated dose (rem)	4.3123E-02	6.6601E+00	3.3333E-01

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 2.3000	Ci	kg	Atoms	Decay
Co-58	3.1730E+00	9.9786E-08	1.0361E+18	1.0017E+16
Co-60	3.8011E+00	3.3626E-06	3.3750E+19	1.1995E+16
Kr-85	8.7392E+05	2.2275E+00	1.5781E+25	1.4531E+20
Kr-85m	9.8655E+06	1.1988E-03	8.4933E+21	1.8340E+21
Kr-87	7.7723E+06	2.7439E-04	1.8993E+21	1.9650E+21
Kr-88	2.1870E+07	1.7441E-03	1.1935E+22	4.3474E+21
Rb-86	1.1095E+02	1.3635E-06	9.5482E+18	4.5781E+17
Sr-89	4.5056E+03	1.5509E-04	1.0494E+21	1.4226E+19
Sr-90	6.2264E+02	4.5646E-03	3.0543E+22	1.9648E+18
Sr-91	4.7517E+03	1.3108E-06	8.6747E+18	1.6144E+19
Sr-92	3.3652E+03	2.6773E-07	1.7525E+18	1.3822E+19
Y-90	1.1137E+01	2.0471E-08	1.3697E+17	2.1691E+16
Y-91	5.8524E+01	2.3864E-06	1.5793E+19	1.8270E+17
Y-92	5.3669E+02	5.5776E-08	3.6510E+17	3.7097E+17
Y-93	5.9289E+01	1.7771E-08	1.1507E+17	2.0055E+17
Zr-95	7.6509E+01	3.5614E-06	2.2576E+19	2.4154E+17
Zr-97	6.9180E+01	3.6188E-08	2.2467E+17	2.2753E+17
Nb-95	7.7135E+01	1.9726E-06	1.2504E+19	2.4341E+17
Mo-99	1.0353E+03	2.1586E-06	1.3130E+19	3.3017E+18
Tc-99m	9.2852E+02	1.7658E-07	1.0742E+18	2.9276E+18
Ru-103	8.9374E+02	2.7692E-05	1.6191E+20	2.8224E+18
Ru-105	4.4633E+02	6.6398E-08	3.8082E+17	1.6518E+18
Ru-106	3.9251E+02	1.1732E-04	6.6654E+20	1.2387E+18
Rh-105	5.9967E+02	7.1046E-07	4.0748E+18	1.8985E+18
Sb-127	1.2144E+03	4.5473E-06	2.1562E+19	3.8611E+18
Sb-129	2.5331E+03	4.5045E-07	2.1029E+18	9.4165E+18

Te-127	1.2190E+03	4.6191E-07	2.1903E+18	3.8553E+18
Te-127m	1.6533E+02	1.7528E-05	8.3115E+19	5.2168E+17
Te-129	2.8947E+03	1.3822E-07	6.4527E+17	1.0104E+19
Te-129m	5.3618E+02	1.7798E-05	8.3088E+19	1.6917E+18
Te-131m	1.5541E+03	1.9489E-06	8.9591E+18	5.0195E+18
Te-132	1.5655E+04	5.1566E-05	2.3526E+20	4.9844E+19
I-131	7.9948E+04	6.4487E-04	2.9645E+21	2.3011E+20
I-132	9.7785E+04	9.4733E-06	4.3220E+19	3.2465E+20
I-133	1.5290E+05	1.3497E-04	6.1114E+20	4.5653E+20
I-134	2.9515E+04	1.1064E-06	4.9722E+18	2.4691E+20
I-135	1.2115E+05	3.4498E-05	1.5389E+20	3.9539E+20
Xe-133	9.9990E+07	5.3419E-01	2.4188E+24	1.6671E+22
Xe-135	4.1390E+07	1.6208E-02	7.2301E+22	7.0604E+21
Cs-134	1.3760E+04	1.0635E-02	4.7794E+22	5.6668E+19
Cs-136	3.3465E+03	4.5661E-05	2.0219E+20	1.3821E+19
Cs-137	8.7369E+03	1.0045E-01	4.4153E+23	3.5981E+19
Ba-139	2.5993E+03	1.5891E-07	6.8847E+17	1.3939E+19
Ba-140	7.9464E+03	1.0854E-04	4.6690E+20	2.5133E+19
La-140	1.8188E+02	3.2723E-07	1.4076E+18	3.0186E+17
La-141	5.0307E+01	8.8955E-09	3.7993E+16	1.9013E+17
La-142	2.5854E+01	1.8061E-09	7.6595E+15	1.3077E+17
Ce-141	1.8857E+02	6.6179E-06	2.8265E+19	5.9532E+17
Ce-143	1.6799E+02	2.5297E-07	1.0653E+18	5.4146E+17
Ce-144	1.5700E+02	4.9223E-05	2.0585E+20	4.9547E+17
Pr-143	6.8471E+01	1.0168E-06	4.2821E+18	2.1562E+17
Nd-147	2.9962E+01	3.7036E-07	1.5173E+18	9.4799E+16
Np-239	2.1825E+03	9.4079E-06	2.3705E+19	6.9729E+18
Pu-238	8.7450E-01	5.1081E-05	1.2925E+20	2.7596E+15
Pu-239	5.1821E-02	8.3372E-04	2.1007E+21	1.6350E+14
Pu-240	5.2220E-02	2.2917E-04	5.7503E+20	1.6479E+14
Pu-241	3.1128E+01	3.0217E-04	7.5508E+20	9.8228E+16
Am-241	2.2042E-02	6.4222E-06	1.6048E+19	6.9542E+13
Cm-242	4.3287E+00	1.3061E-06	3.2501E+18	1.3662E+16
Cm-244	5.5650E-01	6.8787E-06	1.6977E+19	1.7561E+15

## Sprayed Drywell Transport Group Inventory:

Time (h) =	2.3000	Atmosphere	Sump	
Noble gases (atoms)	1.8295E+25	0.0000E+00		
Elemental I (atoms)	1.3136E+20	5.5506E+22		
Organic I (atoms)	1.0734E+21	0.0000E+00		
Aerosols (kg)	1.1827E-01	5.0251E+01		
Dose Effective (Ci/cc)	I-131 (Thyroid)		4.0711E-05	
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		5.0156E-05	
Total I (Ci)			4.8130E+05	

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	7.5741E+21
Elemental I (atoms)	0.0000E+00	1.4570E+18
Organic I (atoms)	0.0000E+00	4.9964E+17
Aerosols (kg)	0.0000E+00	1.3294E-03

## Drywell to Intact Control Volume 2 Transport Group Inventory:

Pathway

Time (h) =	2.3000	Filtered	Transported
Noble gases (atoms)	0.0000E+00		7.5741E+21
Elemental I (atoms)	0.0000E+00		1.4570E+18
Organic I (atoms)	0.0000E+00		4.9964E+17
Aerosols (kg)	0.0000E+00		1.3294E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

		Pathway	
Time (h) =	2.3000	Filtered	Transported
Noble gases (atoms)	0.0000E+00		3.7835E+21
Elemental I (atoms)	0.0000E+00		7.2737E+17
Organic I (atoms)	0.0000E+00		2.4957E+17
Aerosols (kg)	0.0000E+00		6.6364E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

		Pathway	
Time (h) =	2.3000	Filtered	Transported
Noble gases (atoms)	0.0000E+00		2.9840E+25
Elemental I (atoms)	0.0000E+00		5.2394E+21
Organic I (atoms)	0.0000E+00		1.9460E+21
Aerosols (kg)	0.0000E+00		4.7802E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

		Pathway	
Time (h) =	2.3000	Filtered	Transported
Noble gases (atoms)	0.0000E+00		1.9040E+25
Elemental I (atoms)	0.0000E+00		4.3557E+21
Organic I (atoms)	0.0000E+00		1.2924E+21
Aerosols (kg)	0.0000E+00		4.0219E+00

Exclusion Area Boundary Doses:

Time (h) =	4.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	5.7431E+00		3.8689E+01	7.6009E+00
Accumulated dose (rem)	9.4425E+00		8.5060E+01	1.3528E+01

Low Population Zone Doses:

Time (h) =	4.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.7483E-01		1.1777E+00	2.3138E-01
Accumulated dose (rem)	4.1852E-01		4.3902E+00	6.2894E-01

Control Room Doses:

Time (h) =	4.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.1315E-01		5.4791E+00	3.7257E-01
Accumulated dose (rem)	1.5628E-01		1.2139E+01	7.0589E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =	4.0000	Ci	kg	Atoms	Decay
Co-58		3.8633E+00	1.2150E-07	1.2615E+18	1.1427E+16
Co-60		4.6312E+00	4.0970E-06	4.1121E+19	1.3684E+16
Kr-85		8.3493E+05	2.1281E+00	1.5077E+25	3.3569E+20

Kr-85m	7.2454E+06	8.8041E-04	6.2376E+21	3.7249E+21
Kr-87	2.9397E+06	1.0378E-04	7.1837E+20	3.0713E+21
Kr-88	1.3798E+07	1.1004E-03	7.5304E+21	8.2507E+21
Rb-86	1.3532E+02	1.6631E-06	1.1646E+19	5.0724E+17
Sr-89	5.4844E+03	1.8878E-04	1.2774E+21	1.6228E+19
Sr-90	7.5864E+02	5.5616E-03	3.7214E+22	2.2416E+18
Sr-91	5.1142E+03	1.4108E-06	9.3364E+18	1.8143E+19
Sr-92	2.6544E+03	2.1118E-07	1.3823E+18	1.5061E+19
Y-90	2.7461E+01	5.0473E-08	3.3773E+17	2.8823E+16
Y-91	7.3212E+01	2.9853E-06	1.9756E+19	2.0902E+17
Y-92	1.4300E+03	1.4861E-07	9.7280E+17	7.5299E+17
Y-93	6.4284E+01	1.9268E-08	1.2477E+17	2.2558E+17
Zr-95	9.3149E+01	4.3359E-06	2.7486E+19	2.7554E+17
Zr-97	7.8613E+01	4.1123E-08	2.5531E+17	2.5734E+17
Nb-95	9.3980E+01	2.4034E-06	1.5235E+19	2.7769E+17
Mo-99	1.2391E+03	2.5835E-06	1.5715E+19	3.7582E+18
Tc-99m	1.1269E+03	2.1430E-07	1.3036E+18	3.3373E+18
Ru-103	1.0876E+03	3.3699E-05	1.9703E+20	3.2194E+18
Ru-105	4.1706E+02	6.2043E-08	3.5584E+17	1.8284E+18
Ru-106	4.7818E+02	1.4293E-04	8.1201E+20	1.4132E+18
Rh-105	7.2236E+02	8.5582E-07	4.9085E+18	2.1637E+18
Sb-127	1.4608E+03	5.4703E-06	2.5939E+19	4.3978E+18
Sb-129	2.3495E+03	4.1781E-07	1.9505E+18	1.0416E+19
Te-127	1.4761E+03	5.5934E-07	2.6523E+18	4.3937E+18
Te-127m	2.0147E+02	2.1359E-05	1.0128E+20	5.9517E+17
Te-129	2.8922E+03	1.3810E-07	6.4472E+17	1.1257E+19
Te-129m	6.5320E+02	2.1683E-05	1.0122E+20	1.9300E+18
Te-131m	1.8206E+03	2.2831E-06	1.0496E+19	5.6983E+18
Te-132	1.8789E+04	6.1889E-05	2.8235E+20	5.6756E+19
I-131	1.0030E+05	8.0904E-04	3.7192E+21	2.6178E+20
I-132	8.2163E+04	7.9599E-06	3.6315E+19	3.5665E+20
I-133	1.8235E+05	1.6097E-04	7.2887E+20	5.1571E+20
I-134	9.7141E+03	3.6414E-07	1.6365E+18	2.5364E+20
I-135	1.2794E+05	3.6432E-05	1.6252E+20	4.3976E+20
Xe-133	9.4631E+07	5.0555E-01	2.2891E+24	3.8351E+22
Xe-135	3.4673E+07	1.3577E-02	6.0566E+22	1.5505E+22
Cs-134	1.6826E+04	1.3005E-02	5.8444E+22	6.2805E+19
Cs-136	4.0772E+03	5.5631E-05	2.4634E+20	1.5311E+19
Cs-137	1.0684E+04	1.2284E-01	5.3995E+23	3.9878E+19
Ba-139	1.3470E+03	8.2350E-08	3.5678E+17	1.4747E+19
Ba-140	9.6447E+03	1.3174E-04	5.6670E+20	2.8659E+19
La-140	4.9992E+02	8.9942E-07	3.8689E+18	4.2652E+17
La-141	4.5416E+01	8.0306E-09	3.4299E+16	2.0974E+17
La-142	1.4668E+01	1.0247E-09	4.3456E+15	1.3910E+17
Ce-141	2.2948E+02	8.0539E-06	3.4398E+19	6.7909E+17
Ce-143	1.9751E+02	2.9741E-07	1.2525E+18	6.1495E+17
Ce-144	1.9125E+02	5.9964E-05	2.5077E+20	5.6525E+17
Pr-143	8.3861E+01	1.2454E-06	5.2446E+18	2.4612E+17
Nd-147	3.6343E+01	4.4924E-07	1.8404E+18	1.0809E+17
Np-239	2.6044E+03	1.1226E-05	2.8287E+19	7.9340E+18
Pu-238	1.0655E+00	6.2239E-05	1.5748E+20	3.1483E+15
Pu-239	6.3154E-02	1.0161E-03	2.5602E+21	1.8654E+14
Pu-240	6.3625E-02	2.7922E-04	7.0063E+20	1.8800E+14
Pu-241	3.7926E+01	3.6817E-04	9.1999E+20	1.1206E+17
Am-241	2.6868E-02	7.8284E-06	1.9562E+19	7.9342E+13
Cm-242	5.2725E+00	1.5909E-06	3.9588E+18	1.5586E+16
Cm-244	6.7805E-01	8.3811E-06	2.0685E+19	2.0035E+15



## Sprayed Drywell Transport Group Inventory:

Time (h) =	4.0000	Atmosphere	Sump
Noble gases (atoms)	1.7442E+25	0.0000E+00	
Elemental I (atoms)	5.7758E+20	5.5506E+22	
Organic I (atoms)	1.0052E+21	0.0000E+00	
Aerosols (kg)	1.4458E-01	5.0845E+01	
Dose Effective (Ci/cc)	I-131 (Thyroid)		5.0131E-05
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		6.0523E-05
Total I (Ci)			5.0247E+05

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.4171E+22
Elemental I (atoms)	0.0000E+00	1.6465E+18
Organic I (atoms)	0.0000E+00	8.8408E+17
Aerosols (kg)	0.0000E+00	1.4166E-03

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.4171E+22
Elemental I (atoms)	0.0000E+00	1.6465E+18
Organic I (atoms)	0.0000E+00	8.8408E+17
Aerosols (kg)	0.0000E+00	1.4166E-03

## Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	7.0914E+21
Elemental I (atoms)	0.0000E+00	8.2239E+17
Organic I (atoms)	0.0000E+00	4.4234E+17
Aerosols (kg)	0.0000E+00	7.0739E-04

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	6.9535E+25
Elemental I (atoms)	0.0000E+00	6.3797E+21
Organic I (atoms)	0.0000E+00	4.2593E+21
Aerosols (kg)	0.0000E+00	5.3052E+00

## Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.7935E+25
Elemental I (atoms)	0.0000E+00	5.9554E+21
Organic I (atoms)	0.0000E+00	3.5644E+21
Aerosols (kg)	0.0000E+00	5.1667E+00

## Exclusion Area Boundary Doses:

Time (h) =	8.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.2225E+01	7.1435E+01	1.5338E+01	
Accumulated dose (rem)	2.1668E+01	1.5649E+02	2.8866E+01	

## Low Population Zone Doses:

Time (h) =	8.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.7214E-01	2.1746E+00	4.6691E-01	
Accumulated dose (rem)	7.9066E-01	6.5647E+00	1.0958E+00	

## Control Room Doses:

Time (h) =	8.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.0647E-01	9.3240E+00	7.3177E-01	
Accumulated dose (rem)	4.6275E-01	2.1463E+01	1.4377E+00	

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =	8.0000	Ci	kg	Atoms	Decay
Co-58		4.7503E+00	1.4939E-07	1.5511E+18	1.3931E+16
Co-60		5.7033E+00	5.0455E-06	5.0641E+19	1.6689E+16
Kr-85		8.3370E+05	2.1250E+00	1.5055E+25	7.8018E+20
Kr-85m		3.8962E+06	4.7344E-04	3.3542E+21	6.6011E+21
Kr-87		3.3172E+05	1.1711E-05	8.1062E+19	3.7081E+21
Kr-88		5.1902E+06	4.1392E-04	2.8326E+21	1.2941E+22
Rb-86		1.6563E+02	2.0356E-06	1.4255E+19	5.9476E+17
Sr-89		6.7391E+03	2.3197E-04	1.5696E+21	1.9782E+19
Sr-90		9.3432E+02	6.8495E-03	4.5832E+22	2.7337E+18
Sr-91		4.7043E+03	1.2977E-06	8.5881E+18	2.1017E+19
Sr-92		1.1752E+03	9.3496E-08	6.1200E+17	1.6133E+19
Y-90		7.2020E+01	1.3237E-07	8.8575E+17	5.6607E+16
Y-91		9.4514E+01	3.8540E-06	2.5505E+19	2.5771E+17
Y-92		1.8552E+03	1.9280E-07	1.2621E+18	1.7686E+18
Y-93		6.0166E+01	1.8034E-08	1.1677E+17	2.6199E+17
Zr-95		1.1451E+02	5.3305E-06	3.3790E+19	3.3591E+17
Zr-97		8.2170E+01	4.2983E-08	2.6686E+17	3.0434E+17
Nb-95		1.1574E+02	2.9598E-06	1.8762E+19	3.3866E+17
Mo-99		1.4633E+03	3.0509E-06	1.8559E+19	4.5452E+18
Tc-99m		1.3630E+03	2.5921E-07	1.5768E+18	4.0584E+18
Ru-103		1.3355E+03	4.1381E-05	2.4194E+20	3.9239E+18
Ru-105		2.7508E+02	4.0922E-08	2.3471E+17	2.0289E+18
Ru-106		5.8873E+02	1.7597E-04	9.9975E+20	1.7233E+18
Rh-105		8.5128E+02	1.0086E-06	5.7845E+18	2.6226E+18
Sb-127		1.7460E+03	6.5380E-06	3.1002E+19	5.3313E+18
Sb-129		1.5231E+03	2.7084E-07	1.2644E+18	1.1537E+19
Te-127		1.7882E+03	6.7758E-07	3.2130E+18	5.3403E+18
Te-127m		2.4821E+02	2.6314E-05	1.2478E+20	7.2590E+17
Te-129		2.1795E+03	1.0407E-07	4.8584E+17	1.2700E+19
Te-129m		8.0333E+02	2.6666E-05	1.2449E+20	2.3535E+18
Te-131m		2.0442E+03	2.5636E-06	1.1785E+19	6.8259E+18
Te-132		2.2334E+04	7.3567E-05	3.3563E+20	6.8729E+19
I-131		1.1398E+05	9.1939E-04	4.2265E+21	3.2246E+20
I-132		4.4519E+04	4.3129E-06	1.9677E+19	3.9062E+20
I-133		1.8395E+05	1.6238E-04	7.3525E+20	6.1968E+20
I-134		4.7376E+02	1.7759E-08	7.9813E+16	2.5540E+20
I-135		9.6945E+04	2.7605E-05	1.2314E+20	5.0333E+20

Xe-133	9.2436E+07	4.9383E-01	2.2360E+24	8.8179E+22
Xe-135	2.5546E+07	1.0004E-02	4.4625E+22	3.1422E+22
Cs-134	2.0719E+04	1.6014E-02	7.1968E+22	7.3720E+19
Cs-136	4.9774E+03	6.7913E-05	3.0072E+20	1.7944E+19
Cs-137	1.3159E+04	1.5128E-01	6.6499E+23	4.6810E+19
Ba-139	2.2194E+02	1.3568E-08	5.8784E+16	1.5119E+19
Ba-140	1.1771E+04	1.6079E-04	6.9164E+20	3.4887E+19
La-140	1.3621E+03	2.4505E-06	1.0541E+19	9.4663E+17
La-141	2.7624E+01	4.8845E-09	2.0862E+16	2.3080E+17
La-142	2.9909E+00	2.0893E-10	8.8606E+14	1.4347E+17
Ce-141	2.8177E+02	9.8889E-06	4.2236E+19	8.2774E+17
Ce-143	2.2364E+02	3.3677E-07	1.4182E+18	7.3780E+17
Ce-144	2.3545E+02	7.3821E-05	3.0872E+20	6.8930E+17
Pr-143	1.0439E+02	1.5502E-06	6.5281E+18	3.0082E+17
Nd-147	4.4291E+01	5.4749E-07	2.2429E+18	1.3154E+17
Np-239	3.0540E+03	1.3164E-05	3.3170E+19	9.5824E+18
Pu-238	1.3123E+00	7.6654E-05	1.9396E+20	3.8395E+15
Pu-239	7.7821E-02	1.2520E-03	3.1547E+21	2.2752E+14
Pu-240	7.8360E-02	3.4389E-04	8.6289E+20	2.2927E+14
Pu-241	4.6709E+01	4.5343E-04	1.1330E+21	1.3667E+17
Am-241	3.3125E-02	9.6513E-06	2.4117E+19	9.6781E+13
Cm-242	6.4890E+00	1.9579E-06	4.8722E+18	1.9005E+16
Cm-244	8.3506E-01	1.0322E-05	2.5475E+19	2.4434E+15

## Sprayed Drywell Transport Group Inventory:

Time (h) =	8.0000	Atmosphere	Sump	
Noble gases (atoms)	1.7342E+25	0.0000E+00		
Elemental I (atoms)	5.5105E+20	5.5506E+22		
Organic I (atoms)	9.5631E+20	0.0000E+00		
Aerosols (kg)	1.7802E-01	5.0845E+01		
Dose Effective (Ci/cc)	I-131 (Thyroid)		5.4894E-05	
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		6.4246E-05	
Total I (Ci)			4.3987E+05	

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.9504E+22
Elemental I (atoms)	0.0000E+00	2.1444E+18
Organic I (atoms)	0.0000E+00	1.7483E+18
Aerosols (kg)	0.0000E+00	1.5715E-03

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.9504E+22
Elemental I (atoms)	0.0000E+00	2.1444E+18
Organic I (atoms)	0.0000E+00	1.7483E+18
Aerosols (kg)	0.0000E+00	1.5715E-03

## Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.4780E+22

Elemental I (atoms)	0.0000E+00	1.0720E+18
Organic I (atoms)	0.0000E+00	8.7567E+17
Aerosols (kg)	0.0000E+00	7.8503E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 8.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.6180E+26
Elemental I (atoms)	0.0000E+00	9.3754E+21
Organic I (atoms)	0.0000E+00	9.4593E+21
Aerosols (kg)	0.0000E+00	6.2369E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 8.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.5021E+26
Elemental I (atoms)	0.0000E+00	8.9533E+21
Organic I (atoms)	0.0000E+00	8.7651E+21
Aerosols (kg)	0.0000E+00	6.1323E+00

Exclusion Area Boundary Doses:

Time (h) = 24.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.9939E+01	2.0706E+02	2.7865E+01
Accumulated dose (rem)	4.1606E+01	3.6356E+02	5.6731E+01

Low Population Zone Doses:

Time (h) = 24.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.8411E-01	2.0515E+00	4.6265E-01
Accumulated dose (rem)	1.1748E+00	8.6162E+00	1.5585E+00

Control Room Doses:

Time (h) = 24.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.0221E-01	1.2006E+01	7.7566E-01
Accumulated dose (rem)	7.6497E-01	3.3469E+01	2.2133E+00

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 24.0000	Ci	kg	Atoms	Decay
Co-58	4.6944E+00	1.4763E-07	1.5329E+18	2.3994E+16
Co-60	5.6718E+00	5.0176E-06	5.0361E+19	2.8809E+16
Kr-85	8.2923E+05	2.1136E+00	1.4974E+25	2.5520E+21
Kr-85m	3.2601E+05	3.9614E-05	2.8066E+20	9.6679E+21
Kr-87	5.3818E+01	1.9000E-09	1.3152E+16	3.7891E+21
Kr-88	1.0398E+05	8.2922E-06	5.6746E+19	1.5713E+22
Rb-86	1.6073E+02	1.9753E-06	1.3832E+19	9.4246E+17
Sr-89	6.6424E+03	2.2864E-04	1.5471E+21	3.4039E+19
Sr-90	9.2933E+02	6.8130E-03	4.5587E+22	4.7194E+18
Sr-91	1.4561E+03	4.0169E-07	2.6582E+18	2.6919E+19
Sr-92	1.9521E+01	1.5531E-09	1.0166E+16	1.6734E+19
Y-90	2.0870E+02	3.8360E-07	2.5667E+18	3.5220E+17
Y-91	1.0239E+02	4.1752E-06	2.7630E+19	4.6901E+17
Y-92	1.8990E+02	1.9735E-08	1.2918E+17	3.4994E+18

Y-93	1.9960E+01	5.9827E-09	3.8741E+16	3.3964E+17
Zr-95	1.1309E+02	5.2641E-06	3.3370E+19	5.7842E+17
Zr-97	4.2404E+01	2.2182E-08	1.3771E+17	4.3243E+17
Nb-95	1.1509E+02	2.9432E-06	1.8657E+19	5.8452E+17
Mo-99	1.2304E+03	2.5654E-06	1.5605E+19	7.4081E+18
Tc-99m	1.2320E+03	2.3429E-07	1.4252E+18	6.7213E+18
Ru-103	1.3129E+03	4.0681E-05	2.3785E+20	6.7457E+18
Ru-105	2.2509E+01	3.3486E-09	1.9206E+16	2.2439E+18
Ru-106	5.8489E+02	1.7482E-04	9.9322E+20	2.9738E+18
Rh-105	6.4442E+02	7.6348E-07	4.3789E+18	4.2161E+18
Sb-127	1.5403E+03	5.7678E-06	2.7350E+19	8.8281E+18
Sb-129	1.1628E+02	2.0677E-08	9.6527E+16	1.2702E+19
Te-127	1.6663E+03	6.3138E-07	2.9939E+18	8.9275E+18
Te-127m	2.4710E+02	2.6196E-05	1.2422E+20	1.2536E+18
Te-129	8.4628E+02	4.0410E-08	1.8865E+17	1.4996E+19
Te-129m	7.8980E+02	2.6217E-05	1.2239E+20	4.0515E+18
Te-131m	1.4050E+03	1.7620E-06	8.0999E+18	1.0459E+19
Te-132	1.9279E+04	6.3502E-05	2.8971E+20	1.1299E+20
I-131	1.0712E+05	8.6404E-04	3.9720E+21	5.5796E+20
I-132	2.3071E+04	2.2351E-06	1.0197E+19	4.4430E+20
I-133	1.0736E+05	9.4770E-05	4.2911E+20	9.2277E+20
I-134	1.5107E-03	5.6629E-14	2.5450E+11	2.5548E+20
I-135	1.8012E+04	5.1289E-06	2.2879E+19	6.0327E+20
Xe-133	8.4204E+07	4.4985E-01	2.0369E+24	2.7625E+23
Xe-135	7.5261E+06	2.9471E-03	1.3146E+22	6.2845E+22
Cs-134	2.0597E+04	1.5919E-02	7.1544E+22	1.1774E+20
Cs-136	4.7795E+03	6.5212E-05	2.8876E+20	2.8338E+19
Cs-137	1.3089E+04	1.5048E-01	6.6145E+23	7.4775E+19
Ba-139	7.0713E-02	4.3231E-12	1.8730E+13	1.5178E+19
Ba-140	1.1292E+04	1.5424E-04	6.6347E+20	5.9457E+19
La-140	3.8124E+03	6.8589E-06	2.9504E+19	6.4466E+18
La-141	1.6346E+00	2.8904E-10	1.2345E+15	2.5039E+17
La-142	2.2351E-03	1.5613E-13	6.6215E+11	1.4435E+17
Ce-141	2.7645E+02	9.7023E-06	4.1439E+19	1.4225E+18
Ce-143	1.5896E+02	2.3938E-07	1.0081E+18	1.1415E+18
Ce-144	2.3382E+02	7.3311E-05	3.0659E+20	1.1893E+18
Pr-143	1.0668E+02	1.5843E-06	6.6718E+18	5.2581E+17
Nd-147	4.2241E+01	5.2215E-07	2.1391E+18	2.2372E+17
Np-239	2.4966E+03	1.0762E-05	2.7116E+19	1.5476E+19
Pu-238	1.3054E+00	7.6253E-05	1.9294E+20	6.6286E+15
Pu-239	7.7554E-02	1.2477E-03	3.1439E+21	3.9307E+14
Pu-240	7.7946E-02	3.4207E-04	8.5833E+20	3.9581E+14
Pu-241	4.6457E+01	4.5099E-04	1.1269E+21	2.3593E+17
Am-241	3.3086E-02	9.6399E-06	2.4088E+19	1.6732E+14
Cm-242	6.4364E+00	1.9420E-06	4.8327E+18	3.2777E+16
Cm-244	8.3059E-01	1.0267E-05	2.5339E+19	4.2181E+15

## Sprayed Drywell Transport Group Inventory:

Time (h) =	24.0000	Atmosphere	Sump	
Noble gases (atoms)	1.7025E+25	0.0000E+00		
Elemental I (atoms)	4.7868E+20	5.5506E+22		
Organic I (atoms)	8.3071E+20	0.0000E+00		
Aerosols (kg)	1.7694E-01	5.0845E+01		
Dose Effective (Ci/cc)	I-131 (Thyroid)		4.6707E-05	
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		5.1354E-05	
Total I (Ci)			2.5556E+05	

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 24.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	9.0102E+22
Elemental I (atoms)	0.0000E+00	3.9535E+18
Organic I (atoms)	0.0000E+00	4.8878E+18
Aerosols (kg)	0.0000E+00	2.1974E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 24.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	9.0102E+22
Elemental I (atoms)	0.0000E+00	3.9535E+18
Organic I (atoms)	0.0000E+00	4.8878E+18
Aerosols (kg)	0.0000E+00	2.1974E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 24.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.5165E+22
Elemental I (atoms)	0.0000E+00	1.9792E+18
Organic I (atoms)	0.0000E+00	2.4499E+18
Aerosols (kg)	0.0000E+00	1.0989E-03

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 24.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.2642E+26
Elemental I (atoms)	0.0000E+00	2.0261E+22
Organic I (atoms)	0.0000E+00	2.8350E+22
Aerosols (kg)	0.0000E+00	1.0003E+01

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 24.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.1490E+26
Elemental I (atoms)	0.0000E+00	1.9841E+22
Organic I (atoms)	0.0000E+00	2.7659E+22
Aerosols (kg)	0.0000E+00	9.8992E+00

Exclusion Area Boundary Doses:

Time (h) = 48.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	5.6949E+00	1.2416E+02	1.0470E+01
Accumulated dose (rem)	4.7301E+01	4.8772E+02	6.7202E+01

Low Population Zone Doses:

Time (h) = 48.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	4.1707E-02	5.9754E-01	6.4689E-02
Accumulated dose (rem)	1.2165E+00	9.2138E+00	1.6232E+00

## Control Room Doses:

Time (h) = 48.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.4467E-02	2.7583E+00	1.4029E-01
Accumulated dose (rem)	7.9943E-01	3.6228E+01	2.3536E+00

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 48.0000	Ci	kg	Atoms	Decay
Co-58	4.6304E+00	1.4562E-07	1.5120E+18	3.8898E+16
Co-60	5.6474E+00	4.9960E-06	5.0144E+19	4.6900E+16
Kr-85	8.2581E+05	2.1049E+00	1.4913E+25	5.1972E+21
Kr-85m	7.9223E+03	9.6267E-07	6.8204E+18	9.9414E+21
Kr-87	1.1166E-04	3.9422E-15	2.7288E+10	3.7891E+21
Kr-88	2.9601E+02	2.3607E-08	1.6155E+17	1.5769E+22
Rb-86	1.5426E+02	1.8958E-06	1.3275E+19	1.4458E+18
Sr-89	6.5260E+03	2.2463E-04	1.5200E+21	5.5086E+19
Sr-90	9.2561E+02	6.7857E-03	4.5405E+22	7.6842E+18
Sr-91	2.5176E+02	6.9450E-08	4.5960E+17	2.9113E+19
Sr-92	4.1960E-02	3.3383E-12	2.1852E+13	1.6744E+19
Y-90	3.7332E+02	6.8617E-07	4.5913E+18	1.2782E+18
Y-91	1.0417E+02	4.2476E-06	2.8110E+19	8.0045E+17
Y-92	2.2090E+00	2.2957E-10	1.5027E+15	3.6371E+18
Y-93	3.8294E+00	1.1478E-09	7.4325E+15	3.7088E+17
Zr-95	1.1143E+02	5.1869E-06	3.2880E+19	9.3725E+17
Zr-97	1.5783E+01	8.2562E-09	5.1258E+16	5.1854E+17
Nb-95	1.1456E+02	2.9298E-06	1.8572E+19	9.5143E+17
Mo-99	9.5249E+02	1.9860E-06	1.2080E+19	1.0878E+19
Tc-99m	9.7468E+02	1.8536E-07	1.1276E+18	1.0067E+19
Ru-103	1.2849E+03	3.9812E-05	2.3277E+20	1.0898E+19
Ru-105	5.2901E-01	7.8698E-11	4.5136E+14	2.2627E+18
Ru-106	5.8148E+02	1.7381E-04	9.8744E+20	4.8380E+18
Rh-105	4.0295E+02	4.7739E-07	2.7380E+18	5.8617E+18
Sb-127	1.2815E+03	4.7985E-06	2.2754E+19	1.3325E+19
Sb-129	2.4625E+00	4.3791E-10	2.0443E+15	1.2796E+19
Te-127	1.4561E+03	5.5172E-07	2.6162E+18	1.3754E+19
Te-127m	2.4616E+02	2.6097E-05	1.2375E+20	2.0419E+18
Te-129	6.6995E+02	3.1990E-08	1.4934E+17	1.6729E+19
Te-129m	7.7075E+02	2.5585E-05	1.1944E+20	6.5457E+18
Te-131m	8.0379E+02	1.0080E-06	4.6338E+18	1.3900E+19
Te-132	1.5523E+04	5.1131E-05	2.3327E+20	1.6839E+20
I-131	9.7953E+04	7.9010E-04	3.6321E+21	8.8551E+20
I-132	1.8528E+04	1.7950E-06	8.1892E+18	5.0167E+20
I-133	4.8059E+04	4.2424E-05	1.9209E+20	1.1586E+21
I-135	1.4482E+03	4.1239E-07	1.8396E+18	6.2427E+20
Xe-133	7.3498E+07	3.9266E-01	1.7779E+24	5.2792E+23
Xe-135	1.2058E+06	4.7216E-04	2.1063E+21	7.3879E+22
Cs-134	2.0497E+04	1.5842E-02	7.1196E+22	1.8342E+20
Cs-136	4.5153E+03	6.1608E-05	2.7280E+20	4.3190E+19
Cs-137	1.3036E+04	1.4987E-01	6.5880E+23	1.1653E+20
Ba-139	4.0379E-07	2.4686E-17	1.0695E+08	1.5178E+19
Ba-140	1.0652E+04	1.4550E-04	6.2586E+20	9.4519E+19
La-140	6.2416E+03	1.1229E-05	4.8304E+19	2.2553E+19
La-141	2.3624E-02	4.1772E-12	1.7841E+13	2.5161E+17
La-142	4.5843E-08	3.2024E-18	1.3581E+07	1.4435E+17
Ce-141	2.6956E+02	9.4604E-06	4.0406E+19	2.2952E+18
Ce-143	9.5643E+01	1.4402E-07	6.0652E+17	1.5399E+18

Ce-144	2.3234E+02	7.2844E-05	3.0464E+20	1.9344E+18
Pr-143	1.0716E+02	1.5913E-06	6.7016E+18	8.6803E+17
Nd-147	3.9501E+01	4.8828E-07	2.0003E+18	3.5432E+17
Np-239	1.8527E+03	7.9861E-06	2.0123E+19	2.2377E+19
Pu-238	1.3004E+00	7.5958E-05	1.9220E+20	1.0793E+16
Pu-239	7.7419E-02	1.2455E-03	3.1384E+21	6.4076E+14
Pu-240	7.7639E-02	3.4072E-04	8.5494E+20	6.4448E+14
Pu-241	4.6268E+01	4.4915E-04	1.1223E+21	3.8414E+17
Am-241	3.3158E-02	9.6610E-06	2.4141E+19	2.7318E+14
Cm-242	6.3838E+00	1.9261E-06	4.7932E+18	5.3267E+16
Cm-244	8.2723E-01	1.0225E-05	2.5236E+19	6.8677E+15

## Sprayed Drywell Transport Group Inventory:

Time (h) = 48.0000	Atmosphere	Sump	
Noble gases (atoms)	1.6693E+25	0.0000E+00	
Elemental I (atoms)	4.1391E+20	5.5506E+22	
Organic I (atoms)	7.1832E+20	0.0000E+00	
Aerosols (kg)	1.7610E-01	5.0845E+01	
Dose Effective (Ci/cc) I-131 (Thyroid)			3.9442E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			4.1481E-05
Total I (Ci)			1.6599E+05

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 48.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.3482E+23
Elemental I (atoms)	0.0000E+00	5.1345E+18
Organic I (atoms)	0.0000E+00	6.9374E+18
Aerosols (kg)	0.0000E+00	2.6656E-03

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 48.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.3482E+23
Elemental I (atoms)	0.0000E+00	5.1345E+18
Organic I (atoms)	0.0000E+00	6.9374E+18
Aerosols (kg)	0.0000E+00	2.6656E-03

## Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 48.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	6.7399E+22
Elemental I (atoms)	0.0000E+00	2.5663E+18
Organic I (atoms)	0.0000E+00	3.4689E+18
Aerosols (kg)	0.0000E+00	1.3317E-03

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 48.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.0631E+27
Elemental I (atoms)	0.0000E+00	3.4433E+22
Organic I (atoms)	0.0000E+00	5.2945E+22
Aerosols (kg)	0.0000E+00	1.5622E+01



## Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 48.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.0516E+27
Elemental I (atoms)	0.0000E+00	3.4014E+22
Organic I (atoms)	0.0000E+00	5.2256E+22
Aerosols (kg)	0.0000E+00	1.5519E+01

## Exclusion Area Boundary Doses:

Time (h) = 72.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.8703E+00	9.8777E+01	7.8454E+00
Accumulated dose (rem)	5.1171E+01	5.8650E+02	7.5047E+01

## Low Population Zone Doses:

Time (h) = 72.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.8344E-02	4.7537E-01	4.7475E-02
Accumulated dose (rem)	1.2448E+00	9.6891E+00	1.6707E+00

## Control Room Doses:

Time (h) = 72.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.0110E-02	1.9313E+00	9.7728E-02
Accumulated dose (rem)	8.1954E-01	3.8159E+01	2.4513E+00

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 72.0000	Ci	kg	Atoms	Decay
Co-58	4.5670E+00	1.4363E-07	1.4913E+18	5.3597E+16
Co-60	5.6229E+00	4.9744E-06	4.9927E+19	6.4913E+16
Kr-85	8.2239E+05	2.0961E+00	1.4851E+25	7.8315E+21
Kr-85m	1.9251E+02	2.3393E-08	1.6574E+17	9.9480E+21
Kr-87	2.3168E-10	8.1791E-21	5.6616E+04	3.7891E+21
Kr-88	8.4268E-01	6.7204E-11	4.5990E+14	1.5769E+22
Rb-86	1.4804E+02	1.8194E-06	1.2740E+19	1.9289E+18
Sr-89	6.4115E+03	2.2069E-04	1.4933E+21	7.5763E+19
Sr-90	9.2187E+02	6.7582E-03	4.5221E+22	1.0637E+19
Sr-91	4.3527E+01	1.2007E-08	7.9462E+16	2.9492E+19
Sr-92	9.0191E-05	7.1754E-15	4.6969E+10	1.6744E+19
Y-90	4.9889E+02	9.1696E-07	6.1357E+18	2.6652E+18
Y-91	1.0312E+02	4.2047E-06	2.7826E+19	1.1320E+18
Y-92	2.1073E-02	2.1900E-12	1.4336E+13	3.6386E+18
Y-93	7.3466E-01	2.2020E-10	1.4259E+15	3.7687E+17
Zr-95	1.0979E+02	5.1106E-06	3.2396E+19	1.2908E+18
Zr-97	5.8745E+00	3.0729E-09	1.9078E+16	5.5059E+17
Nb-95	1.1401E+02	2.9157E-06	1.8483E+19	1.3166E+18
Mo-99	7.3734E+02	1.5374E-06	9.3517E+18	1.3564E+19
Tc-99m	7.5583E+02	1.4374E-07	8.7438E+17	1.2680E+19
Ru-103	1.2574E+03	3.8960E-05	2.2779E+20	1.4961E+19
Ru-105	1.2432E-02	1.8494E-12	1.0607E+13	2.2631E+18
Ru-106	5.7808E+02	1.7279E-04	9.8167E+20	6.6913E+18
Rh-105	2.5077E+02	2.9710E-07	1.7040E+18	6.8874E+18
Sb-127	1.0661E+03	3.9920E-06	1.8929E+19	1.7067E+19
Sb-129	5.2151E-02	9.2740E-12	4.3294E+13	1.2798E+19

Te-127	1.2571E+03	4.7633E-07	2.2587E+18	1.7939E+19
Te-127m	2.4496E+02	2.5970E-05	1.2315E+20	2.8269E+18
Te-129	6.5035E+02	3.1054E-08	1.4497E+17	1.8316E+19
Te-129m	7.5202E+02	2.4963E-05	1.1654E+20	8.9794E+18
Te-131m	4.5982E+02	5.7664E-07	2.6509E+18	1.5869E+19
Te-132	1.2498E+04	4.1169E-05	1.8782E+20	2.1301E+20
I-131	8.9544E+04	7.2228E-04	3.3203E+21	1.1850E+21
I-132	1.4918E+04	1.4453E-06	6.5936E+18	5.4785E+20
I-133	2.1513E+04	1.8991E-05	8.5989E+19	1.2642E+21
I-135	1.1644E+02	3.3157E-08	1.4791E+17	6.2596E+20
Xe-133	6.4147E+07	3.4270E-01	1.5517E+24	7.4757E+23
Xe-135	1.9291E+05	7.5540E-05	3.3697E+20	7.5645E+22
Cs-134	2.0397E+04	1.5765E-02	7.0848E+22	2.4878E+20
Cs-136	4.2656E+03	5.8200E-05	2.5771E+20	5.7220E+19
Cs-137	1.2984E+04	1.4927E-01	6.5614E+23	1.5812E+20
Ba-140	1.0048E+04	1.3724E-04	5.9036E+20	1.2759E+20
La-140	7.6309E+03	1.3729E-05	5.9055E+19	4.4660E+19
La-141	3.4140E-04	6.0368E-14	2.5783E+11	2.5162E+17
Ce-141	2.6282E+02	9.2240E-06	3.9396E+19	3.1460E+18
Ce-143	5.7543E+01	8.6651E-08	3.6491E+17	1.7796E+18
Ce-144	2.3085E+02	7.2378E-05	3.0269E+20	2.6746E+18
Pr-143	1.0514E+02	1.5613E-06	6.5752E+18	1.2076E+18
Nd-147	3.6937E+01	4.5658E-07	1.8705E+18	4.7644E+17
Np-239	1.3748E+03	5.9262E-06	1.4932E+19	2.7497E+19
Pu-238	1.2953E+00	7.5663E-05	1.9145E+20	1.4942E+16
Pu-239	7.7237E-02	1.2426E-03	3.1311E+21	8.8795E+14
Pu-240	7.7330E-02	3.3937E-04	8.5155E+20	8.9216E+14
Pu-241	4.6078E+01	4.4731E-04	1.1177E+21	5.3173E+17
Am-241	3.3229E-02	9.6815E-06	2.4192E+19	3.7928E+14
Cm-242	6.3314E+00	1.9103E-06	4.7538E+18	7.3589E+16
Cm-244	8.2385E-01	1.0183E-05	2.5133E+19	9.5066E+15

## Sprayed Drywell Transport Group Inventory:

Time (h) = 72.0000	Atmosphere	Sump	
Noble gases (atoms)	1.6403E+25	0.0000E+00	
Elemental I (atoms)	3.6845E+20	5.5506E+22	
Organic I (atoms)	6.3941E+20	0.0000E+00	
Aerosols (kg)	1.7529E-01	5.0845E+01	
Dose Effective (Ci/cc) I-131 (Thyroid)			3.4652E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			3.5628E-05
Total I (Ci)			1.2609E+05

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 72.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.7873E+23
Elemental I (atoms)	0.0000E+00	6.1718E+18
Organic I (atoms)	0.0000E+00	8.7376E+18
Aerosols (kg)	0.0000E+00	3.1317E-03

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 72.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.7873E+23
Elemental I (atoms)	0.0000E+00	6.1718E+18

Organic I (atoms)	0.0000E+00	8.7376E+18
Aerosols (kg)	0.0000E+00	3.1317E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 72.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	8.9224E+22
Elemental I (atoms)	0.0000E+00	3.0820E+18
Organic I (atoms)	0.0000E+00	4.3638E+18
Aerosols (kg)	0.0000E+00	1.5634E-03

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 72.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.5899E+27
Elemental I (atoms)	0.0000E+00	4.6881E+22
Organic I (atoms)	0.0000E+00	7.4548E+22
Aerosols (kg)	0.0000E+00	2.1215E+01

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 72.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.5785E+27
Elemental I (atoms)	0.0000E+00	4.6463E+22
Organic I (atoms)	0.0000E+00	7.3860E+22
Aerosols (kg)	0.0000E+00	2.1112E+01

Exclusion Area Boundary Doses:

Time (h) = 96.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.2092E+00	8.0708E+01	6.6198E+00
Accumulated dose (rem)	5.4380E+01	6.6720E+02	8.1667E+01

Low Population Zone Doses:

Time (h) = 96.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.3503E-02	3.8842E-01	3.9916E-02
Accumulated dose (rem)	1.2683E+00	1.0078E+01	1.7106E+00

Control Room Doses:

Time (h) = 96.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.6693E-02	1.5781E+00	8.3277E-02
Accumulated dose (rem)	8.3624E-01	3.9737E+01	2.5346E+00

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 96.0000	Ci	kg	Atoms	Decay
Co-58	4.5046E+00	1.4166E-07	1.4709E+18	6.8096E+16
Co-60	5.5986E+00	4.9528E-06	4.9711E+19	8.2848E+16
Kr-85	8.1897E+05	2.0874E+00	1.4789E+25	1.0455E+22
Kr-85m	4.6781E+00	5.6846E-10	4.0274E+15	9.9482E+21
Kr-88	2.3989E-03	1.9131E-13	1.3092E+12	1.5769E+22
Rb-86	1.4208E+02	1.7461E-06	1.2227E+19	2.3925E+18

Sr-89	6.2989E+03	2.1681E-04	1.4671E+21	9.6077E+19
Sr-90	9.1815E+02	6.7309E-03	4.5039E+22	1.3578E+19
Sr-91	7.5254E+00	2.0760E-09	1.3738E+16	2.9557E+19
Sr-92	1.9386E-07	1.5423E-17	1.0096E+08	1.6744E+19
Y-90	5.9447E+02	1.0927E-06	7.3112E+18	4.4037E+18
Y-91	1.0160E+02	4.1428E-06	2.7416E+19	1.4592E+18
Y-92	1.9329E-04	2.0088E-14	1.3149E+11	3.6387E+18
Y-93	1.4094E-01	4.2244E-11	2.7355E+14	3.7802E+17
Zr-95	1.0818E+02	5.0354E-06	3.1920E+19	1.6392E+18
Zr-97	2.1865E+00	1.1437E-09	7.1008E+15	5.6251E+17
Nb-95	1.1345E+02	2.9012E-06	1.8391E+19	1.6800E+18
Mo-99	5.7078E+02	1.1901E-06	7.2393E+18	1.5644E+19
Tc-99m	5.8518E+02	1.1129E-07	6.7697E+17	1.4705E+19
Ru-103	1.2305E+03	3.8126E-05	2.2291E+20	1.8937E+19
Ru-105	2.9216E-04	4.3463E-14	2.4928E+11	2.2631E+18
Ru-106	5.7470E+02	1.7178E-04	9.7593E+20	8.5337E+18
Rh-105	1.5604E+02	1.8487E-07	1.0603E+18	7.5257E+18
Sb-127	8.8688E+02	3.3210E-06	1.5748E+19	2.0179E+19
Sb-129	1.1044E-03	1.9640E-13	9.1687E+11	1.2798E+19
Te-127	1.0872E+03	4.1195E-07	1.9534E+18	2.1554E+19
Te-127m	2.4355E+02	2.5820E-05	1.2244E+20	3.6076E+18
Te-129	6.3447E+02	3.0296E-08	1.4143E+17	1.9863E+19
Te-129m	7.3373E+02	2.4356E-05	1.1370E+20	1.1354E+19
Te-131m	2.6305E+02	3.2988E-07	1.5165E+18	1.6995E+19
Te-132	1.0063E+04	3.3147E-05	1.5123E+20	2.4892E+20
I-131	8.1844E+04	6.6017E-04	3.0348E+21	1.4587E+21
I-132	1.2012E+04	1.1637E-06	5.3089E+18	5.8503E+20
I-133	9.6300E+03	8.5010E-06	3.8492E+19	1.3114E+21
I-135	9.3624E+00	2.6659E-09	1.1892E+16	6.2610E+20
Xe-133	5.5985E+07	2.9909E-01	1.3543E+24	9.3928E+23
Xe-135	3.0841E+04	1.2077E-05	5.3873E+19	7.5928E+22
Cs-134	2.0297E+04	1.5687E-02	7.0502E+22	3.1382E+20
Cs-136	4.0296E+03	5.4981E-05	2.4346E+20	7.0475E+19
Cs-137	1.2931E+04	1.4866E-01	6.5349E+23	1.9954E+20
Ba-140	9.4777E+03	1.2946E-04	5.5688E+20	1.5879E+20
La-140	8.3469E+03	1.5017E-05	6.4596E+19	7.0070E+19
La-141	4.9338E-06	8.7242E-16	3.7261E+09	2.5162E+17
Ce-141	2.5625E+02	8.9934E-06	3.8411E+19	3.9756E+18
Ce-143	3.4621E+01	5.2133E-08	2.1955E+17	1.9239E+18
Ce-144	2.2937E+02	7.1915E-05	3.0075E+20	3.4102E+18
Pr-143	1.0174E+02	1.5109E-06	6.3629E+18	1.5383E+18
Nd-147	3.4539E+01	4.2695E-07	1.7491E+18	5.9064E+17
Np-239	1.0202E+03	4.3977E-06	1.1081E+19	3.1297E+19
Pu-238	1.2903E+00	7.5368E-05	1.9071E+20	1.9075E+16
Pu-239	7.7024E-02	1.2392E-03	3.1224E+21	1.1345E+15
Pu-240	7.7023E-02	3.3802E-04	8.4817E+20	1.1389E+15
Pu-241	4.5889E+01	4.4547E-04	1.1131E+21	6.7872E+17
Am-241	3.3298E-02	9.7017E-06	2.4243E+19	4.8559E+14
Cm-242	6.2794E+00	1.8947E-06	4.7148E+18	9.3744E+16
Cm-244	8.2049E-01	1.0142E-05	2.5031E+19	1.2135E+16

## Sprayed Drywell Transport Group Inventory:

Time (h) = 96.0000	Atmosphere	Sump
Noble gases (atoms)	1.6144E+25	0.0000E+00
Elemental I (atoms)	3.3234E+20	5.5506E+22
Organic I (atoms)	5.7675E+20	0.0000E+00
Aerosols (kg)	1.7450E-01	5.0845E+01

Dose Effective (Ci/cc) I-131 (Thyroid)	3.1047E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)	3.1542E-05
Total I (Ci)	1.0349E+05

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.2190E+23
Elemental I (atoms)	0.0000E+00	7.1017E+18
Organic I (atoms)	0.0000E+00	1.0351E+19
Aerosols (kg)	0.0000E+00	3.5956E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.2190E+23
Elemental I (atoms)	0.0000E+00	7.1017E+18
Organic I (atoms)	0.0000E+00	1.0351E+19
Aerosols (kg)	0.0000E+00	3.5956E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.1069E+23
Elemental I (atoms)	0.0000E+00	3.5443E+18
Organic I (atoms)	0.0000E+00	5.1661E+18
Aerosols (kg)	0.0000E+00	1.7940E-03

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.1080E+27
Elemental I (atoms)	0.0000E+00	5.8040E+22
Organic I (atoms)	0.0000E+00	9.3912E+22
Aerosols (kg)	0.0000E+00	2.6782E+01

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.0966E+27
Elemental I (atoms)	0.0000E+00	5.7622E+22
Organic I (atoms)	0.0000E+00	9.3227E+22
Aerosols (kg)	0.0000E+00	2.6680E+01

Exclusion Area Boundary Doses:

Time (h) = 240.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.2154E+01	3.3006E+02	2.7750E+01
Accumulated dose (rem)	6.6535E+01	9.9726E+02	1.0942E+02

Low Population Zone Doses:

Time (h) = 240.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.2521E-02	4.0189E-01	4.1511E-02
Accumulated dose (rem)	1.2908E+00	1.0479E+01	1.7521E+00

## Control Room Doses:

Time (h) = 240.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.5325E-02	2.5716E+00	1.4670E-01
Accumulated dose (rem)	8.6156E-01	4.2309E+01	2.6813E+00

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 240.0000	Ci	kg	Atoms	Decay
Co-58	4.1473E+00	1.3043E-07	1.3542E+18	1.5102E+17
Co-60	5.4546E+00	4.8254E-06	4.8432E+19	1.8884E+17
Kr-85	7.9879E+05	2.0360E+00	1.4425E+25	2.5968E+22
Kr-85m	9.6323E-10	1.1705E-19	8.2925E+05	9.9482E+21
Rb-86	1.1101E+02	1.3643E-06	9.5532E+18	4.8073E+18
Sr-89	5.6640E+03	1.9496E-04	1.3192E+21	2.1069E+20
Sr-90	8.9612E+02	6.5694E-03	4.3958E+22	3.0975E+19
Sr-91	2.0099E-04	5.5445E-14	3.6692E+11	2.9571E+19
Y-90	8.3370E+02	1.5324E-06	1.0253E+19	1.8639E+19
Y-91	9.2413E+01	3.7683E-06	2.4937E+19	3.3184E+18
Y-93	7.0266E-06	2.1061E-15	1.3638E+10	3.7829E+17
Zr-95	9.8974E+01	4.6071E-06	2.9205E+19	3.6243E+18
Zr-97	5.8126E-03	3.0406E-12	1.8877E+13	5.6957E+17
Nb-95	1.0970E+02	2.8055E-06	1.7784E+19	3.8200E+18
Mo-99	1.2283E+02	2.5610E-07	1.5578E+18	2.1236E+19
Tc-99m	1.2593E+02	2.3949E-08	1.4568E+17	2.0149E+19
Ru-103	1.0807E+03	3.3486E-05	1.9578E+20	4.1069E+19
Ru-106	5.5483E+02	1.6584E-04	9.4218E+20	1.9364E+19
Rh-105	9.0561E+00	1.0729E-08	6.1536E+16	8.5160E+18
Sb-127	2.9400E+02	1.1009E-06	5.2204E+18	3.0478E+19
Te-127	5.1528E+02	1.9525E-07	9.2584E+17	3.5472E+19
Te-127m	2.3246E+02	2.4644E-05	1.1686E+20	8.1774E+18
Te-129	5.4736E+02	2.6137E-08	1.2201E+17	2.8383E+19
Te-129m	6.3300E+02	2.1012E-05	9.8092E+19	2.4437E+19
Te-131m	9.2196E+00	1.1562E-08	5.3151E+16	1.8447E+19
Te-132	2.7418E+03	9.0312E-06	4.1202E+19	3.5692E+20
I-131	4.7659E+04	3.8443E-04	1.7672E+21	2.6713E+21
I-132	3.2726E+03	3.1705E-07	1.4465E+18	6.9682E+20
I-133	7.7481E+01	6.8397E-08	3.0970E+17	1.3494E+21
I-135	2.5294E-06	7.2025E-16	3.2129E+09	6.2611E+20
Xe-133	2.4737E+07	1.3215E-01	5.9838E+23	1.6730E+24
Xe-135	5.1317E-01	2.0095E-10	8.9641E+14	7.5982E+22
Cs-134	1.9709E+04	1.5233E-02	6.8458E+22	6.9743E+20
Cs-136	2.8643E+03	3.9081E-05	1.7305E+20	1.3595E+20
Cs-137	1.2621E+04	1.4510E-01	6.3782E+23	4.4456E+20
Ba-140	6.6765E+03	9.1199E-05	3.9229E+20	3.1214E+20
La-140	7.5376E+03	1.3561E-05	5.8333E+19	2.2814E+20
Ce-141	2.2015E+02	7.7264E-06	3.2999E+19	8.5354E+18
Ce-143	1.6420E+00	2.4726E-09	1.0413E+16	2.1313E+18
Ce-144	2.2070E+02	6.9197E-05	2.8938E+20	7.7257E+18
Pr-143	7.5726E+01	1.1246E-06	4.7358E+18	3.2401E+18
Nd-147	2.3091E+01	2.8543E-07	1.1693E+18	1.1359E+18
Np-239	1.7036E+02	7.3433E-07	1.8503E+18	4.0404E+19
Pu-238	1.2604E+00	7.3625E-05	1.8629E+20	4.3534E+16

Pu-239	7.5426E-02	1.2135E-03	3.0576E+21	2.5970E+15
Pu-240	7.5206E-02	3.3004E-04	8.2815E+20	2.5986E+15
Pu-241	4.4770E+01	4.3461E-04	1.0860E+21	1.5481E+18
Am-241	3.3691E-02	9.8162E-06	2.4529E+19	1.1280E+15
Cm-242	5.9765E+00	1.8033E-06	4.4874E+18	2.1125E+17
Cm-244	8.0062E-01	9.8961E-06	2.4424E+19	2.7680E+16

## Sprayed Drywell Transport Group Inventory:

Time (h) = 240.0000	Atmosphere	Sump	
Noble gases (atoms)	1.5023E+25	0.0000E+00	
Elemental I (atoms)	1.9096E+20	5.5506E+22	
Organic I (atoms)	3.3140E+20	0.0000E+00	
Aerosols (kg)	1.6994E-01	5.0845E+01	
Dose Effective (Ci/cc)	I-131 (Thyroid)		1.7729E-05
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		1.7768E-05
Total I (Ci)			5.1009E+04

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 240.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.6914E+23
Elemental I (atoms)	0.0000E+00	1.1156E+19
Organic I (atoms)	0.0000E+00	1.7387E+19
Aerosols (kg)	0.0000E+00	6.3363E-03

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 240.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.6914E+23
Elemental I (atoms)	0.0000E+00	1.1156E+19
Organic I (atoms)	0.0000E+00	1.7387E+19
Aerosols (kg)	0.0000E+00	6.3363E-03

## Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 240.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.3360E+23
Elemental I (atoms)	0.0000E+00	5.5598E+18
Organic I (atoms)	0.0000E+00	8.6638E+18
Aerosols (kg)	0.0000E+00	3.1565E-03

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 240.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.0748E+27
Elemental I (atoms)	0.0000E+00	1.0669E+23
Organic I (atoms)	0.0000E+00	1.7834E+23
Aerosols (kg)	0.0000E+00	5.9670E+01

## Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 240.0000	Filtered	Transported

Noble gases (atoms)	0.0000E+00	5.0637E+27
Elemental I (atoms)	0.0000E+00	1.0628E+23
Organic I (atoms)	0.0000E+00	1.7766E+23
Aerosols (kg)	0.0000E+00	5.9570E+01

## Exclusion Area Boundary Doses:

Time (h) = 720.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	9.1194E+00	3.6426E+02	3.7192E+01
Accumulated dose (rem)	7.5654E+01	1.3615E+03	1.4661E+02

## Low Population Zone Doses:

Time (h) = 720.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.6898E-02	4.4354E-01	5.1081E-02
Accumulated dose (rem)	1.3077E+00	1.0923E+01	1.8032E+00

## Control Room Doses:

Time (h) = 720.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.8667E-02	2.8106E+00	2.3523E-01
Accumulated dose (rem)	8.8023E-01	4.5119E+01	2.9165E+00

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 720.0000	Ci	kg	Atoms	Decay
Co-58	3.1487E+00	9.9023E-08	1.0282E+18	3.8277E+17
Co-60	5.0008E+00	4.4240E-06	4.4403E+19	5.2284E+17
Kr-85	7.3502E+05	1.8735E+00	1.3273E+25	7.4968E+22
Rb-86	4.8765E+01	5.9932E-07	4.1967E+18	9.6447E+18
Sr-89	3.9748E+03	1.3681E-04	9.2575E+20	5.1562E+20
Sr-90	8.2643E+02	6.0586E-03	4.0539E+22	8.6007E+19
Y-90	8.3078E+02	1.5270E-06	1.0217E+19	7.2872E+19
Y-91	6.7335E+01	2.7457E-06	1.8170E+19	8.3826E+18
Zr-95	7.3591E+01	3.4256E-06	2.1715E+19	9.1004E+18
Zr-97	1.5129E-11	7.9141E-21	4.9134E+04	5.6958E+17
Nb-95	9.4624E+01	2.4198E-06	1.5340E+19	1.0364E+19
Mo-99	7.3350E-01	1.5293E-09	9.3030E+15	2.2760E+19
Tc-99m	7.5201E-01	1.4302E-10	8.6996E+14	2.1633E+19
Ru-103	7.0121E+02	2.1727E-05	1.2703E+20	9.7157E+19
Ru-106	4.9342E+02	1.4748E-04	8.3790E+20	5.2834E+19
Rh-105	6.8544E-04	8.1208E-13	4.6576E+12	8.5770E+18
Sb-127	7.4125E+00	2.7757E-08	1.3162E+17	3.5456E+19
Te-127	2.0145E+02	7.6333E-08	3.6196E+17	5.3311E+19
Te-127m	1.9055E+02	2.0201E-05	9.5791E+19	2.1681E+19
Te-129	3.3458E+02	1.5976E-08	7.4582E+16	4.9196E+19
Te-129m	3.8693E+02	1.2844E-05	5.9959E+19	5.6396E+19
Te-131m	1.2991E-04	1.6291E-13	7.4893E+11	1.8500E+19
Te-132	3.5949E+01	1.1841E-07	5.4022E+17	3.9683E+20
I-131	7.8476E+03	6.3300E-05	2.9099E+20	4.0823E+21
I-132	4.2909E+01	4.1570E-09	1.8965E+16	7.3813E+20
I-133	8.0864E-06	7.1384E-15	3.2322E+10	1.3497E+21
Xe-133	1.6251E+06	8.6819E-03	3.9311E+22	2.2157E+24
Cs-134	1.7868E+04	1.3810E-02	6.2063E+22	1.8976E+21
Cs-136	9.1798E+02	1.2525E-05	5.5462E+19	2.4530E+20
Cs-137	1.1640E+04	1.3382E-01	5.8824E+23	1.2196E+21
Ba-140	2.0767E+03	2.8367E-05	1.2202E+20	5.6395E+20



La-140	2.4124E+03	4.3401E-06	1.8669E+19	5.1681E+20
Ce-141	1.3270E+02	4.6573E-06	1.9892E+19	1.9580E+19
Ce-143	6.3410E-05	9.5486E-14	4.0212E+11	2.1417E+18
Ce-144	1.9411E+02	6.0858E-05	2.5451E+20	2.0967E+19
Pr-143	2.5218E+01	3.7450E-07	1.5771E+18	6.1798E+18
Nd-147	6.0328E+00	7.4573E-08	3.0550E+17	1.9484E+18
Np-239	4.3677E-01	1.8827E-09	4.7438E+15	4.2224E+19
Pu-238	1.1657E+00	6.8092E-05	1.7229E+20	1.2105E+17
Pu-239	6.9693E-02	1.1213E-03	2.8252E+21	7.2343E+15
Pu-240	6.9452E-02	3.0479E-04	7.6479E+20	7.2202E+15
Pu-241	4.1233E+01	4.0028E-04	1.0002E+21	4.2956E+18
Am-241	3.4734E-02	1.0120E-05	2.5288E+19	3.3170E+15
Cm-242	5.0684E+00	1.5293E-06	3.8056E+18	5.6351E+17
Cm-244	7.3777E-01	9.1192E-06	2.2507E+19	7.6827E+16

## Sprayed Drywell Transport Group Inventory:

Time (h) = 720.0000	Atmosphere	Sump	
Noble gases (atoms)	1.3312E+25	0.0000E+00	
Elemental I (atoms)	3.1415E+19	5.5506E+22	
Organic I (atoms)	5.4518E+19	0.0000E+00	
Aerosols (kg)	1.5611E-01	5.0845E+01	
Dose Effective (Ci/cc)	I-131 (Thyroid)		2.9173E-06
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		2.9178E-06
Total I (Ci)			7.8905E+03

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.2144E+24
Elemental I (atoms)	0.0000E+00	1.5853E+19
Organic I (atoms)	0.0000E+00	2.5539E+19
Aerosols (kg)	0.0000E+00	1.4978E-02

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.2144E+24
Elemental I (atoms)	0.0000E+00	1.5853E+19
Organic I (atoms)	0.0000E+00	2.5539E+19
Aerosols (kg)	0.0000E+00	1.4978E-02

## Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	6.0408E+23
Elemental I (atoms)	0.0000E+00	7.8951E+18
Organic I (atoms)	0.0000E+00	1.2717E+19
Aerosols (kg)	0.0000E+00	7.4526E-03

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.4018E+28

Elemental I (atoms) 0.0000E+00 1.6306E+23  
 Organic I (atoms) 0.0000E+00 2.7616E+23  
 Aerosols (kg) 0.0000E+00 1.6337E+02

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.4007E+28
Elemental I (atoms)	0.0000E+00	1.6265E+23
Organic I (atoms)	0.0000E+00	2.7549E+23
Aerosols (kg)	0.0000E+00	1.6328E+02

930

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

Time (hr)	Sprayed Drywell I-131 (Curies)	MSIV Failed Control V I-131 (Curies)	Intact Control Volume I-131 (Curies)
0.000	4.5258E+03	0.0000E+00	0.0000E+00
0.033	2.6557E+05	0.0000E+00	0.0000E+00
0.167	1.2318E+06	3.7127E+01	3.6830E+01
0.500	5.3661E+05	1.0632E+02	1.0244E+02
0.667	8.5233E+05	1.4334E+02	1.3684E+02
1.000	8.9300E+05	2.2276E+02	2.0897E+02
1.160	8.9973E+05	2.5733E+02	2.3927E+02
1.410	9.0759E+05	3.0672E+02	2.8131E+02
1.660	9.1340E+05	3.5087E+02	3.1756E+02
1.910	9.1791E+05	3.9025E+02	3.4876E+02
2.000	9.1931E+05	4.0336E+02	3.5889E+02
2.200	1.1456E+05	3.9422E+02	3.4607E+02
2.300	7.9948E+04	3.8473E+02	3.3494E+02
2.600	1.6514E+05	3.6051E+02	3.0663E+02
2.900	1.6704E+05	3.4050E+02	2.8353E+02
3.200	1.4895E+05	3.2151E+02	2.6229E+02
3.500	1.2863E+05	3.0288E+02	2.4215E+02
3.800	1.1061E+05	2.8461E+02	2.2300E+02
4.000	1.0030E+05	2.7271E+02	2.1083E+02
4.300	1.0993E+05	2.5618E+02	1.9431E+02
4.600	1.1339E+05	2.4143E+02	1.7997E+02
4.900	1.1459E+05	2.2808E+02	1.6733E+02
5.200	1.1494E+05	2.1591E+02	1.5613E+02
5.500	1.1498E+05	2.0478E+02	1.4617E+02
5.800	1.1492E+05	1.9461E+02	1.3730E+02
6.100	1.1481E+05	1.8529E+02	1.2939E+02
6.400	1.1468E+05	1.7676E+02	1.2235E+02
6.700	1.1455E+05	1.6895E+02	1.1608E+02
7.000	1.1442E+05	1.6180E+02	1.1048E+02
7.300	1.1429E+05	1.5524E+02	1.0549E+02
7.600	1.1416E+05	1.4924E+02	1.0104E+02
7.900	1.1402E+05	1.4374E+02	9.7069E+01
8.000	1.1398E+05	1.4201E+02	9.5843E+01
8.300	1.1385E+05	1.3712E+02	9.2432E+01
8.600	1.1372E+05	1.3263E+02	8.9387E+01
8.900	1.1358E+05	1.2852E+02	8.6669E+01

9.200	1.1345E+05	1.2475E+02	8.4240E+01
9.500	1.1332E+05	1.2129E+02	8.2070E+01
9.800	1.1319E+05	1.1812E+02	8.0130E+01
10.100	1.1306E+05	1.1521E+02	7.8395E+01
10.400	1.1293E+05	1.1254E+02	7.6842E+01
24.000	1.0712E+05	8.1067E+01	6.1587E+01
48.000	9.7953E+04	7.3976E+01	5.6478E+01
72.000	8.9544E+04	6.7622E+01	5.1631E+01
96.000	8.1844E+04	6.1807E+01	4.7191E+01
240.000	4.7659E+04	3.5991E+01	2.7480E+01
720.000	7.8476E+03	5.9263E+00	4.5249E+00

Time (hr)	Intact Control Volume		
	I-131 (Curies)	I-131 (Curies)	I-131 (Curies)
0.000	0.0000E+00	0.0000E+00	0.0000E+00
0.033	0.0000E+00	0.0000E+00	0.0000E+00
0.167	3.1823E-01	1.8721E+01	4.4152E-02
0.500	3.5420E+00	5.5646E+01	5.7314E-01
0.667	5.5175E+00	7.5944E+01	9.5764E-01
1.000	1.0475E+01	1.2082E+02	2.0293E+00
1.160	1.3072E+01	1.4125E+02	2.6588E+00
1.410	1.7118E+01	1.7155E+02	3.7474E+00
1.660	2.0980E+01	1.9991E+02	4.9258E+00
1.910	2.4556E+01	2.2639E+02	6.1593E+00
2.000	2.5765E+01	2.3548E+02	6.6116E+00
2.200	2.7073E+01	2.3422E+02	7.1763E+00
2.300	2.7490E+01	2.3101E+02	7.4291E+00
2.600	2.7966E+01	2.2304E+02	8.0731E+00
2.900	2.7699E+01	2.1661E+02	8.5819E+00
3.200	2.6997E+01	2.1017E+02	8.9833E+00
3.500	2.6027E+01	2.0343E+02	9.2943E+00
3.800	2.4896E+01	1.9643E+02	9.5280E+00
4.000	2.4089E+01	1.9167E+02	9.6464E+00
4.300	2.2849E+01	1.8486E+02	9.7760E+00
4.600	2.1630E+01	1.7862E+02	9.8589E+00
4.900	2.0469E+01	1.7277E+02	9.9046E+00
5.200	1.9384E+01	1.6726E+02	9.9208E+00
5.500	1.8384E+01	1.6205E+02	9.9135E+00
5.800	1.7468E+01	1.5712E+02	9.8875E+00
6.100	1.6635E+01	1.5244E+02	9.8471E+00
6.400	1.5881E+01	1.4801E+02	9.7955E+00
6.700	1.5201E+01	1.4382E+02	9.7354E+00
7.000	1.4589E+01	1.3984E+02	9.6691E+00
7.300	1.4038E+01	1.3607E+02	9.5983E+00
7.600	1.3545E+01	1.3250E+02	9.5246E+00
7.900	1.3102E+01	1.2911E+02	9.4491E+00
8.000	1.2965E+01	1.2802E+02	9.4237E+00
8.300	1.2572E+01	1.2487E+02	9.3405E+00
8.600	1.2223E+01	1.2188E+02	9.2587E+00
8.900	1.1911E+01	1.1905E+02	9.1785E+00
9.200	1.1633E+01	1.1636E+02	9.1004E+00
9.500	1.1385E+01	1.1381E+02	9.0244E+00
9.800	1.1164E+01	1.1139E+02	8.9507E+00
10.100	1.0965E+01	1.0910E+02	8.8794E+00
10.400	1.0788E+01	1.0693E+02	8.8105E+00
24.000	8.9618E+00	6.9295E+01	7.3664E+00
48.000	8.1384E+00	6.0450E+01	6.5216E+00

72.000	7.2495E+00	5.4951E+01	5.7353E+00
96.000	6.3668E+00	5.0192E+01	4.9603E+00
240.000	3.5382E+00	2.9226E+01	2.7124E+00
720.000	5.2094E-01	4.8123E+00	3.9027E-01

Time (hr)	Environment I-131 (Curies)	Control Room I-131 (Curies)	Unsprayed Drywell I-131 (Curies)
0.000	0.0000E+00	0.0000E+00	1.6670E+00
0.033	0.0000E+00	0.0000E+00	5.7769E+03
0.167	1.6809E-01	4.6521E-04	1.2580E+05
0.500	2.7069E+00	6.0558E-03	2.6802E+05
0.667	4.9414E+00	1.0036E-02	3.3556E+05
1.000	1.1967E+01	9.1620E-03	4.5652E+05
1.160	1.6599E+01	9.0456E-03	4.9411E+05
1.410	2.5444E+01	9.1877E-03	5.3527E+05
1.660	3.6179E+01	9.6541E-03	5.6195E+05
1.910	4.8706E+01	1.0373E-02	5.7944E+05
2.000	5.3633E+01	1.0682E-02	5.8417E+05
2.200	6.0280E+01	1.0253E-02	4.5921E+05
2.300	6.3610E+01	1.0061E-02	3.8706E+05
2.600	7.3528E+01	9.5523E-03	2.5369E+05
2.900	8.3318E+01	9.1236E-03	1.8971E+05
3.200	9.2943E+01	8.7542E-03	1.5116E+05
3.500	1.0237E+02	8.4274E-03	1.2404E+05
3.800	1.1157E+02	8.1316E-03	1.0344E+05
4.000	1.1758E+02	7.9475E-03	9.2236E+04
4.300	1.2638E+02	7.6874E-03	8.2382E+04
4.600	1.3497E+02	7.4448E-03	7.8697E+04
4.900	1.4334E+02	7.2186E-03	7.7285E+04
5.200	1.5151E+02	7.0076E-03	7.6708E+04
5.500	1.5950E+02	6.8111E-03	7.6440E+04
5.800	1.6732E+02	6.6283E-03	7.6285E+04
6.100	1.7499E+02	6.4585E-03	7.6172E+04
6.400	1.8252E+02	6.3011E-03	7.6075E+04
6.700	1.8992E+02	6.1554E-03	7.5983E+04
7.000	1.9719E+02	6.0207E-03	7.5894E+04
7.300	2.0437E+02	5.8965E-03	7.5805E+04
7.600	2.1144E+02	5.7820E-03	7.5717E+04
7.900	2.1842E+02	5.6766E-03	7.5629E+04
8.000	2.2073E+02	5.6434E-03	7.5600E+04
8.300	2.2751E+02	4.9731E-03	7.5512E+04
8.600	2.3422E+02	4.4285E-03	7.5424E+04
8.900	2.4087E+02	3.9855E-03	7.5337E+04
9.200	2.4745E+02	3.6248E-03	7.5249E+04
9.500	2.5397E+02	3.3307E-03	7.5162E+04
9.800	2.6045E+02	3.0906E-03	7.5074E+04
10.100	2.6687E+02	2.8943E-03	7.4987E+04
10.400	2.7326E+02	2.7334E-03	7.4900E+04
24.000	5.4344E+02	1.8747E-03	7.1049E+04
48.000	7.5527E+02	5.3931E-04	6.4964E+04
72.000	9.3386E+02	4.5417E-04	5.9387E+04
96.000	1.0840E+03	3.8204E-04	5.4280E+04
240.000	1.7133E+03	1.2525E-04	3.1608E+04
720.000	2.4079E+03	1.9564E-05	5.2046E+03

#####

Cumulative Dose Summary

#####

Time (hr)	Exclusion Area Bounda		Low Population Zone		Control Room	
	Thyroid (rem)	TEDE (rem)	Thyroid (rem)	TEDE (rem)	Thyroid (rem)	TEDE (rem)
0.000	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.033	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.167	1.2262E-01	6.2282E-03	9.3765E-03	4.7628E-04	7.8822E-03	3.2776E-04
0.500	1.9686E+00	1.0657E-01	1.5054E-01	8.1493E-03	3.7342E-01	1.5455E-02
0.667	3.5923E+00	2.0755E-01	2.7470E-01	1.5872E-02	8.6393E-01	3.5884E-02
1.000	8.7249E+00	6.3273E-01	6.6719E-01	4.8385E-02	2.0320E+00	8.5860E-02
1.160	1.2112E+01	9.7698E-01	9.2618E-01	7.4710E-02	2.5656E+00	1.0965E-01
1.410	1.8576E+01	1.7352E+00	1.4205E+00	1.3269E-01	3.3985E+00	1.4892E-01
1.660	2.6413E+01	2.7873E+00	2.0198E+00	2.1315E-01	4.2595E+00	1.9296E-01
1.910	3.5539E+01	4.1495E+00	2.7177E+00	3.1731E-01	5.1752E+00	2.4389E-01
2.000	3.9124E+01	4.7171E+00	2.9918E+00	3.6072E-01	5.5222E+00	2.6425E-01
2.200	4.3955E+01	5.5144E+00	3.1389E+00	3.8499E-01	6.2885E+00	3.1049E-01
2.300	4.6371E+01	5.9272E+00	3.2125E+00	3.9756E-01	6.6601E+00	3.3333E-01
2.600	5.3546E+01	7.2080E+00	3.4309E+00	4.3655E-01	7.7340E+00	4.0098E-01
2.900	6.0600E+01	8.5357E+00	3.6456E+00	4.7696E-01	8.7543E+00	4.6766E-01
3.200	6.7508E+01	9.8911E+00	3.8559E+00	5.1822E-01	9.7285E+00	5.3360E-01
3.500	7.4246E+01	1.1258E+01	4.0610E+00	5.5983E-01	1.0662E+01	5.9885E-01
3.800	8.0799E+01	1.2624E+01	4.2605E+00	6.0140E-01	1.1560E+01	6.6336E-01
4.000	8.5060E+01	1.3528E+01	4.3902E+00	6.2894E-01	1.2139E+01	7.0589E-01
4.300	9.1290E+01	1.4870E+01	4.5798E+00	6.6978E-01	1.2982E+01	7.6890E-01
4.600	9.7337E+01	1.6189E+01	4.7639E+00	7.0993E-01	1.3796E+01	8.3082E-01
4.900	1.0321E+02	1.7480E+01	4.9427E+00	7.4925E-01	1.4581E+01	8.9155E-01
5.200	1.0893E+02	1.8741E+01	5.1167E+00	7.8763E-01	1.5341E+01	9.5100E-01
5.500	1.1450E+02	1.9969E+01	5.2862E+00	8.2502E-01	1.6076E+01	1.0091E+00
5.800	1.1993E+02	2.1164E+01	5.4515E+00	8.6137E-01	1.6789E+01	1.0658E+00
6.100	1.2523E+02	2.2323E+01	5.6130E+00	8.9666E-01	1.7481E+01	1.1210E+00
6.400	1.3042E+02	2.3447E+01	5.7710E+00	9.3087E-01	1.8153E+01	1.1748E+00
6.700	1.3550E+02	2.4536E+01	5.9257E+00	9.6403E-01	1.8807E+01	1.2271E+00
7.000	1.4049E+02	2.5590E+01	6.0775E+00	9.9613E-01	1.9445E+01	1.2780E+00
7.300	1.4538E+02	2.6611E+01	6.2265E+00	1.0272E+00	2.0067E+01	1.3275E+00
7.600	1.5020E+02	2.7599E+01	6.3730E+00	1.0573E+00	2.0674E+01	1.3756E+00
7.900	1.5493E+02	2.8554E+01	6.5172E+00	1.0864E+00	2.1268E+01	1.4224E+00
8.000	1.5649E+02	2.8866E+01	6.5647E+00	1.0958E+00	2.1463E+01	1.4377E+00
8.300	1.6108E+02	2.9779E+01	6.6102E+00	1.1117E+00	2.2010E+01	1.4802E+00
8.600	1.6560E+02	3.0662E+01	6.6550E+00	1.1270E+00	2.2494E+01	1.5173E+00
8.900	1.7007E+02	3.1517E+01	6.6992E+00	1.1418E+00	2.2925E+01	1.5500E+00
9.200	1.7448E+02	3.2346E+01	6.7429E+00	1.1561E+00	2.3314E+01	1.5793E+00
9.500	1.7884E+02	3.3148E+01	6.7861E+00	1.1699E+00	2.3669E+01	1.6056E+00
9.800	1.8315E+02	3.3925E+01	6.8289E+00	1.1833E+00	2.3996E+01	1.6297E+00
10.100	1.8743E+02	3.4679E+01	6.8712E+00	1.1962E+00	2.4300E+01	1.6518E+00
10.400	1.9166E+02	3.5411E+01	6.9131E+00	1.2088E+00	2.4584E+01	1.6723E+00
24.000	3.6356E+02	5.6731E+01	8.6162E+00	1.5585E+00	3.3469E+01	2.2133E+00
48.000	4.8772E+02	6.7202E+01	9.2138E+00	1.6232E+00	3.6228E+01	2.3536E+00
72.000	5.8650E+02	7.5047E+01	9.6891E+00	1.6707E+00	3.8159E+01	2.4513E+00
96.000	6.6720E+02	8.1667E+01	1.0078E+01	1.7106E+00	3.9737E+01	2.5346E+00
240.000	9.9726E+02	1.0942E+02	1.0479E+01	1.7521E+00	4.2309E+01	2.6813E+00
720.000	1.3615E+03	1.4661E+02	1.0923E+01	1.8032E+00	4.5119E+01	2.9165E+00

#####

Worst Two-Hour Doses

#####

Exclusion Area Boundary

Time (hr)	Whole Body (rem)	Thyroid (rem)	TEDE (rem)
1.6	6.6464E+00	5.1899E+01	9.1784E+00

**Attachment A4.4 - RADTRAD Output File "QDC39MS00\_spray.o0"**

```
#####
RADTRAD Version 3.03 (Spring 2001) run on 1/27/2020 at 15:25:32
#####
```

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

```
Plant file          = D:\Projects\RabaioliBrosius\Exelon_RAIs\QDC-0000-N-
1481\Westinghouse\QDC39MS00_spray.psf
Inventory file      = D:\Projects\RabaioliBrosius\Exelon_RAIs\QDC-0000-N-
1481\Westinghouse\DQ39GWD_DEF.nif
Release file       = c:\program files
(x86)\radtrad3.03\defaults\bwr_dba.rft
Dose Conversion file = c:\program files
(x86)\radtrad3.03\defaults\fgr11&12.inp
```

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

```
Radtrad 3.03 4/15/2001
Quad Cities MSIV Leakeg - Optima Fuel With 39 GWD/MTU, MSIV Leakage =
100/100/50/0 scfh, 40% Aerosol Settling Velocity, CREV Initiated @ 40
Minutes, CR Unfiltered Inleakage = 4,000 cfm for <0.6667 hrs and 400 cfm
>0.6667 hrs
```

```
Nuclide Inventory File:
D:\Projects\RabaioliBrosius\Exelon_RAIs\QDC-0000-N-
1481\Westinghouse\DQ39GWD_DEF.nif
```

```
Plant Power Level:
```

```
3.0161E+03
```

```
Compartments:
```

```
9
```

```
Compartment 1:
Sprayed Drywell
```

```
3
```

```
9.5000E+04
```

```
1
```

```
0
```

```
0
```

```
0
```

```
0
```

Compartment 2:

MSIV Failed Control Vol 1

3

2.0024E+02

0

0

0

0

0

Compartment 3:

Intact Control Volume 2

3

1.5293E+02

0

0

0

0

0

Compartment 4:

Intact Control Volume 3

3

4.9110E+01

0

0

0

0

0

Compartment 5:

Intact Control Volume 4

3

1.6375E+02

0

0

0

0

0

Compartment 6:

Intact Control Volume 5

3

4.9110E+01

0

0

0

0

0

Compartment 7:

Environment

2

0.0000E+00

0

0

0

0

0

Compartment 8:

Control Room

1



1.8400E+05

0  
0  
0  
0  
0

Compartment 9:

Unsprayed Drywell

3

6.3000E+04

0  
0  
0  
0  
0

Pathways:

13

Pathway 1:

Drywell to MSIV Failed Control Vol 1

1  
2  
2

Pathway 2:

MSIV Failed Control Vol 1 to Environment

2  
7  
2

Pathway 3:

Drywell to Intact Control Volume 2

1  
3  
2

Pathway 4:

Intact Control Volume 2 to Intact Control Volume 3

3  
4  
2

Pathway 5:

Intact Control Volume 3 to Environment

4  
7  
2

Pathway 6:

Drywell to Intact Control Volume 4

1  
5  
2

Pathway 7:

Intact Control Volume 4 to Intact Control Volume 5

5  
6  
2

Pathway 8:

Intact Control Volume 5 to Environment

6  
7  
2

Pathway 9:

Filtered Intake to Control Room

7

8

2

Pathway 10:

Unfiltered Inleakage to Control Room

7

8

2

Pathway 11:

Control Room Exhaust to Environment

8

7

2

Pathway 12:

Sprayed Drywell to Unsprayed Drywell

1

9

2

Pathway 13:

Unsprayed Drywell to Sprayed Drywell

9

1

2

End of Plant Model File

Scenario Description Name:

Plant Model Filename:

Source Term:

1

1 1.0000E+00

c:\program files (x86)\radtrad3.03\defaults\fgr11&12.inp

c:\program files (x86)\radtrad3.03\defaults\bwr\_dba.rft

0.0000E+00

1

9.5000E-01 4.8500E-02 1.5000E-03 1.0000E+00

Overlying Pool:

0

0.0000E+00

0

0

0

0

Compartments:

9

Compartment 1:

1

1

1

0.0000E+00

10

0.0000E+00 0.0000E+00

1.6670E-01 1.5000E+01

1.0000E+00 1.5000E+01

2.0000E+00 1.5000E+01

2.2000E+00	1.5000E+01
2.2500E+00	1.5000E+01
2.3000E+00	1.5000E+01
2.3500E+00	1.5000E+01
4.0000E+00	1.5000E+01
7.2000E+02	0.0000E+00
1	
0.0000E+00	
10	
0.0000E+00	0.0000E+00
1.6670E-01	1.5000E+01
1.0000E+00	1.5000E+01
2.0000E+00	1.5000E+01
2.2000E+00	1.5000E+01
2.2500E+00	1.5000E+01
2.3000E+00	1.5000E+01
2.3500E+00	1.5000E+01
4.0000E+00	1.5000E+01
7.2000E+02	0.0000E+00

1  
0.0000E+00  
0  
0  
0  
0  
0

Compartment 2:

0  
1  
0  
0  
0  
0  
0  
0  
0  
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

Compartment 5:

0  
1  
0  
0  
0  
0  
0  
0  
0

Compartment 6:

0  
1  
0  
0  
0  
0  
0  
0  
0

Compartment 7:

0  
1  
0  
0  
0  
0  
0  
0  
0

Compartment 8:

0  
1  
0  
0  
0  
0  
0  
0  
0

Compartment 9:

0  
1  
0  
0  
0  
0  
0  
0  
0

Pathways:

13

Pathway 1:

0  
0  
0  
0  
0

1  
 5  
 0.0000E+00 0.0000E+00 0.0000E+00 0.0000E+00 0.0000E+00  
 3.3300E-02 5.9500E-01 0.0000E+00 0.0000E+00 0.0000E+00  
 2.0000E+00 3.4900E-01 0.0000E+00 0.0000E+00 0.0000E+00  
 2.4000E+01 1.7500E-01 0.0000E+00 0.0000E+00 0.0000E+00  
 7.2000E+02 0.0000E+00 0.0000E+00 0.0000E+00 0.0000E+00

0  
 0  
 0  
 0  
 0  
 0

Pathway 2:

0  
 0  
 0  
 0  
 0

1

10

0.0000E+00 0.0000E+00 0.0000E+00 0.0000E+00 0.0000E+00  
 3.3300E-02 1.6670E+00 8.7820E+01 6.8400E+00 0.0000E+00  
 2.0000E+00 9.7900E-01 8.7820E+01 6.8400E+00 0.0000E+00  
 8.0000E+00 9.7900E-01 8.7820E+01 9.1100E+00 0.0000E+00  
 2.4000E+01 4.8900E-01 8.7820E+01 1.5690E+01 0.0000E+00  
 4.8000E+01 4.8900E-01 8.7820E+01 3.1540E+01 0.0000E+00  
 7.2000E+01 4.8900E-01 8.7820E+01 5.2530E+01 0.0000E+00  
 9.6000E+01 4.8900E-01 8.7820E+01 7.2070E+01 0.0000E+00  
 2.4000E+02 4.8900E-01 8.7820E+01 9.7260E+01 0.0000E+00  
 7.2000E+02 0.0000E+00 0.0000E+00 0.0000E+00 0.0000E+00

0  
 0  
 0  
 0  
 0  
 0

Pathway 3:

0  
 0  
 0  
 0  
 0

1

5

0.0000E+00 0.0000E+00 0.0000E+00 0.0000E+00 0.0000E+00  
 3.3300E-02 5.9500E-01 0.0000E+00 0.0000E+00 0.0000E+00  
 2.0000E+00 3.4900E-01 0.0000E+00 0.0000E+00 0.0000E+00  
 2.4000E+01 1.7500E-01 0.0000E+00 0.0000E+00 0.0000E+00  
 7.2000E+02 0.0000E+00 0.0000E+00 0.0000E+00 0.0000E+00

0  
 0  
 0  
 0  
 0  
 0

Pathway 4:

0  
0  
0  
0  
0  
1  
10

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	1.6670E+00	7.6750E+01	4.1600E+00	0.0000E+00
2.0000E+00	9.7900E-01	7.6750E+01	4.1600E+00	0.0000E+00
8.0000E+00	9.7900E-01	7.6750E+01	5.5700E+00	0.0000E+00
2.4000E+01	4.8900E-01	7.6750E+01	9.7400E+00	0.0000E+00
4.8000E+01	4.8900E-01	7.6750E+01	2.0390E+01	0.0000E+00
7.2000E+01	4.8900E-01	7.6750E+01	3.6240E+01	0.0000E+00
9.6000E+01	4.8900E-01	7.6750E+01	5.4010E+01	0.0000E+00
2.4000E+02	4.8900E-01	7.6750E+01	9.3310E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway 5:

0  
0  
0  
0  
0  
0  
1  
10

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	1.6670E+00	8.0220E+01	1.4970E+01	0.0000E+00
2.0000E+00	9.7900E-01	8.0220E+01	1.4970E+01	0.0000E+00
8.0000E+00	9.7900E-01	8.0220E+01	1.9630E+01	0.0000E+00
2.4000E+01	4.8900E-01	8.0220E+01	3.2260E+01	0.0000E+00
4.8000E+01	4.8900E-01	8.0220E+01	5.7570E+01	0.0000E+00
7.2000E+01	4.8900E-01	8.0220E+01	8.0730E+01	0.0000E+00
9.6000E+01	4.8900E-01	8.0220E+01	9.2810E+01	0.0000E+00
2.4000E+02	4.8900E-01	8.0220E+01	9.7840E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway 6:

0  
0  
0  
0  
0  
1  
5

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	2.9700E-01	0.0000E+00	0.0000E+00	0.0000E+00

2.0000E+00	1.7500E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	8.7000E-02	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

0

0

0

0

0

0

Pathway 7:

0

0

0

0

0

1

10

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	8.3300E-01	8.9010E+01	4.7500E+00	0.0000E+00
2.0000E+00	4.8900E-01	8.9010E+01	4.7500E+00	0.0000E+00
8.0000E+00	4.8900E-01	8.9010E+01	6.3500E+00	0.0000E+00
2.4000E+01	2.4500E-01	8.9010E+01	1.1060E+01	0.0000E+00
4.8000E+01	2.4500E-01	8.9010E+01	2.2950E+01	0.0000E+00
7.2000E+01	2.4500E-01	8.9010E+01	4.0200E+01	0.0000E+00
9.6000E+01	2.4500E-01	8.9010E+01	5.8780E+01	0.0000E+00
2.4000E+02	2.4500E-01	8.9010E+01	9.4930E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

0

0

0

0

0

0

Pathway 8:

0

0

0

0

0

1

10

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	8.3300E-01	8.9030E+01	1.4970E+01	0.0000E+00
2.0000E+00	4.8900E-01	8.9030E+01	1.4970E+01	0.0000E+00
8.0000E+00	4.8900E-01	8.9030E+01	1.9630E+01	0.0000E+00
2.4000E+01	2.4500E-01	8.9030E+01	3.2260E+01	0.0000E+00
4.8000E+01	2.4500E-01	8.9030E+01	5.7570E+01	0.0000E+00
7.2000E+01	2.4500E-01	8.9030E+01	8.0730E+01	0.0000E+00
9.6000E+01	2.4500E-01	8.9030E+01	9.2810E+01	0.0000E+00
2.4000E+02	2.4500E-01	8.9030E+01	9.7840E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

0

0

0

0

0

0

Pathway 9:

0				
0				
0				
0				
0				
1				
8				
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
2.0000E+00	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
8.0000E+00	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
2.4000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
9.6000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0				
0				
0				
0				
0				
0				

Pathway 10:

0				
0				
0				
0				
0				
1				
8				
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	4.0000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
8.0000E+00	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
9.6000E+01	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0				
0				
0				
0				
0				
0				

Pathway 11:

0				
0				
0				
0				
0				
1				
8				
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	6.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
8.0000E+00	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00



2.4000E+01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
9.6000E+01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

0  
0  
0  
0  
0  
0

Pathway 12:

0  
0  
0  
0  
0  
1  
2

0.0000E+00	2.1000E-06	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

0  
0  
0  
0  
0  
0

Pathway 13:

0  
0  
0  
0  
0  
1  
2

0.0000E+00	2.1000E-06	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

0  
0  
0  
0  
0  
0

Dose Locations:

3

Location 1:

Exclusion Area Boundary

7  
1  
2

0.0000E+00	1.3600E-03
7.2000E+02	0.0000E+00

1  
2

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

0

Location 2:

Low Population Zone

7  
1  
6  
0.0000E+00 1.0400E-04  
2.0000E+00 4.1400E-05  
8.0000E+00 2.6200E-05  
2.4000E+01 9.9600E-06  
9.6000E+01 2.5200E-06  
7.2000E+02 0.0000E+00

1  
4  
0.0000E+00 3.5000E-04  
8.0000E+00 1.8000E-04  
2.4000E+01 2.3000E-04  
7.2000E+02 0.0000E+00  
0

Location 3:  
Control Room

8  
0  
1  
2  
0.0000E+00 3.5000E-04  
7.2000E+02 0.0000E+00  
1  
4  
0.0000E+00 1.0000E+00  
2.4000E+01 6.0000E-01  
9.6000E+01 4.0000E-01  
7.2000E+02 0.0000E+00

Effective Volume Location:

1  
6  
0.0000E+00 1.0200E-03  
2.0000E+00 8.2300E-04  
8.0000E+00 3.5500E-04  
2.4000E+01 2.3200E-04  
9.6000E+01 1.3800E-04  
7.2000E+02 0.0000E+00

Simulation Parameters:

7  
0.0000E+00 1.0000E-01  
1.0000E+00 1.0000E-02  
2.0000E+00 5.0000E-01  
8.0000E+00 1.0000E+00  
2.4000E+01 2.0000E+00  
9.6000E+01 5.0000E+00  
7.2000E+02 0.0000E+00

Output Filename:

D:\Projects\RabaioliBrosius\Exelon\_RAIs\QDC-0000-N-1481\Westinghouse\QDC39MS00\_spray.o0

1  
1  
1  
0  
0

End of Scenario File

```
#####  
RADTRAD Version 3.03 (Spring 2001) run on 1/27/2020 at 15:25:32  
#####
```

```
#####  
Plant Description  
#####
```

Number of Nuclides = 60

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

Number of compartments = 9

Compartment information

Compartment number 1 (Source term fraction = 1.0000E+00  
)

Name: Sprayed Drywell

Compartment volume = 9.5000E+04 (Cubic feet)

Compartment type is Normal

Removal devices within compartment:

Spray(s)

Pathways into and out of compartment 1

Inlet Pathway Number 13: Unsprayed Drywell to Sprayed Drywell

Exit Pathway Number 1: Drywell to MSIV Failed Control Vol 1

Exit Pathway Number 3: Drywell to Intact Control Volume 2

Exit Pathway Number 6: Drywell to Intact Control Volume 4

Exit Pathway Number 12: Sprayed Drywell to Unsprayed Drywell

Compartment number 2

Name: MSIV Failed Control Vol 1

Compartment volume = 2.0024E+02 (Cubic feet)

Compartment type is Normal

Pathways into and out of compartment 2

Inlet Pathway Number 1: Drywell to MSIV Failed Control Vol 1

Exit Pathway Number 2: MSIV Failed Control Vol 1 to Environment

Compartment number 3

Name: Intact Control Volume 2

Compartment volume = 1.5293E+02 (Cubic feet)

Compartment type is Normal

Pathways into and out of compartment 3

Inlet Pathway Number 3: Drywell to Intact Control Volume 2

Exit Pathway Number 4: Intact Control Volume 2 to Intact Control

Volume 3

Compartment number 4

Name: Intact Control Volume 3

Compartment volume = 4.9110E+01 (Cubic feet)

Compartment type is Normal

Pathways into and out of compartment 4

Inlet Pathway Number 4: Intact Control Volume 2 to Intact Control  
Volume 3

Exit Pathway Number 5: Intact Control Volume 3 to Environment

Compartment number 5

Name: Intact Control Volume 4

Compartment volume = 1.6375E+02 (Cubic feet)

Compartment type is Normal

Pathways into and out of compartment 5

Inlet Pathway Number 6: Drywell to Intact Control Volume 4

Exit Pathway Number 7: Intact Control Volume 4 to Intact Control Volume 5

Compartment number 6

Name: Intact Control Volume 5

Compartment volume = 4.9110E+01 (Cubic feet)

Compartment type is Normal

Pathways into and out of compartment 6

Inlet Pathway Number 7: Intact Control Volume 4 to Intact Control Volume 5

Exit Pathway Number 8: Intact Control Volume 5 to Environment

Compartment number 7

Name: Environment

Compartment type is Environment

Pathways into and out of compartment 7

Inlet Pathway Number 2: MSIV Failed Control Vol 1 to Environment

Inlet Pathway Number 5: Intact Control Volume 3 to Environment

Inlet Pathway Number 8: Intact Control Volume 5 to Environment

Inlet Pathway Number 11: Control Room Exhaust to Environment

Exit Pathway Number 9: Filtered Intake to Control Room

Exit Pathway Number 10: Unfiltered Inleakage to Control Room

Compartment number 8

Name: Control Room

Compartment volume = 1.8400E+05 (Cubic feet)

Compartment type is Control Room

Pathways into and out of compartment 8

Inlet Pathway Number 9: Filtered Intake to Control Room

Inlet Pathway Number 10: Unfiltered Inleakage to Control Room

Exit Pathway Number 11: Control Room Exhaust to Environment

Compartment number 9

Name: Unsprayed Drywell

Compartment volume = 6.3000E+04 (Cubic feet)

Compartment type is Normal

Pathways into and out of compartment 9

Inlet Pathway Number 12: Sprayed Drywell to Unsprayed Drywell

Exit Pathway Number 13: Unsprayed Drywell to Sprayed Drywell

Total number of pathways = 13

#####  
 RADTRAD Version 3.03 (Spring 2001) run on 1/27/2020 at 15:25:32  
 #####

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

Radioactive Decay is enabled  
 Calculation of Daughters is enabled

Release Fractions and Timings

	GAP	EARLY IN-VESSEL	LATE RELEASE	RELEASE MASS
	0.500000 hr	1.5000 hrs	0.0000 hrs	(gm)
NOBLES	5.0000E-02	9.5000E-01	0.0000E+00	4.433E+03
IODINE	5.0000E-02	2.5000E-01	0.0000E+00	2.603E+02
CESIUM	5.0000E-02	2.0000E-01	0.0000E+00	4.865E+04
TELLURIUM	0.0000E+00	5.0000E-02	0.0000E+00	3.482E+01
STRONTIUM	0.0000E+00	2.0000E-02	0.0000E+00	1.714E+03
BARIUM	0.0000E+00	2.0000E-02	0.0000E+00	3.979E+01
RUTHENIUM	0.0000E+00	2.5000E-03	0.0000E+00	5.508E+01
CERIUM	0.0000E+00	5.0000E-04	0.0000E+00	5.379E+02
LANTHANUM	0.0000E+00	2.0000E-04	0.0000E+00	8.763E+00

Inventory Power = 3016. MWt

Nuclide Name	Group	Specific Inventory (Ci/MWt)	half life (s)	Whole Body DCF (Sv-m3/Bq-s)	Inhaled Thyroid (Sv/Bq)	Inhaled Effective (Sv/Bq)
Co-58	7	1.529E+02	6.117E+06	4.760E-14	8.720E-10	2.940E-09
Co-60	7	1.830E+02	1.663E+08	1.260E-13	1.620E-08	5.910E-08
Kr-85	1	4.609E+02	3.383E+08	1.190E-16	0.000E+00	0.000E+00
Kr-85m	1	7.427E+03	1.613E+04	7.480E-15	0.000E+00	0.000E+00
Kr-87	1	1.436E+04	4.578E+03	4.120E-14	0.000E+00	0.000E+00
Kr-88	1	2.022E+04	1.022E+04	1.020E-13	0.000E+00	0.000E+00
Rb-86	3	6.465E+01	1.612E+06	4.810E-15	1.330E-09	1.790E-09
Sr-89	5	2.715E+04	4.363E+06	7.730E-17	7.960E-12	1.120E-08
Sr-90	5	3.747E+03	9.190E+08	7.530E-18	2.690E-10	3.510E-07
Sr-91	5	3.382E+04	3.420E+04	4.924E-14	9.930E-12	4.547E-10
Sr-92	5	3.647E+04	9.756E+03	6.790E-14	3.920E-12	2.180E-10
Y-90	9	3.846E+03	2.304E+05	1.900E-16	5.170E-13	2.280E-09
Y-91	9	3.481E+04	5.055E+06	2.600E-16	8.500E-12	1.320E-08
Y-92	9	3.647E+04	1.274E+04	1.300E-14	1.050E-12	2.110E-10
Y-93	9	4.178E+04	3.636E+04	4.800E-15	9.260E-13	5.820E-10
Zr-95	9	4.609E+04	5.528E+06	3.600E-14	1.440E-09	6.390E-09
Zr-97	9	4.575E+04	6.084E+04	4.432E-14	2.315E-11	1.171E-09
Nb-95	9	4.642E+04	3.037E+06	3.740E-14	3.580E-10	1.570E-09
Mo-99	7	5.106E+04	2.376E+05	7.280E-15	1.520E-11	1.070E-09
Tc-99m	7	4.476E+04	2.167E+04	5.890E-15	5.010E-11	8.800E-12
Ru-103	7	4.310E+04	3.394E+06	2.251E-14	2.570E-10	2.421E-09
Ru-105	7	3.077E+04	1.598E+04	3.810E-14	4.150E-12	1.230E-10
Ru-106	7	1.890E+04	3.181E+07	1.040E-14	1.720E-09	1.290E-07
Rh-105	7	2.901E+04	1.273E+05	3.720E-15	2.880E-12	2.580E-10
Sb-127	4	2.974E+03	3.326E+05	3.330E-14	6.150E-11	1.630E-09
Sb-129	4	8.819E+03	1.555E+04	7.140E-14	9.720E-12	1.740E-10
Te-127	4	2.957E+03	3.366E+04	2.420E-16	1.840E-12	8.600E-11

Te-127m	4	3.979E+02	9.418E+06	1.470E-16	9.660E-11	5.810E-09
Te-129	4	8.687E+03	4.176E+03	2.750E-15	5.090E-13	2.090E-11
Te-129m	4	1.290E+03	2.903E+06	3.337E-15	1.563E-10	6.484E-09
Te-131m	4	3.945E+03	1.080E+05	7.463E-14	3.669E-08	1.758E-09
Te-132	4	3.846E+04	2.815E+05	1.030E-14	6.280E-08	2.550E-09
I-131	2	2.702E+04	6.947E+05	1.820E-14	2.920E-07	8.890E-09
I-132	2	3.912E+04	8.280E+03	1.120E-13	1.740E-09	1.030E-10
I-133	2	5.537E+04	7.488E+04	2.940E-14	4.860E-08	1.580E-09
I-134	2	6.101E+04	3.156E+03	1.300E-13	2.880E-10	3.550E-11
I-135	2	5.172E+04	2.380E+04	8.294E-14	8.460E-09	3.320E-10
Xe-133	1	5.305E+04	4.532E+05	1.560E-15	0.000E+00	0.000E+00
Xe-135	1	2.195E+04	3.272E+04	1.190E-14	0.000E+00	0.000E+00
Cs-134	3	7.990E+03	6.507E+07	7.570E-14	1.110E-08	1.250E-08
Cs-136	3	1.953E+03	1.132E+06	1.060E-13	1.730E-09	1.980E-09
Cs-137	3	5.073E+03	9.467E+08	2.725E-14	7.930E-09	8.630E-09
Ba-139	6	4.973E+04	4.962E+03	2.170E-15	2.400E-12	4.640E-11
Ba-140	6	4.807E+04	1.101E+06	8.580E-15	2.560E-10	1.010E-09
La-140	9	5.172E+04	1.450E+05	1.170E-13	6.870E-11	1.310E-09
La-141	9	4.542E+04	1.415E+04	2.390E-15	9.400E-12	1.570E-10
La-142	9	4.376E+04	5.550E+03	1.440E-13	8.740E-12	6.840E-11
Ce-141	8	4.542E+04	2.808E+06	3.430E-15	2.550E-11	2.420E-09
Ce-143	8	4.244E+04	1.188E+05	1.290E-14	6.230E-12	9.160E-10
Ce-144	8	3.780E+04	2.456E+07	2.773E-15	2.920E-10	1.010E-07
Pr-143	9	4.111E+04	1.172E+06	2.100E-17	1.680E-18	2.190E-09
Nd-147	9	1.814E+04	9.487E+05	6.190E-15	1.820E-11	1.850E-09
Np-239	8	5.404E+05	2.035E+05	7.690E-15	7.620E-12	6.780E-10
Pu-238	8	2.105E+02	2.769E+09	4.880E-18	3.860E-10	7.790E-05
Pu-239	8	1.247E+01	7.594E+11	4.240E-18	3.750E-10	8.330E-05
Pu-240	8	1.257E+01	2.063E+11	4.750E-18	3.760E-10	8.330E-05
Pu-241	8	7.493E+03	4.544E+08	7.250E-20	9.150E-12	1.340E-06
Am-241	9	1.326E+01	1.364E+10	8.180E-16	1.600E-09	1.200E-04
Cm-242	9	2.606E+03	1.407E+07	5.690E-18	9.410E-10	4.670E-06
Cm-244	9	3.349E+02	5.715E+08	4.910E-18	1.010E-09	6.700E-05

Nuclide	Daughter	Fraction	Daughter	Fraction	Daughter	Fraction
Kr-85m	Kr-85	0.21	none	0.00	none	0.00
Kr-87	Rb-87	1.00	none	0.00	none	0.00
Kr-88	Rb-88	1.00	none	0.00	none	0.00
Sr-90	Y-90	1.00	none	0.00	none	0.00
Sr-91	Y-91m	0.58	Y-91	0.42	none	0.00
Sr-92	Y-92	1.00	none	0.00	none	0.00
Y-93	Zr-93	1.00	none	0.00	none	0.00
Zr-95	Nb-95m	0.01	Nb-95	0.99	none	0.00
Zr-97	Nb-97m	0.95	Nb-97	0.05	none	0.00
Mo-99	Tc-99m	0.88	Tc-99	0.12	none	0.00
Tc-99m	Tc-99	1.00	none	0.00	none	0.00
Ru-103	Rh-103m	1.00	none	0.00	none	0.00
Ru-105	Rh-105	1.00	none	0.00	none	0.00
Ru-106	Rh-106	1.00	none	0.00	none	0.00
Sb-127	Te-127m	0.18	Te-127	0.82	none	0.00
Sb-129	Te-129m	0.22	Te-129	0.77	none	0.00
Te-127m	Te-127	0.98	none	0.00	none	0.00
Te-129	I-129	1.00	none	0.00	none	0.00
Te-129m	Te-129	0.65	I-129	0.35	none	0.00
Te-131m	Te-131	0.22	I-131	0.78	none	0.00
Te-132	I-132	1.00	none	0.00	none	0.00
I-131	Xe-131m	0.01	none	0.00	none	0.00

I-133	Xe-133m	0.03	Xe-133	0.97	none	0.00
I-135	Xe-135m	0.15	Xe-135	0.85	none	0.00
Xe-135	Cs-135	1.00	none	0.00	none	0.00
Cs-137	Ba-137m	0.95	none	0.00	none	0.00
Ba-140	La-140	1.00	none	0.00	none	0.00
La-141	Ce-141	1.00	none	0.00	none	0.00
Ce-143	Pr-143	1.00	none	0.00	none	0.00
Ce-144	Pr-144m	0.02	Pr-144	0.98	none	0.00
Nd-147	Pm-147	1.00	none	0.00	none	0.00
Np-239	Pu-239	1.00	none	0.00	none	0.00
Pu-238	U-234	1.00	none	0.00	none	0.00
Pu-239	U-235	1.00	none	0.00	none	0.00
Pu-240	U-236	1.00	none	0.00	none	0.00
Pu-241	U-237	0.00	Am-241	1.00	none	0.00
Am-241	Np-237	1.00	none	0.00	none	0.00
Cm-242	Pu-238	1.00	none	0.00	none	0.00
Cm-244	Pu-240	1.00	none	0.00	none	0.00

## Iodine fractions

Aerosol	=	9.5000E-01
Elemental	=	4.8500E-02
Organic	=	1.5000E-03

## COMPARTMENT DATA

Compartment number 1: Sprayed Drywell

## Sprays: Aerosol Removal Data

Time (hr)	Removal Coef. (hr <sup>-1</sup> )
0.0000E+00	0.0000E+00
1.6670E-01	1.5000E+01
1.0000E+00	1.5000E+01
2.0000E+00	1.5000E+01
2.2000E+00	1.5000E+01
2.2500E+00	1.5000E+01
2.3000E+00	1.5000E+01
2.3500E+00	1.5000E+01
4.0000E+00	1.5000E+01
7.2000E+02	0.0000E+00

## Sprays: Elemental Removal Data

Time (hr)	Removal Coef. (hr <sup>-1</sup> )
0.0000E+00	0.0000E+00
1.6670E-01	1.5000E+01
1.0000E+00	1.5000E+01
2.0000E+00	1.5000E+01
2.2000E+00	1.5000E+01
2.2500E+00	1.5000E+01
2.3000E+00	1.5000E+01
2.3500E+00	1.5000E+01
4.0000E+00	1.5000E+01
7.2000E+02	0.0000E+00

Compartment number 2: MSIV Failed Control Vol 1

Compartment number 3: Intact Control Volume 2

Compartment number 4: Intact Control Volume 3

Compartment number 5: Intact Control Volume 4

Compartment number 6: Intact Control Volume 5

Compartment number 7: Environment

Compartment number 8: Control Room

Compartment number 9: Unsprayed Drywell

PATHWAY DATA

Pathway number 1: Drywell to MSIV Failed Control Vol 1

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	5.9500E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	3.4900E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	1.7500E-01	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 2: MSIV Failed Control Vol 1 to Environment

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	1.6670E+00	8.7820E+01	6.8400E+00	0.0000E+00
2.0000E+00	9.7900E-01	8.7820E+01	6.8400E+00	0.0000E+00
8.0000E+00	9.7900E-01	8.7820E+01	9.1100E+00	0.0000E+00
2.4000E+01	4.8900E-01	8.7820E+01	1.5690E+01	0.0000E+00
4.8000E+01	4.8900E-01	8.7820E+01	3.1540E+01	0.0000E+00
7.2000E+01	4.8900E-01	8.7820E+01	5.2530E+01	0.0000E+00
9.6000E+01	4.8900E-01	8.7820E+01	7.2070E+01	0.0000E+00
2.4000E+02	4.8900E-01	8.7820E+01	9.7260E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 3: Drywell to Intact Control Volume 2

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	5.9500E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	3.4900E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	1.7500E-01	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 4: Intact Control Volume 2 to Intact Control Volume 3



## Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	1.6670E+00	7.6750E+01	4.1600E+00	0.0000E+00
2.0000E+00	9.7900E-01	7.6750E+01	4.1600E+00	0.0000E+00
8.0000E+00	9.7900E-01	7.6750E+01	5.5700E+00	0.0000E+00
2.4000E+01	4.8900E-01	7.6750E+01	9.7400E+00	0.0000E+00
4.8000E+01	4.8900E-01	7.6750E+01	2.0390E+01	0.0000E+00
7.2000E+01	4.8900E-01	7.6750E+01	3.6240E+01	0.0000E+00
9.6000E+01	4.8900E-01	7.6750E+01	5.4010E+01	0.0000E+00
2.4000E+02	4.8900E-01	7.6750E+01	9.3310E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

## Pathway number 5: Intact Control Volume 3 to Environment

## Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	1.6670E+00	8.0220E+01	1.4970E+01	0.0000E+00
2.0000E+00	9.7900E-01	8.0220E+01	1.4970E+01	0.0000E+00
8.0000E+00	9.7900E-01	8.0220E+01	1.9630E+01	0.0000E+00
2.4000E+01	4.8900E-01	8.0220E+01	3.2260E+01	0.0000E+00
4.8000E+01	4.8900E-01	8.0220E+01	5.7570E+01	0.0000E+00
7.2000E+01	4.8900E-01	8.0220E+01	8.0730E+01	0.0000E+00
9.6000E+01	4.8900E-01	8.0220E+01	9.2810E+01	0.0000E+00
2.4000E+02	4.8900E-01	8.0220E+01	9.7840E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

## Pathway number 6: Drywell to Intact Control Volume 4

## Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	2.9700E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	1.7500E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	8.7000E-02	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

## Pathway number 7: Intact Control Volume 4 to Intact Control Volume 5

## Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	8.3300E-01	8.9010E+01	4.7500E+00	0.0000E+00
2.0000E+00	4.8900E-01	8.9010E+01	4.7500E+00	0.0000E+00
8.0000E+00	4.8900E-01	8.9010E+01	6.3500E+00	0.0000E+00
2.4000E+01	2.4500E-01	8.9010E+01	1.1060E+01	0.0000E+00
4.8000E+01	2.4500E-01	8.9010E+01	2.2950E+01	0.0000E+00
7.2000E+01	2.4500E-01	8.9010E+01	4.0200E+01	0.0000E+00

9.6000E+01	2.4500E-01	8.9010E+01	5.8780E+01	0.0000E+00
2.4000E+02	2.4500E-01	8.9010E+01	9.4930E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 8: Intact Control Volume 5 to Environment

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	8.3300E-01	8.9030E+01	1.4970E+01	0.0000E+00
2.0000E+00	4.8900E-01	8.9030E+01	1.4970E+01	0.0000E+00
8.0000E+00	4.8900E-01	8.9030E+01	1.9630E+01	0.0000E+00
2.4000E+01	2.4500E-01	8.9030E+01	3.2260E+01	0.0000E+00
4.8000E+01	2.4500E-01	8.9030E+01	5.7570E+01	0.0000E+00
7.2000E+01	2.4500E-01	8.9030E+01	8.0730E+01	0.0000E+00
9.6000E+01	2.4500E-01	8.9030E+01	9.2810E+01	0.0000E+00
2.4000E+02	2.4500E-01	8.9030E+01	9.7840E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 9: Filtered Intake to Control Room

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
2.0000E+00	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
8.0000E+00	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
2.4000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
9.6000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 10: Unfiltered Inleakage to Control Room

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	4.0000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
8.0000E+00	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
9.6000E+01	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 11: Control Room Exhaust to Environment

Pathway Filter: Removal Data

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

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	6.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
8.0000E+00	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
9.6000E+01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 12: Sprayed Drywell to Unsprayed Drywell

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	2.1000E-06	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 13: Unsprayed Drywell to Sprayed Drywell

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	2.1000E-06	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

LOCATION DATA

Location Exclusion Area Boundary is in compartment 7

Location X/Q Data

Time (hr)	X/Q (s * m^-3)
0.0000E+00	1.3600E-03
7.2000E+02	0.0000E+00

Location Breathing Rate Data

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

Location Low Population Zone is in compartment 7

Location X/Q Data

Time (hr)	X/Q (s * m^-3)
0.0000E+00	1.0400E-04
2.0000E+00	4.1400E-05
8.0000E+00	2.6200E-05
2.4000E+01	9.9600E-06
9.6000E+01	2.5200E-06
7.2000E+02	0.0000E+00

Location Breathing Rate Data

Time (hr)	Breathing Rate (m^3 * sec^-1)
0.0000E+00	3.5000E-04
8.0000E+00	1.8000E-04
2.4000E+01	2.3000E-04
7.2000E+02	0.0000E+00

Location Control Room is in compartment 8

## Location X/Q Data

Time (hr)	X/Q ( $s * m^{-3}$ )
0.0000E+00	1.0200E-03
2.0000E+00	8.2300E-04
8.0000E+00	3.5500E-04
2.4000E+01	2.3200E-04
9.6000E+01	1.3800E-04
7.2000E+02	0.0000E+00

## Location Breathing Rate Data

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

## Location Occupancy Factor Data

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

## USER SPECIFIED TIME STEP DATA - SUPPLEMENTAL TIME STEPS

Time	Time step
0.0000E+00	1.0000E-01
1.0000E+00	1.0000E-02
2.0000E+00	5.0000E-01
8.0000E+00	1.0000E+00
2.4000E+01	2.0000E+00
9.6000E+01	5.0000E+00
7.2000E+02	0.0000E+00

#####  
 RADTRAD Version 3.03 (Spring 2001) run on 1/27/2020 at 15:25:32  
 #####

```

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

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

Exclusion Area Boundary Doses:

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

Low Population Zone Doses:

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

Control Room Doses:

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

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =	0.0333	Ci	kg	Atoms	Decay
------------	--------	----	----	-------	-------

Sprayed Drywell Transport Group Inventory:

Time (h) =	0.0333	Atmosphere	Sump
Noble gases (atoms)		9.7077E+22	0.0000E+00
Elemental I (atoms)		6.4079E+20	0.0000E+00
Organic I (atoms)		1.9818E+19	0.0000E+00
Aerosols (kg)		6.5081E-01	0.0000E+00
Dose Effective (Ci/cc)	I-131 (Thyroid)		1.4189E-04
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		1.8107E-04
Total I (Ci)			2.3304E+06

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

Pathway

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

Drywell to Intact Control Volume 2 Transport Group Inventory:

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

Drywell to Intact Control Volume 4 Transport Group Inventory:

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

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
	Filtered	Transported
Time (h) = 0.0333		
Noble gases (atoms)	0.0000E+00	2.1438E+12
Elemental I (atoms)	0.0000E+00	1.4161E+10
Organic I (atoms)	0.0000E+00	4.3798E+08
Aerosols (kg)	0.0000E+00	1.4372E-11

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
	Filtered	Transported
Time (h) = 0.0333		
Noble gases (atoms)	0.0000E+00	4.7592E+01
Elemental I (atoms)	0.0000E+00	3.1438E-01
Organic I (atoms)	0.0000E+00	9.7231E-03
Aerosols (kg)	0.0000E+00	3.1906E-22

Exclusion Area Boundary Doses:

	Whole Body	Thyroid	TEDE
Time (h) = 0.1667			
Delta dose (rem)	1.2597E-03	1.2956E-01	6.5805E-03
Accumulated dose (rem)	1.2597E-03	1.2956E-01	6.5805E-03

Low Population Zone Doses:

	Whole Body	Thyroid	TEDE
Time (h) = 0.1667			
Delta dose (rem)	9.6331E-05	9.9072E-03	5.0321E-04
Accumulated dose (rem)	9.6331E-05	9.9072E-03	5.0321E-04

Control Room Doses:

	Whole Body	Thyroid	TEDE
Time (h) = 0.1667			

Delta dose (rem)	4.1223E-06	8.2934E-03	3.4486E-04
Accumulated dose (rem)	4.1223E-06	8.2934E-03	3.4486E-04

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =	Ci	kg	Atoms	Decay
Kr-85	2.3172E+04	5.9061E-02	4.1844E+23	3.4923E+17
Kr-85m	3.6388E+05	4.4217E-05	3.1327E+20	5.5386E+18
Kr-87	6.5924E+05	2.3274E-05	1.6110E+20	1.0289E+19
Kr-88	9.7602E+05	7.7838E-05	5.3267E+20	1.4941E+19
Rb-86	3.2494E+03	3.9935E-05	2.7964E+20	4.8978E+16
I-131	1.3576E+06	1.0951E-02	5.0342E+22	2.0466E+19
I-132	1.9006E+06	1.8413E-04	8.4005E+20	2.9078E+19
I-133	2.7683E+06	2.4437E-03	1.1065E+22	4.1811E+19
I-134	2.6885E+06	1.0078E-04	4.5292E+20	4.2631E+19
I-135	2.5551E+06	7.2758E-04	3.2456E+21	3.8768E+19
Xe-133	2.6671E+06	1.4249E-02	6.4517E+22	4.0190E+19
Xe-135	1.1173E+06	4.3753E-04	1.9517E+21	1.6680E+19
Cs-134	4.0169E+05	3.1047E-01	1.3953E+24	6.0541E+18
Cs-136	9.8150E+04	1.3392E-03	5.9300E+21	1.4795E+18
Cs-137	2.5504E+05	2.9321E+00	1.2889E+25	3.8439E+18

## Sprayed Drywell Transport Group Inventory:

Time (h) =	Atmosphere	Sump
Noble gases (atoms)	4.8591E+23	0.0000E+00
Elemental I (atoms)	3.1984E+21	0.0000E+00
Organic I (atoms)	9.8918E+19	0.0000E+00
Aerosols (kg)	3.2577E+00	0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)		7.0867E-04
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)		9.0129E-04
Total I (Ci)		1.1270E+07

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

Time (h) =	Pathway	
	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.4613E+19
Elemental I (atoms)	0.0000E+00	9.6373E+16
Organic I (atoms)	0.0000E+00	2.9806E+15
Aerosols (kg)	0.0000E+00	9.7969E-05

## Drywell to Intact Control Volume 2 Transport Group Inventory:

Time (h) =	Pathway	
	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.4613E+19
Elemental I (atoms)	0.0000E+00	9.6373E+16
Organic I (atoms)	0.0000E+00	2.9806E+15
Aerosols (kg)	0.0000E+00	9.7969E-05

## Drywell to Intact Control Volume 4 Transport Group Inventory:

Time (h) =	Pathway	
	Filtered	Transported
Noble gases (atoms)	0.0000E+00	7.2943E+18
Elemental I (atoms)	0.0000E+00	4.8106E+16
Organic I (atoms)	0.0000E+00	1.4878E+15

Aerosols (kg) 0.0000E+00 4.8902E-05

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 0.1667	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.3720E+13
Elemental I (atoms)	0.0000E+00	3.5430E+11
Organic I (atoms)	0.0000E+00	1.0958E+10
Aerosols (kg)	0.0000E+00	3.6014E-10

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 0.1667	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.9701E+03
Elemental I (atoms)	0.0000E+00	3.9364E+01
Organic I (atoms)	0.0000E+00	1.2174E+00
Aerosols (kg)	0.0000E+00	4.0025E-20

Exclusion Area Boundary Doses:

Time (h) = 0.5000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.8404E-02	2.0014E+00	1.0973E-01
Accumulated dose (rem)	2.9664E-02	2.1310E+00	1.1631E-01

Low Population Zone Doses:

Time (h) = 0.5000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.1721E-03	1.5305E-01	8.3914E-03
Accumulated dose (rem)	2.2684E-03	1.6296E-01	8.8946E-03

Control Room Doses:

Time (h) = 0.5000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.4822E-04	3.9542E-01	1.6367E-02
Accumulated dose (rem)	2.5234E-04	4.0371E-01	1.6712E-02

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 0.5000	Ci	kg	Atoms	Decay
Kr-85	6.9490E+04	1.7712E-01	1.2549E+24	2.6941E+18
Kr-85m	1.0364E+06	1.2594E-04	8.9225E+20	4.1297E+19
Kr-87	1.6486E+06	5.8201E-05	4.0287E+20	7.0503E+19
Kr-88	2.6983E+06	2.1519E-04	1.4726E+21	1.0925E+20
Rb-86	1.3120E+03	1.6124E-05	1.1291E+20	1.1638E+17
I-131	5.5313E+05	4.4617E-03	2.0511E+22	4.8784E+19
I-132	7.7031E+05	7.4627E-05	3.4046E+20	6.8995E+19
I-133	1.1166E+06	9.8569E-04	4.4631E+21	9.9289E+19
I-134	8.4250E+05	3.1582E-05	1.4193E+20	9.2559E+19
I-135	1.0063E+06	2.8656E-04	1.2783E+21	9.1252E+19
Xe-133	7.9896E+06	4.2684E-02	1.9327E+23	3.0992E+20
Xe-135	3.3307E+06	1.3043E-03	5.8181E+21	1.2937E+20
Cs-134	1.6227E+05	1.2542E-01	5.6364E+23	1.4388E+19
Cs-136	3.9621E+04	5.4059E-04	2.3938E+21	3.5152E+18
Cs-137	1.0303E+05	1.1845E+00	5.2067E+24	9.1354E+18



## Sprayed Drywell Transport Group Inventory:

Time (h) =	0.5000	Atmosphere	Sump
Noble gases (atoms)	1.4567E+24	0.0000E+00	
Elemental I (atoms)	1.2842E+21	8.2259E+21	
Organic I (atoms)	2.9466E+20	0.0000E+00	
Aerosols (kg)	1.3160E+00	8.3927E+00	
Dose Effective (Ci/cc)	I-131 (Thyroid)		2.8756E-04
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		3.6336E-04
Total I (Ci)			4.2889E+06

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) =	0.5000	
	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.3629E+20
Elemental I (atoms)	0.0000E+00	3.0246E+17
Organic I (atoms)	0.0000E+00	2.7684E+16
Aerosols (kg)	0.0000E+00	3.0823E-04

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) =	0.5000	
	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.3629E+20
Elemental I (atoms)	0.0000E+00	3.0246E+17
Organic I (atoms)	0.0000E+00	2.7684E+16
Aerosols (kg)	0.0000E+00	3.0823E-04

## Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) =	0.5000	
	Filtered	Transported
Noble gases (atoms)	0.0000E+00	6.8030E+19
Elemental I (atoms)	0.0000E+00	1.5097E+17
Organic I (atoms)	0.0000E+00	1.3819E+16
Aerosols (kg)	0.0000E+00	1.5385E-04

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) =	0.5000	
	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.8317E+14
Elemental I (atoms)	0.0000E+00	1.0816E+12
Organic I (atoms)	0.0000E+00	9.8145E+10
Aerosols (kg)	0.0000E+00	1.1022E-09

## Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) =	0.5000	
	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.6106E+05
Elemental I (atoms)	0.0000E+00	5.5334E+02
Organic I (atoms)	0.0000E+00	3.2684E+01
Aerosols (kg)	0.0000E+00	5.6510E-19

## Exclusion Area Boundary Doses:

Time (h) =	0.6667	Whole Body	Thyroid	TEDE
Delta dose (rem)		3.8715E-02	1.7419E+00	1.1107E-01
Accumulated dose (rem)		6.8379E-02	3.8729E+00	2.2738E-01

## Low Population Zone Doses:

Time (h) =	0.6667	Whole Body	Thyroid	TEDE
Delta dose (rem)		2.9606E-03	1.3320E-01	8.4936E-03
Accumulated dose (rem)		5.2290E-03	2.9616E-01	1.7388E-02

## Control Room Doses:

Time (h) =	0.6667	Whole Body	Thyroid	TEDE
Delta dose (rem)		4.4145E-04	5.2962E-01	2.2063E-02
Accumulated dose (rem)		6.9379E-04	9.3333E-01	3.8776E-02

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =	0.6667	Ci	kg	Atoms	Decay
Co-58		4.7021E+01	1.4787E-06	1.5354E+19	9.4786E+14
Co-60		5.6293E+01	4.9800E-05	4.9983E+20	1.1347E+15
Kr-85		2.1623E+05	5.5115E-01	3.9048E+24	6.7134E+18
Kr-85m		3.1429E+06	3.8190E-04	2.7057E+21	1.0042E+20
Kr-87		4.6843E+06	1.6537E-04	1.1447E+21	1.6133E+20
Kr-88		8.0617E+06	6.4292E-04	4.3997E+21	2.6195E+20
Rb-86		1.6969E+03	2.0855E-05	1.4604E+20	1.5328E+17
Sr-89		6.6788E+04	2.2989E-03	1.5555E+22	1.3463E+18
Sr-90		9.2210E+03	6.7599E-02	4.5232E+23	1.8587E+17
Sr-91		7.9276E+04	2.1869E-05	1.4473E+20	1.6074E+18
Sr-92		7.5678E+04	6.0208E-06	3.9411E+19	1.5571E+18
Y-90		1.0430E+02	1.9170E-07	1.2827E+18	1.9340E+15
Y-91		8.5807E+02	3.4989E-05	2.3155E+20	1.7269E+16
Y-92		2.3404E+03	2.4322E-07	1.5921E+18	2.1983E+16
Y-93		9.8218E+02	2.9439E-07	1.9063E+18	1.9907E+16
Zr-95		1.1339E+03	5.2781E-05	3.3458E+20	2.2857E+16
Zr-97		1.0955E+03	5.7306E-07	3.5577E+18	2.2155E+16
Nb-95		1.1423E+03	2.9214E-05	1.8519E+20	2.3026E+16
Mo-99		1.5597E+04	3.2520E-05	1.9782E+20	3.1466E+17
Tc-99m		1.3774E+04	2.6195E-06	1.5934E+19	2.7628E+17
Ru-103		1.3252E+04	4.1060E-04	2.4007E+21	2.6713E+17
Ru-105		8.5296E+03	1.2689E-06	7.2777E+18	1.7410E+17
Ru-106		5.8136E+03	1.7377E-03	9.8723E+21	1.1719E+17
Rh-105		8.9248E+03	1.0574E-05	6.0644E+19	1.7976E+17
Sb-127		1.8206E+04	6.8172E-05	3.2326E+20	3.6720E+17
Sb-129		4.8752E+04	8.6696E-06	4.0472E+19	9.9544E+17
Te-127		1.8155E+04	6.8792E-06	3.2620E+19	3.6494E+17
Te-127m		2.4481E+03	2.5954E-04	1.2307E+21	4.9347E+16
Te-129		5.0924E+04	2.4317E-06	1.1352E+19	1.0109E+18
Te-129m		7.9383E+03	2.6351E-04	1.2302E+21	1.6000E+17
Te-131m		2.3900E+04	2.9972E-05	1.3778E+20	4.8265E+17
Te-132		2.3522E+05	7.7479E-04	3.5348E+21	4.7448E+18
I-131		8.8246E+05	7.1181E-03	3.2722E+22	6.7698E+19
I-132		1.2449E+06	1.2060E-04	5.5021E+20	9.5835E+19
I-133		1.7725E+06	1.5647E-03	7.0846E+21	1.3737E+20
I-134		1.1787E+06	4.4186E-05	1.9858E+20	1.1953E+20
I-135		1.5785E+06	4.4948E-04	2.0050E+21	1.2537E+20
Xe-133		2.4862E+07	1.3282E-01	6.0142E+23	7.7216E+20

Xe-135	1.0493E+07	4.1087E-03	1.8328E+22	3.2458E+20
Cs-134	2.0993E+05	1.6226E-01	7.2920E+23	1.8952E+19
Cs-136	5.1240E+04	6.9913E-04	3.0958E+21	4.6293E+18
Cs-137	1.3329E+05	1.5324E+00	6.7361E+24	1.2033E+19
Ba-139	8.7519E+04	5.3506E-06	2.3181E+19	1.8371E+18
Ba-140	1.1812E+05	1.6134E-03	6.9402E+21	2.3814E+18
La-140	1.4686E+03	2.6421E-06	1.1365E+19	2.6176E+16
La-141	9.9374E+02	1.7572E-07	7.5049E+17	2.0316E+16
La-142	7.9798E+02	5.5744E-08	2.3641E+17	1.6678E+16
Ce-141	2.7941E+03	9.8062E-05	4.1883E+20	5.6323E+16
Ce-143	2.5747E+03	3.8771E-06	1.6328E+19	5.1987E+16
Ce-144	2.3254E+03	7.2908E-04	3.0490E+21	4.6874E+16
Pr-143	1.0120E+03	1.5029E-05	6.3291E+19	2.0392E+16
Nd-147	4.4563E+02	5.5084E-06	2.2566E+19	8.9845E+15
Np-239	3.2976E+04	1.4214E-04	3.5816E+20	6.6536E+17
Pu-238	1.2951E+01	7.5647E-04	1.9141E+21	2.6105E+14
Pu-239	7.6726E-01	1.2344E-02	3.1103E+22	1.5466E+13
Pu-240	7.7334E-01	3.3938E-03	8.5159E+21	1.5588E+13
Pu-241	4.6099E+02	4.4750E-03	1.1182E+22	9.2923E+15
Am-241	3.2634E-01	9.5084E-05	2.3760E+20	6.5781E+12
Cm-242	6.4124E+01	1.9348E-05	4.8146E+19	1.2926E+15
Cm-244	8.2415E+00	1.0187E-04	2.5142E+20	1.6613E+14

## Sprayed Drywell Transport Group Inventory:

Time (h) =	0.6667	Atmosphere	Sump	
Noble gases (atoms)	4.5328E+24	0.0000E+00		
Elemental I (atoms)	2.0451E+21	1.2792E+22		
Organic I (atoms)	4.5704E+20	0.0000E+00		
Aerosols (kg)	1.8017E+00	1.2543E+01		
Dose Effective (Ci/cc)	I-131 (Thyroid)		4.5789E-04	
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		5.7713E-04	
Total I (Ci)			6.6570E+06	

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

		Pathway	
Time (h) =	0.6667	Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.2391E+20	
Elemental I (atoms)	0.0000E+00	4.1684E+17	
Organic I (atoms)	0.0000E+00	5.1255E+16	
Aerosols (kg)	0.0000E+00	4.1221E-04	

## Drywell to Intact Control Volume 2 Transport Group Inventory:

		Pathway	
Time (h) =	0.6667	Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.2391E+20	
Elemental I (atoms)	0.0000E+00	4.1684E+17	
Organic I (atoms)	0.0000E+00	5.1255E+16	
Aerosols (kg)	0.0000E+00	4.1221E-04	

## Drywell to Intact Control Volume 4 Transport Group Inventory:

		Pathway	
Time (h) =	0.6667	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.6168E+20	
Elemental I (atoms)	0.0000E+00	2.0807E+17	

Organic I (atoms)	0.0000E+00	2.5585E+16
Aerosols (kg)	0.0000E+00	2.0576E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 0.6667	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.1454E+15
Elemental I (atoms)	0.0000E+00	1.4854E+12
Organic I (atoms)	0.0000E+00	1.8134E+11
Aerosols (kg)	0.0000E+00	1.4692E-09

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 0.6667	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.1359E+05
Elemental I (atoms)	0.0000E+00	9.7516E+02
Organic I (atoms)	0.0000E+00	7.8082E+01
Aerosols (kg)	0.0000E+00	9.9228E-19

Exclusion Area Boundary Doses:

Time (h) = 1.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.2743E-01	5.4598E+00	4.7524E-01
Accumulated dose (rem)	2.9581E-01	9.3326E+00	7.0263E-01

Low Population Zone Doses:

Time (h) = 1.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.7392E-02	4.1751E-01	3.6342E-02
Accumulated dose (rem)	2.2621E-02	7.1367E-01	5.3730E-02

Control Room Doses:

Time (h) = 1.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.7756E-03	1.2571E+00	5.3841E-02
Accumulated dose (rem)	2.4694E-03	2.1904E+00	9.2616E-02

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 1.0000	Ci	kg	Atoms	Decay
Co-58	5.1188E+01	1.6098E-06	1.6714E+19	3.2008E+15
Co-60	6.1289E+01	5.4219E-05	5.4419E+20	3.8321E+15
Kr-85	5.0957E+05	1.2988E+00	9.2019E+24	2.4648E+19
Kr-85m	7.0341E+06	8.5474E-04	6.0557E+21	3.5371E+20
Kr-87	9.2049E+06	3.2497E-04	2.2494E+21	5.1280E+20
Kr-88	1.7513E+07	1.3967E-03	9.5580E+21	9.0105E+20
Rb-86	1.7302E+03	2.1264E-05	1.4890E+20	2.2995E+17
Sr-89	7.2702E+04	2.5025E-03	1.6933E+22	4.5463E+18
Sr-90	1.0039E+04	7.3599E-02	4.9247E+23	6.2771E+17
Sr-91	8.4239E+04	2.3238E-05	1.5379E+20	5.3599E+18
Sr-92	7.5662E+04	6.0196E-06	3.9403E+19	5.0322E+18
Y-90	1.1681E+02	2.1470E-07	1.4366E+18	6.5975E+15
Y-91	9.3462E+02	3.8111E-05	2.5221E+20	5.8328E+16
Y-92	2.8643E+03	2.9767E-07	1.9485E+18	8.3104E+16
Y-93	1.0452E+03	3.1327E-07	2.0286E+18	6.6433E+16

Zr-95	1.2343E+03	5.7457E-05	3.6423E+20	7.7186E+16
Zr-97	1.1765E+03	6.1545E-07	3.8209E+18	7.4288E+16
Nb-95	1.2437E+03	3.1806E-05	2.0162E+20	7.7761E+16
Mo-99	1.6922E+04	3.5283E-05	2.1462E+20	1.0607E+18
Tc-99m	1.4997E+04	2.8520E-06	1.7349E+19	9.3275E+17
Ru-103	1.4424E+04	4.4693E-04	2.6131E+21	9.0203E+17
Ru-105	8.8158E+03	1.3115E-06	7.5219E+18	5.7230E+17
Ru-106	6.3294E+03	1.8919E-03	1.0748E+22	3.9575E+17
Rh-105	9.7126E+03	1.1507E-05	6.5998E+19	6.0696E+17
Sb-127	1.9772E+04	7.4038E-05	3.5107E+20	1.2385E+18
Sb-129	5.0316E+04	8.9475E-06	4.1770E+19	3.2698E+18
Te-127	1.9745E+04	7.4819E-06	3.5478E+19	1.2315E+18
Te-127m	2.6655E+03	2.8258E-04	1.3400E+21	1.6665E+17
Te-129	5.3859E+04	2.5718E-06	1.2006E+19	3.3595E+18
Te-129m	8.6437E+03	2.8693E-04	1.3395E+21	5.4038E+17
Te-131m	2.5821E+04	3.2382E-05	1.4886E+20	1.6234E+18
Te-132	2.5534E+05	8.4107E-04	3.8372E+21	1.5999E+19
I-131	9.1720E+05	7.3983E-03	3.4010E+22	1.0820E+20
I-132	1.2887E+06	1.2485E-04	5.6959E+20	1.5328E+20
I-133	1.8238E+06	1.6100E-03	7.2900E+21	2.1830E+20
I-134	9.4233E+05	3.5324E-05	1.5875E+20	1.6709E+20
I-135	1.5860E+06	4.5161E-04	2.0145E+21	1.9659E+20
Xe-133	5.8542E+07	3.1276E-01	1.4161E+24	2.8337E+21
Xe-135	2.4750E+07	9.6917E-03	4.3233E+22	1.1987E+21
Cs-134	2.1416E+05	1.6552E-01	7.4389E+23	2.8440E+19
Cs-136	5.2234E+04	7.1269E-04	3.1558E+21	6.9442E+18
Cs-137	1.3598E+05	1.5633E+00	6.8718E+24	1.8057E+19
Ba-139	8.0583E+04	4.9265E-06	2.1344E+19	5.6962E+18
Ba-140	1.2850E+05	1.7553E-03	7.5505E+21	8.0390E+18
La-140	1.6646E+03	2.9948E-06	1.2882E+19	8.9736E+16
La-141	1.0202E+03	1.8039E-07	7.7045E+17	6.6553E+16
La-142	7.4789E+02	5.2245E-08	2.2157E+17	5.2171E+16
Ce-141	3.0420E+03	1.0676E-04	4.5598E+20	1.9021E+17
Ce-143	2.7837E+03	4.1918E-06	1.7653E+19	1.7493E+17
Ce-144	2.5317E+03	7.9377E-04	3.3196E+21	1.5830E+17
Pr-143	1.1020E+03	1.6365E-05	6.8916E+19	6.8871E+16
Nd-147	4.8475E+02	5.9921E-06	2.4548E+19	3.0328E+16
Np-239	3.5757E+04	1.5413E-04	3.8836E+20	2.2422E+18
Pu-238	1.4100E+01	8.2362E-04	2.0840E+21	8.8161E+14
Pu-239	8.3540E-01	1.3440E-02	3.3866E+22	5.2231E+13
Pu-240	8.4198E-01	3.6951E-03	9.2717E+21	5.2645E+13
Pu-241	5.0190E+02	4.8722E-03	1.2175E+22	3.1381E+16
Am-241	3.5532E-01	1.0353E-04	2.5869E+20	2.2215E+13
Cm-242	6.9811E+01	2.1064E-05	5.2416E+19	4.3651E+15
Cm-244	8.9730E+00	1.1091E-04	2.7374E+20	5.6104E+14

## Sprayed Drywell Transport Group Inventory:

Time (h) =	1.0000	Atmosphere	Sump	
Noble gases (atoms)	1.0679E+25	0.0000E+00		
Elemental I (atoms)	2.1015E+21	2.3273E+22		
Organic I (atoms)	7.7882E+20	0.0000E+00		
Aerosols (kg)	1.8447E+00	2.1726E+01		
Dose Effective (Ci/cc)	I-131 (Thyroid)		4.7408E-04	
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		5.9447E-04	
Total I (Ci)			6.5580E+06	

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 1.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.2767E+21
Elemental I (atoms)	0.0000E+00	6.7943E+17
Organic I (atoms)	0.0000E+00	1.2876E+17
Aerosols (kg)	0.0000E+00	6.4225E-04

Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 1.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.2767E+21
Elemental I (atoms)	0.0000E+00	6.7943E+17
Organic I (atoms)	0.0000E+00	1.2876E+17
Aerosols (kg)	0.0000E+00	6.4225E-04

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 1.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	6.3727E+20
Elemental I (atoms)	0.0000E+00	3.3914E+17
Organic I (atoms)	0.0000E+00	6.4274E+16
Aerosols (kg)	0.0000E+00	3.2059E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 1.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.5081E+15
Elemental I (atoms)	0.0000E+00	2.4121E+12
Organic I (atoms)	0.0000E+00	4.5490E+11
Aerosols (kg)	0.0000E+00	2.2811E-09

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 1.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.1465E+06
Elemental I (atoms)	0.0000E+00	2.2639E+03
Organic I (atoms)	0.0000E+00	2.8111E+02
Aerosols (kg)	0.0000E+00	2.2437E-18

Exclusion Area Boundary Doses:

Time (h) = 2.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.4169E+00	3.2282E+01	4.9829E+00
Accumulated dose (rem)	3.7127E+00	4.1615E+01	5.6855E+00

Low Population Zone Doses:

Time (h) = 2.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.6129E-01	2.4686E+00	3.8105E-01
Accumulated dose (rem)	2.8391E-01	3.1823E+00	4.3478E-01

Control Room Doses:

Time (h) =	2.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		3.1638E-02	3.7364E+00	1.9547E-01
Accumulated dose (rem)		3.4107E-02	5.9268E+00	2.8808E-01

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =	2.0000	Ci	kg	Atoms	Decay
Co-58		5.1195E+01	1.6100E-06	1.6717E+19	1.0021E+16
Co-60		6.1322E+01	5.4249E-05	5.4449E+20	1.2000E+16
Kr-85		1.3891E+06	3.5406E+00	2.5085E+25	1.5170E+20
Kr-85m		1.6426E+07	1.9960E-03	1.4142E+22	1.9592E+21
Kr-87		1.4549E+07	5.1363E-04	3.5554E+21	2.2083E+21
Kr-88		3.7403E+07	2.9829E-03	2.0413E+22	4.7029E+21
Rb-86		1.7278E+03	2.1234E-05	1.4869E+20	4.6027E+17
Sr-89		7.2701E+04	2.5024E-03	1.6932E+22	1.4232E+19
Sr-90		1.0045E+04	7.3639E-02	4.9274E+23	1.9657E+18
Sr-91		7.8355E+04	2.1615E-05	1.4304E+20	1.6187E+19
Sr-92		5.8619E+04	4.6636E-06	3.0527E+19	1.3929E+19
Y-90		1.1077E+02	2.0361E-07	1.3624E+18	2.1260E+16
Y-91		9.3378E+02	3.8076E-05	2.5198E+20	1.8271E+17
Y-92		1.7258E+03	1.7935E-07	1.1740E+18	3.2142E+17
Y-93		9.7639E+02	2.9266E-07	1.8951E+18	2.0105E+17
Zr-95		1.2345E+03	5.7463E-05	3.6426E+20	2.4165E+17
Zr-97		1.1299E+03	5.9104E-07	3.6694E+18	2.2791E+17
Nb-95		1.2444E+03	3.1823E-05	2.0173E+20	2.4351E+17
Mo-99		1.6755E+04	3.4933E-05	2.1250E+20	3.3041E+18
Tc-99m		1.4986E+04	2.8499E-06	1.7336E+19	2.9291E+18
Ru-103		1.4422E+04	4.4685E-04	2.6126E+21	2.8236E+18
Ru-105		7.5458E+03	1.1225E-06	6.4382E+18	1.6601E+18
Ru-106		6.3324E+03	1.8928E-03	1.0753E+22	1.2392E+18
Rh-105		9.6879E+03	1.1478E-05	6.5829E+19	1.8995E+18
Sb-127		1.9635E+04	7.3525E-05	3.4864E+20	3.8636E+18
Sb-129		4.2880E+04	7.6254E-06	3.5598E+19	9.4650E+18
Te-127		1.9687E+04	7.4596E-06	3.5372E+19	3.8575E+18
Te-127m		2.6672E+03	2.8277E-04	1.3408E+21	5.2190E+17
Te-129		4.8215E+04	2.3023E-06	1.0748E+19	1.0143E+19
Te-129m		8.6499E+03	2.8713E-04	1.3404E+21	1.6924E+18
Te-131m		2.5246E+04	3.1660E-05	1.4554E+20	5.0252E+18
Te-132		2.5323E+05	8.3411E-04	3.8054E+21	4.9878E+19
I-131		9.3462E+05	7.5388E-03	3.4656E+22	2.3155E+20
I-132		1.3261E+06	1.2847E-04	5.8612E+20	3.2869E+20
I-133		1.8033E+06	1.5919E-03	7.2078E+21	4.5992E+20
I-134		4.3689E+05	1.6377E-05	7.3601E+19	2.5469E+20
I-135		1.4598E+06	4.1569E-04	1.8543E+21	3.9937E+20
Xe-133		1.5917E+08	8.5036E-01	3.8504E+24	1.7408E+22
Xe-135		6.7043E+07	2.6253E-02	1.1711E+23	7.3567E+21
Cs-134		2.1418E+05	1.6554E-01	7.4396E+23	5.6969E+19
Cs-136		5.2126E+04	7.1122E-04	3.1493E+21	1.3895E+19
Cs-137		1.3600E+05	1.5635E+00	6.8727E+24	3.6172E+19
Ba-139		4.8762E+04	2.9811E-06	1.2916E+19	1.4136E+19
Ba-140		1.2828E+05	1.7523E-03	7.5376E+21	2.5145E+19
La-140		1.5399E+03	2.7705E-06	1.1917E+19	2.9307E+17
La-141		8.5569E+02	1.5131E-07	6.4623E+17	1.9120E+17
La-142		4.7733E+02	3.3345E-08	1.4141E+17	1.3245E+17
Ce-141		3.0431E+03	1.0680E-04	4.5615E+20	5.9558E+17
Ce-143		2.7273E+03	4.1069E-06	1.7295E+19	5.4204E+17

Ce-144	2.5329E+03	7.9412E-04	3.3211E+21	4.9568E+17
Pr-143	1.1024E+03	1.6371E-05	6.8942E+19	2.1570E+17
Nd-147	4.8375E+02	5.9797E-06	2.4497E+19	9.4846E+16
Np-239	3.5340E+04	1.5233E-04	3.8384E+20	6.9784E+18
Pu-238	1.4108E+01	8.2408E-04	2.0852E+21	2.7607E+15
Pu-239	8.3598E-01	1.3450E-02	3.3889E+22	1.6357E+14
Pu-240	8.4244E-01	3.6971E-03	9.2768E+21	1.6485E+14
Pu-241	5.0218E+02	4.8749E-03	1.2181E+22	9.8269E+16
Am-241	3.5555E-01	1.0359E-04	2.5886E+20	6.9571E+13
Cm-242	6.9837E+01	2.1072E-05	5.2436E+19	1.3668E+16
Cm-244	8.9780E+00	1.1097E-04	2.7389E+20	1.7569E+15

## Sprayed Drywell Transport Group Inventory:

Time (h) =	2.0000	Atmosphere	Sump	
Noble gases (atoms)	2.9091E+25	0.0000E+00		
Elemental I (atoms)	2.0719E+21	5.4576E+22		
Organic I (atoms)	1.7236E+21	0.0000E+00		
Aerosols (kg)	1.8448E+00	4.9399E+01		
Dose Effective (Ci/cc)	I-131 (Thyroid)		4.7782E-04	
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		5.9229E-04	
Total I (Ci)			5.9607E+06	

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	8.7506E+21
Elemental I (atoms)	0.0000E+00	1.4636E+18
Organic I (atoms)	0.0000E+00	5.9993E+17
Aerosols (kg)	0.0000E+00	1.3355E-03

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	8.7506E+21
Elemental I (atoms)	0.0000E+00	1.4636E+18
Organic I (atoms)	0.0000E+00	5.9993E+17
Aerosols (kg)	0.0000E+00	1.3355E-03

## Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.3680E+21
Elemental I (atoms)	0.0000E+00	7.3059E+17
Organic I (atoms)	0.0000E+00	2.9946E+17
Aerosols (kg)	0.0000E+00	6.6665E-04

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.0887E+16
Elemental I (atoms)	0.0000E+00	5.1799E+12
Organic I (atoms)	0.0000E+00	2.1178E+12
Aerosols (kg)	0.0000E+00	4.7281E-09



## Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 2.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.3453E+07
Elemental I (atoms)	0.0000E+00	9.7578E+03
Organic I (atoms)	0.0000E+00	2.6227E+03
Aerosols (kg)	0.0000E+00	9.2592E-18

## Exclusion Area Boundary Doses:

Time (h) = 2.2000	Whole Body	Thyroid	TEDE
Delta dose (rem)	7.7018E-01	5.1629E+00	1.0220E+00
Accumulated dose (rem)	4.4829E+00	4.6777E+01	6.7075E+00

## Low Population Zone Doses:

Time (h) = 2.2000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.3445E-02	1.5716E-01	3.1111E-02
Accumulated dose (rem)	3.0736E-01	3.3395E+00	4.6589E-01

## Control Room Doses:

Time (h) = 2.2000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.4306E-02	8.1823E-01	5.1926E-02
Accumulated dose (rem)	4.8413E-02	6.7450E+00	3.4001E-01

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 2.2000	Ci	kg	Atoms	Decay
Co-58	2.5483E+00	8.0141E-08	8.3210E+17	1.0207E+16
Co-60	3.0526E+00	2.7005E-06	2.7105E+19	1.2223E+16
Kr-85	1.3890E+06	3.5403E+00	2.5082E+25	1.8870E+20
Kr-85m	1.5924E+07	1.9350E-03	1.3709E+22	2.3901E+21
Kr-87	1.3045E+07	4.6053E-04	3.1878E+21	2.5755E+21
Kr-88	3.5617E+07	2.8405E-03	1.9438E+22	5.6753E+21
Rb-86	8.5984E+01	1.0567E-06	7.3998E+18	4.6655E+17
Sr-89	3.6187E+03	1.2456E-04	8.4281E+20	1.4497E+19
Sr-90	5.0004E+02	3.6658E-03	2.4529E+22	2.0022E+18
Sr-91	3.8440E+03	1.0604E-06	7.0176E+18	1.6470E+19
Sr-92	2.7726E+03	2.2058E-07	1.4439E+18	1.4139E+19
Y-90	6.5850E+00	1.2103E-08	8.0987E+16	2.1669E+16
Y-91	4.6640E+01	1.9018E-06	1.2586E+19	1.8611E+17
Y-92	1.9292E+02	2.0049E-08	1.3124E+17	3.2836E+17
Y-93	4.7943E+01	1.4370E-08	9.3052E+16	2.0458E+17
Zr-95	6.1447E+01	2.8603E-06	1.8132E+19	2.4614E+17
Zr-97	5.5787E+01	2.9182E-08	1.8117E+17	2.3201E+17
Nb-95	6.1947E+01	1.5842E-06	1.0042E+19	2.4803E+17
Mo-99	8.3231E+02	1.7354E-06	1.0556E+19	3.3650E+18
Tc-99m	7.4580E+02	1.4184E-07	8.6278E+17	2.9832E+18
Ru-103	7.1781E+02	2.2241E-05	1.3004E+20	2.8761E+18
Ru-105	3.6409E+02	5.4163E-08	3.1065E+17	1.6872E+18
Ru-106	3.1523E+02	9.4222E-05	5.3530E+20	1.2623E+18
Rh-105	4.8183E+02	5.7085E-07	3.2740E+18	1.9347E+18
Sb-127	9.7598E+02	3.6546E-06	1.7330E+19	3.9349E+18
Sb-129	2.0672E+03	3.6761E-07	1.7161E+18	9.6192E+18

Te-127	9.7934E+02	3.7109E-07	1.7596E+18	3.9287E+18
Te-127m	1.3278E+02	1.4076E-05	6.6748E+19	5.3159E+17
Te-129	2.3500E+03	1.1221E-07	5.2384E+17	1.0313E+19
Te-129m	4.3060E+02	1.4294E-05	6.6727E+19	1.7239E+18
Te-131m	1.2509E+03	1.5688E-06	7.2117E+18	5.1168E+18
Te-132	1.2584E+04	4.1449E-05	1.8910E+20	5.0798E+19
I-131	8.0958E+04	6.5302E-04	3.0020E+21	2.3579E+20
I-132	1.0917E+05	1.0576E-05	4.8252E+19	3.3457E+20
I-133	1.5527E+05	1.3707E-04	6.2064E+20	4.6807E+20
I-134	3.2332E+04	1.2120E-06	5.4468E+18	2.5656E+20
I-135	1.2392E+05	3.5285E-05	1.5740E+20	4.0593E+20
Xe-133	1.5898E+08	8.4933E-01	3.8457E+24	2.1646E+22
Xe-135	6.6024E+07	2.5854E-02	1.1533E+23	9.1291E+21
Cs-134	1.0662E+04	8.2406E-03	3.7034E+22	5.7748E+19
Cs-136	2.5937E+03	3.5389E-05	1.5671E+20	1.4084E+19
Cs-137	6.7700E+03	7.7832E-02	3.4213E+23	3.6666E+19
Ba-139	2.1951E+03	1.3420E-07	5.8143E+17	1.4307E+19
Ba-140	6.3831E+03	8.7191E-05	3.7505E+20	2.5611E+19
La-140	9.8353E+01	1.7695E-07	7.6115E+17	2.9880E+17
La-141	4.1120E+01	7.2711E-09	3.1055E+16	1.9427E+17
La-142	2.1718E+01	1.5172E-09	6.4342E+15	1.3413E+17
Ce-141	1.5147E+02	5.3159E-06	2.2704E+19	6.0664E+17
Ce-143	1.3520E+02	2.0359E-07	8.5736E+17	5.5193E+17
Ce-144	1.2608E+02	3.9531E-05	1.6532E+20	5.0489E+17
Pr-143	5.4912E+01	8.1545E-07	3.4341E+18	2.1971E+17
Nd-147	2.4069E+01	2.9752E-07	1.2188E+18	9.6604E+16
Np-239	1.7549E+03	7.5647E-06	1.9061E+19	7.1067E+18
Pu-238	7.0231E-01	4.1023E-05	1.0380E+20	2.8120E+15
Pu-239	4.1617E-02	6.6955E-04	1.6871E+21	1.6661E+14
Pu-240	4.1937E-02	1.8404E-04	4.6181E+20	1.6792E+14
Pu-241	2.4999E+01	2.4268E-04	6.0640E+20	1.0009E+17
Am-241	1.7701E-02	5.1572E-06	1.2887E+19	7.0863E+13
Cm-242	3.4764E+00	1.0489E-06	2.6102E+18	1.3922E+16
Cm-244	4.4693E-01	5.5243E-06	1.3634E+19	1.7895E+15

## Sprayed Drywell Transport Group Inventory:

Time (h) =	2.2000	Atmosphere	Sump	
Noble gases (atoms)	2.9080E+25	0.0000E+00		
Elemental I (atoms)	1.0279E+20	5.6442E+22		
Organic I (atoms)	1.7176E+21	0.0000E+00		
Aerosols (kg)	9.1835E-02	5.1061E+01		
Dose Effective (Ci/cc)	I-131 (Thyroid)		4.1290E-05	
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		5.1023E-05	
Total I (Ci)			5.0165E+05	

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.0033E+22
Elemental I (atoms)	0.0000E+00	1.4911E+18
Organic I (atoms)	0.0000E+00	6.7584E+17
Aerosols (kg)	0.0000E+00	1.3600E-03

## Drywell to Intact Control Volume 2 Transport Group Inventory:

Pathway

Time (h) =	2.2000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.0033E+22	
Elemental I (atoms)	0.0000E+00	1.4911E+18	
Organic I (atoms)	0.0000E+00	6.7584E+17	
Aerosols (kg)	0.0000E+00	1.3600E-03	

Drywell to Intact Control Volume 4 Transport Group Inventory:

		Pathway	
Time (h) =	2.2000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.0109E+21	
Elemental I (atoms)	0.0000E+00	7.4434E+17	
Organic I (atoms)	0.0000E+00	3.3753E+17	
Aerosols (kg)	0.0000E+00	6.7890E-04	

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

		Pathway	
Time (h) =	2.2000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.8602E+16	
Elemental I (atoms)	0.0000E+00	5.3449E+12	
Organic I (atoms)	0.0000E+00	2.5746E+12	
Aerosols (kg)	0.0000E+00	4.8750E-09	

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

		Pathway	
Time (h) =	2.2000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.7341E+07	
Elemental I (atoms)	0.0000E+00	1.1844E+04	
Organic I (atoms)	0.0000E+00	3.5510E+03	
Aerosols (kg)	0.0000E+00	1.1197E-17	

Exclusion Area Boundary Doses:

Time (h) =	2.2500	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.0156E-01	1.2941E+00	2.6438E-01	
Accumulated dose (rem)	4.6844E+00	4.8072E+01	6.9719E+00	

Low Population Zone Doses:

Time (h) =	2.2500	Whole Body	Thyroid	TEDE
Delta dose (rem)	6.1359E-03	3.9393E-02	8.0481E-03	
Accumulated dose (rem)	3.1349E-01	3.3788E+00	4.7394E-01	

Control Room Doses:

Time (h) =	2.2500	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.6603E-03	1.9927E-01	1.2861E-02	
Accumulated dose (rem)	5.2073E-02	6.9443E+00	3.5287E-01	

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =	2.2500	Ci	kg	Atoms	Decay
Co-58		1.2037E+00	3.7854E-08	3.9304E+17	1.0215E+16
Co-60		1.4419E+00	1.2756E-06	1.2803E+19	1.2232E+16
Kr-85		1.3889E+06	3.5402E+00	2.5082E+25	1.9795E+20

Kr-85m	1.5801E+07	1.9200E-03	1.3603E+22	2.4957E+21
Kr-87	1.2694E+07	4.4814E-04	3.1020E+21	2.6612E+21
Kr-88	3.5184E+07	2.8059E-03	1.9202E+22	5.9111E+21
Rb-86	4.0612E+01	4.9911E-07	3.4950E+18	4.6682E+17
Sr-89	1.7092E+03	5.8834E-05	3.9809E+20	1.4508E+19
Sr-90	2.3620E+02	1.7316E-03	1.1586E+22	2.0037E+18
Sr-91	1.8091E+03	4.9907E-07	3.3027E+18	1.6482E+19
Sr-92	1.2930E+03	1.0287E-07	6.7336E+17	1.4147E+19
Y-90	3.2367E+00	5.9491E-09	3.9807E+16	2.1690E+16
Y-91	2.2049E+01	8.9908E-07	5.9498E+18	1.8626E+17
Y-92	1.0298E+02	1.0702E-08	7.0053E+16	3.2896E+17
Y-93	2.2568E+01	6.7645E-09	4.3803E+16	2.0473E+17
Zr-95	2.9024E+01	1.3510E-06	8.5643E+18	2.4633E+17
Zr-97	2.6297E+01	1.3756E-08	8.5403E+16	2.3218E+17
Nb-95	2.9261E+01	7.4829E-07	4.7435E+18	2.4823E+17
Mo-99	3.9294E+02	8.1927E-07	4.9836E+18	3.3676E+18
Tc-99m	3.5225E+02	6.6990E-08	4.0750E+17	2.9856E+18
Ru-103	3.3905E+02	1.0505E-05	6.1422E+19	2.8783E+18
Ru-105	1.7064E+02	2.5385E-08	1.4559E+17	1.6883E+18
Ru-106	1.4890E+02	4.4506E-05	2.5285E+20	1.2632E+18
Rh-105	2.2754E+02	2.6958E-07	1.5461E+18	1.9362E+18
Sb-127	4.6083E+02	1.7256E-06	8.1827E+18	3.9380E+18
Sb-129	9.6865E+02	1.7225E-07	8.0413E+17	9.6256E+18
Te-127	4.6251E+02	1.7525E-07	8.3103E+17	3.9318E+18
Te-127m	6.2718E+01	6.6491E-06	3.1529E+19	5.3201E+17
Te-129	1.1037E+03	5.2700E-08	2.4602E+17	1.0321E+19
Te-129m	2.0340E+02	6.7517E-06	3.1519E+19	1.7252E+18
Te-131m	5.9021E+02	7.4016E-07	3.4025E+18	5.1207E+18
Te-132	5.9413E+03	1.9570E-05	8.9283E+19	5.0838E+19
I-131	5.7367E+04	4.6273E-04	2.1272E+21	2.3617E+20
I-132	7.6306E+04	7.3924E-06	3.3726E+19	3.3508E+20
I-133	1.0986E+05	9.6984E-05	4.3914E+20	4.6880E+20
I-134	2.2026E+04	8.2568E-07	3.7107E+18	2.5671E+20
I-135	8.7365E+04	2.4877E-05	1.1097E+20	4.0652E+20
Xe-133	1.5893E+08	8.4908E-01	3.8446E+24	2.2705E+22
Xe-135	6.5771E+07	2.5755E-02	1.1489E+23	9.5679E+21
Cs-134	5.0362E+03	3.8925E-03	1.7493E+22	5.7781E+19
Cs-136	1.2250E+03	1.6714E-05	7.4012E+19	1.4093E+19
Cs-137	3.1978E+03	3.6764E-02	1.6161E+23	3.6688E+19
Ba-139	1.0111E+03	6.1817E-08	2.6782E+17	1.4314E+19
Ba-140	3.0148E+03	4.1180E-05	1.7714E+20	2.5632E+19
La-140	4.9012E+01	8.8178E-08	3.7930E+17	2.9911E+17
La-141	1.9253E+01	3.4044E-09	1.4540E+16	1.9440E+17
La-142	1.0031E+01	7.0071E-10	2.9717E+15	1.3420E+17
Ce-141	7.1545E+01	2.5109E-06	1.0724E+19	6.0712E+17
Ce-143	6.3795E+01	9.6064E-08	4.0455E+17	5.5236E+17
Ce-144	5.9556E+01	1.8673E-05	7.8090E+19	5.0528E+17
Pr-143	2.5942E+01	3.8524E-07	1.6224E+18	2.1988E+17
Nd-147	1.1367E+01	1.4051E-07	5.7564E+17	9.6680E+16
Np-239	8.2845E+02	3.5710E-06	8.9980E+18	7.1122E+18
Pu-238	3.3174E-01	1.9378E-05	4.9031E+19	2.8142E+15
Pu-239	1.9658E-02	3.1626E-04	7.9690E+20	1.6674E+14
Pu-240	1.9809E-02	8.6934E-05	2.1814E+20	1.6805E+14
Pu-241	1.1808E+01	1.1463E-04	2.8644E+20	1.0017E+17
Am-241	8.3610E-03	2.4361E-06	6.0873E+18	7.0919E+13
Cm-242	1.6421E+00	4.9545E-07	1.2329E+18	1.3933E+16
Cm-244	2.1111E-01	2.6094E-06	6.4403E+18	1.7909E+15

## Sprayed Drywell Transport Group Inventory:

Time (h) =	2.2500	Atmosphere	Sump
Noble gases (atoms)	2.9077E+25	0.0000E+00	
Elemental I (atoms)	4.8510E+19	5.6495E+22	
Organic I (atoms)	1.7160E+21	0.0000E+00	
Aerosols (kg)	4.3378E-02	5.1109E+01	
Dose Effective (Ci/cc)	I-131 (Thyroid)		2.9241E-05
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		3.6106E-05
Total I (Ci)			3.5293E+05

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

		Pathway
Time (h) =	2.2500	Filtered Transported
Noble gases (atoms)	0.0000E+00	1.0353E+22
Elemental I (atoms)	0.0000E+00	1.4918E+18
Organic I (atoms)	0.0000E+00	6.9477E+17
Aerosols (kg)	0.0000E+00	1.3607E-03

## Drywell to Intact Control Volume 2 Transport Group Inventory:

		Pathway
Time (h) =	2.2500	Filtered Transported
Noble gases (atoms)	0.0000E+00	1.0353E+22
Elemental I (atoms)	0.0000E+00	1.4918E+18
Organic I (atoms)	0.0000E+00	6.9477E+17
Aerosols (kg)	0.0000E+00	1.3607E-03

## Drywell to Intact Control Volume 4 Transport Group Inventory:

		Pathway
Time (h) =	2.2500	Filtered Transported
Noble gases (atoms)	0.0000E+00	5.1716E+21
Elemental I (atoms)	0.0000E+00	7.4473E+17
Organic I (atoms)	0.0000E+00	3.4702E+17
Aerosols (kg)	0.0000E+00	6.7925E-04

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

		Pathway
Time (h) =	2.2500	Filtered Transported
Noble gases (atoms)	0.0000E+00	4.0531E+16
Elemental I (atoms)	0.0000E+00	5.3497E+12
Organic I (atoms)	0.0000E+00	2.6885E+12
Aerosols (kg)	0.0000E+00	4.8793E-09

## Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

		Pathway
Time (h) =	2.2500	Filtered Transported
Noble gases (atoms)	0.0000E+00	5.1295E+07
Elemental I (atoms)	0.0000E+00	1.2369E+04
Organic I (atoms)	0.0000E+00	3.8110E+03
Aerosols (kg)	0.0000E+00	1.1686E-17

## Exclusion Area Boundary Doses:

Time (h) =	2.3000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.0539E-01	4.8898E+00	1.2924E+00	2.6799E-01
Accumulated dose (rem)	4.8898E+00	4.9364E+01	4.9364E+01	7.2399E+00

## Low Population Zone Doses:

Time (h) =	2.3000	Whole Body	Thyroid	TEDE
Delta dose (rem)	6.2524E-03	3.1974E-01	3.9343E-02	8.1580E-03
Accumulated dose (rem)	3.1974E-01	3.4182E+00	3.4182E+00	4.8209E-01

## Control Room Doses:

Time (h) =	2.3000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.7078E-03	5.5781E-02	1.9734E-01	1.2833E-02
Accumulated dose (rem)	5.5781E-02	7.1417E+00	7.1417E+00	3.6571E-01

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =	2.3000	Ci	kg	Atoms	Decay
Co-58		5.6855E-01	1.7880E-08	1.8565E+17	1.0219E+16
Co-60		6.8109E-01	6.0253E-07	6.0476E+18	1.2237E+16
Kr-85		1.3889E+06	3.5401E+00	2.5081E+25	2.0720E+20
Kr-85m		1.5679E+07	1.9052E-03	1.3498E+22	2.6005E+21
Kr-87		1.2352E+07	4.3608E-04	3.0185E+21	2.7446E+21
Kr-88		3.4757E+07	2.7718E-03	1.8969E+22	6.1440E+21
Rb-86		1.9182E+01	2.3574E-07	1.6508E+18	4.6694E+17
Sr-89		8.0734E+02	2.7789E-05	1.8804E+20	1.4514E+19
Sr-90		1.1157E+02	8.1791E-04	5.4728E+21	2.0045E+18
Sr-91		8.5144E+02	2.3488E-07	1.5544E+18	1.6488E+19
Sr-92		6.0299E+02	4.7973E-08	3.1402E+17	1.4152E+19
Y-90		1.5884E+00	2.9196E-09	1.9536E+16	2.1700E+16
Y-91		1.0423E+01	4.2503E-07	2.8127E+18	1.8633E+17
Y-92		5.4109E+01	5.6233E-09	3.6809E+16	3.2928E+17
Y-93		1.0624E+01	3.1843E-09	2.0619E+16	2.0480E+17
Zr-95		1.3709E+01	6.3815E-07	4.0453E+18	2.4642E+17
Zr-97		1.2396E+01	6.4844E-09	4.0258E+16	2.3227E+17
Nb-95		1.3821E+01	3.5346E-07	2.2406E+18	2.4832E+17
Mo-99		1.8551E+02	3.8678E-07	2.3528E+18	3.3688E+18
Tc-99m		1.6637E+02	3.1640E-08	1.9247E+17	2.9867E+18
Ru-103		1.6014E+02	4.9621E-06	2.9012E+19	2.8794E+18
Ru-105		7.9976E+01	1.1898E-08	6.8237E+16	1.6889E+18
Ru-106		7.0332E+01	2.1022E-05	1.1943E+20	1.2637E+18
Rh-105		1.0745E+02	1.2730E-07	7.3014E+17	1.9369E+18
Sb-127		2.1759E+02	8.1480E-07	3.8637E+18	3.9394E+18
Sb-129		4.5389E+02	8.0714E-08	3.7680E+17	9.6287E+18
Te-127		2.1843E+02	8.2767E-08	3.9247E+17	3.9333E+18
Te-127m		2.9625E+01	3.1407E-06	1.4893E+19	5.3221E+17
Te-129		5.1832E+02	2.4750E-08	1.1554E+17	1.0324E+19
Te-129m		9.6075E+01	3.1892E-06	1.4888E+19	1.7259E+18
Te-131m		2.7846E+02	3.4921E-07	1.6053E+18	5.1226E+18
Te-132		2.8051E+03	9.2398E-06	4.2154E+19	5.0857E+19
I-131		4.6222E+04	3.7284E-04	1.7140E+21	2.3648E+20
I-132		6.0615E+04	5.8723E-06	2.6791E+19	3.3549E+20
I-133		8.8389E+04	7.8027E-05	3.5330E+20	4.6939E+20
I-134		1.7062E+04	6.3960E-07	2.8744E+18	2.5682E+20
I-135		7.0037E+04	1.9943E-05	8.8962E+19	4.0698E+20

Xe-133	1.5888E+08	8.4882E-01	3.8434E+24	2.3763E+22
Xe-135	6.5519E+07	2.5656E-02	1.1445E+23	1.0005E+22
Cs-134	2.3789E+03	1.8386E-03	8.2630E+21	5.7797E+19
Cs-136	5.7858E+02	7.8942E-06	3.4956E+19	1.4096E+19
Cs-137	1.5105E+03	1.7366E-02	7.6335E+22	3.6698E+19
Ba-139	4.6575E+02	2.8474E-08	1.2336E+17	1.4317E+19
Ba-140	1.4239E+03	1.9449E-05	8.3662E+19	2.5641E+19
La-140	2.4356E+01	4.3820E-08	1.8849E+17	2.9927E+17
La-141	9.0143E+00	1.5939E-09	6.8077E+15	1.9446E+17
La-142	4.6327E+00	3.2362E-10	1.3725E+15	1.3423E+17
Ce-141	3.3793E+01	1.1860E-06	5.0654E+18	6.0734E+17
Ce-143	3.0102E+01	4.5329E-08	1.9089E+17	5.5256E+17
Ce-144	2.8131E+01	8.8200E-06	3.6886E+19	5.0547E+17
Pr-143	1.2256E+01	1.8200E-07	7.6645E+17	2.1996E+17
Nd-147	5.3687E+00	6.6364E-08	2.7187E+17	9.6716E+16
Np-239	3.9108E+02	1.6858E-06	4.2476E+18	7.1149E+18
Pu-238	1.5670E-01	9.1531E-06	2.3160E+19	2.8153E+15
Pu-239	9.2855E-03	1.4939E-04	3.7642E+20	1.6680E+14
Pu-240	9.3570E-03	4.1063E-05	1.0304E+20	1.6811E+14
Pu-241	5.5776E+00	5.4145E-05	1.3530E+20	1.0021E+17
Am-241	3.9494E-03	1.1507E-06	2.8754E+18	7.0945E+13
Cm-242	7.7564E-01	2.3403E-07	5.8237E+17	1.3938E+16
Cm-244	9.9717E-02	1.2326E-06	3.0421E+18	1.7916E+15

## Sprayed Drywell Transport Group Inventory:

Time (h) =	2.3000	Atmosphere	Sump	
Noble gases (atoms)	2.9074E+25	0.0000E+00		
Elemental I (atoms)	2.2894E+19	5.6521E+22		
Organic I (atoms)	1.7145E+21	0.0000E+00		
Aerosols (kg)	2.0490E-02	5.1132E+01		
Dose Effective (Ci/cc)	I-131 (Thyroid)			2.3546E-05
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)			2.9051E-05
Total I (Ci)				2.8233E+05

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.0674E+22
Elemental I (atoms)	0.0000E+00	1.4922E+18
Organic I (atoms)	0.0000E+00	7.1369E+17
Aerosols (kg)	0.0000E+00	1.3610E-03

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.0674E+22
Elemental I (atoms)	0.0000E+00	1.4922E+18
Organic I (atoms)	0.0000E+00	7.1369E+17
Aerosols (kg)	0.0000E+00	1.3610E-03

## Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.3323E+21

Elemental I (atoms)	0.0000E+00	7.4492E+17
Organic I (atoms)	0.0000E+00	3.5650E+17
Aerosols (kg)	0.0000E+00	6.7942E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 2.3000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.2459E+16
Elemental I (atoms)	0.0000E+00	5.3519E+12
Organic I (atoms)	0.0000E+00	2.8023E+12
Aerosols (kg)	0.0000E+00	4.8813E-09

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 2.3000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.5441E+07
Elemental I (atoms)	0.0000E+00	1.2894E+04
Organic I (atoms)	0.0000E+00	4.0822E+03
Aerosols (kg)	0.0000E+00	1.2175E-17

Exclusion Area Boundary Doses:

Time (h) = 2.3500	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.0910E-01	1.2901E+00	2.7145E-01
Accumulated dose (rem)	5.0989E+00	5.0654E+01	7.5114E+00

Low Population Zone Doses:

Time (h) = 2.3500	Whole Body	Thyroid	TEDE
Delta dose (rem)	6.3653E-03	3.9272E-02	8.2632E-03
Accumulated dose (rem)	3.2611E-01	3.4575E+00	4.9036E-01

Control Room Doses:

Time (h) = 2.3500	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.7574E-03	1.9547E-01	1.2809E-02
Accumulated dose (rem)	5.9538E-02	7.3371E+00	3.7851E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 2.3500	Ci	kg	Atoms	Decay
Co-58	2.6855E-01	8.4456E-09	8.7690E+16	1.0221E+16
Co-60	3.2172E-01	2.8461E-07	2.8566E+18	1.2239E+16
Kr-85	1.3889E+06	3.5400E+00	2.5080E+25	2.1645E+20
Kr-85m	1.5558E+07	1.8905E-03	1.3394E+22	2.7046E+21
Kr-87	1.2020E+07	4.2434E-04	2.9373E+21	2.8257E+21
Kr-88	3.4334E+07	2.7381E-03	1.8738E+22	6.3741E+21
Rb-86	9.0598E+00	1.1134E-07	7.7968E+17	4.6700E+17
Sr-89	3.8134E+02	1.3126E-05	8.8817E+19	1.4516E+19
Sr-90	5.2700E+01	3.8634E-04	2.5851E+21	2.0048E+18
Sr-91	4.0072E+02	1.1054E-07	7.3154E+17	1.6490E+19
Sr-92	2.8120E+02	2.2372E-08	1.4644E+17	1.4153E+19
Y-90	7.7844E-01	1.4308E-09	9.5738E+15	2.1705E+16
Y-91	4.9276E+00	2.0093E-07	1.3297E+18	1.8636E+17
Y-92	2.8080E+01	2.9183E-09	1.9102E+16	3.2945E+17



Y-93	5.0010E+00	1.4989E-09	9.7063E+15	2.0484E+17
Zr-95	6.4755E+00	3.0143E-07	1.9108E+18	2.4646E+17
Zr-97	5.8433E+00	3.0567E-09	1.8977E+16	2.3230E+17
Nb-95	6.5286E+00	1.6696E-07	1.0584E+18	2.4836E+17
Mo-99	8.7579E+01	1.8260E-07	1.1108E+18	3.3694E+18
Tc-99m	7.8579E+01	1.4944E-08	9.0904E+16	2.9872E+18
Ru-103	7.5642E+01	2.3438E-06	1.3703E+19	2.8799E+18
Ru-105	3.7483E+01	5.5762E-09	3.1981E+16	1.6891E+18
Ru-106	3.3222E+01	9.9300E-06	5.6415E+19	1.2639E+18
Rh-105	5.0743E+01	6.0118E-08	3.4480E+17	1.9373E+18
Sb-127	1.0274E+02	3.8473E-07	1.8243E+18	3.9401E+18
Sb-129	2.1268E+02	3.7821E-08	1.7656E+17	9.6301E+18
Te-127	1.0316E+02	3.9088E-08	1.8535E+17	3.9340E+18
Te-127m	1.3994E+01	1.4835E-06	7.0347E+18	5.3230E+17
Te-129	2.4342E+02	1.1623E-08	5.4261E+16	1.0326E+19
Te-129m	4.5381E+01	1.5064E-06	7.0325E+18	1.7262E+18
Te-131m	1.3138E+02	1.6476E-07	7.5741E+17	5.1234E+18
Te-132	1.3244E+03	4.3625E-06	1.9903E+19	5.0865E+19
I-131	4.0955E+04	3.3035E-04	1.5186E+21	2.3675E+20
I-132	5.2934E+04	5.1282E-06	2.3396E+19	3.3584E+20
I-133	7.8200E+04	6.9032E-05	3.1257E+20	4.6991E+20
I-134	1.4535E+04	5.4484E-07	2.4486E+18	2.5692E+20
I-135	6.1742E+04	1.7581E-05	7.8426E+19	4.0740E+20
Xe-133	1.5884E+08	8.4856E-01	3.8422E+24	2.4821E+22
Xe-135	6.5268E+07	2.5558E-02	1.1401E+23	1.0441E+22
Cs-134	1.1237E+03	8.6848E-04	3.9030E+21	5.7804E+19
Cs-136	2.7326E+02	3.7285E-06	1.6510E+19	1.4098E+19
Cs-137	7.1349E+02	8.2028E-03	3.6057E+22	3.6702E+19
Ba-139	2.1454E+02	1.3116E-08	5.6824E+16	1.4319E+19
Ba-140	6.7249E+02	9.1860E-06	3.9514E+19	2.5645E+19
La-140	1.2074E+01	2.1722E-08	9.3438E+16	2.9934E+17
La-141	4.2206E+00	7.4629E-10	3.1874E+15	1.9449E+17
La-142	2.1396E+00	1.4947E-10	6.3388E+14	1.3424E+17
Ce-141	1.5962E+01	5.6019E-07	2.3926E+18	6.0745E+17
Ce-143	1.4204E+01	2.1389E-08	9.0074E+16	5.5266E+17
Ce-144	1.3288E+01	4.1661E-06	1.7423E+19	5.0556E+17
Pr-143	5.7899E+00	8.5981E-08	3.6209E+17	2.2000E+17
Nd-147	2.5356E+00	3.1343E-08	1.2840E+17	9.6732E+16
Np-239	1.8461E+02	7.9578E-07	2.0052E+18	7.1161E+18
Pu-238	7.4017E-02	4.3235E-06	1.0940E+19	2.8158E+15
Pu-239	4.3861E-03	7.0565E-05	1.7780E+20	1.6683E+14
Pu-240	4.4198E-03	1.9396E-05	4.8670E+19	1.6814E+14
Pu-241	2.6346E+00	2.5576E-05	6.3909E+19	1.0023E+17
Am-241	1.8655E-03	5.4355E-07	1.3582E+18	7.0958E+13
Cm-242	3.6637E-01	1.1054E-07	2.7508E+17	1.3940E+16
Cm-244	4.7102E-02	5.8221E-07	1.4369E+18	1.7919E+15

## Sprayed Drywell Transport Group Inventory:

Time (h) =	2.3500	Atmosphere	Sump	
Noble gases (atoms)	2.9072E+25	0.0000E+00		
Elemental I (atoms)	1.0805E+19	5.6533E+22		
Organic I (atoms)	1.7130E+21	0.0000E+00		
Aerosols (kg)	9.6784E-03	5.1143E+01		
Dose Effective (Ci/cc)	I-131 (Thyroid)		2.0850E-05	
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		2.5705E-05	
Total I (Ci)			2.4837E+05	

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 2.3500	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.0994E+22
Elemental I (atoms)	0.0000E+00	1.4924E+18
Organic I (atoms)	0.0000E+00	7.3258E+17
Aerosols (kg)	0.0000E+00	1.3612E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 2.3500	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.0994E+22
Elemental I (atoms)	0.0000E+00	1.4924E+18
Organic I (atoms)	0.0000E+00	7.3258E+17
Aerosols (kg)	0.0000E+00	1.3612E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 2.3500	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.4930E+21
Elemental I (atoms)	0.0000E+00	7.4501E+17
Organic I (atoms)	0.0000E+00	3.6598E+17
Aerosols (kg)	0.0000E+00	6.7950E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 2.3500	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.4387E+16
Elemental I (atoms)	0.0000E+00	5.3530E+12
Organic I (atoms)	0.0000E+00	2.9160E+12
Aerosols (kg)	0.0000E+00	4.8822E-09

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 2.3500	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.9779E+07
Elemental I (atoms)	0.0000E+00	1.3419E+04
Organic I (atoms)	0.0000E+00	4.3645E+03
Aerosols (kg)	0.0000E+00	1.2665E-17

Exclusion Area Boundary Doses:

Time (h) = 4.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	8.2597E+00	3.9616E+01	1.0101E+01
Accumulated dose (rem)	1.3359E+01	9.0271E+01	1.7612E+01

Low Population Zone Doses:

Time (h) = 4.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.5143E-01	1.2060E+00	3.0748E-01
Accumulated dose (rem)	5.7754E-01	4.6634E+00	7.9783E-01

## Control Room Doses:

Time (h) =	4.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		1.5625E-01	5.6450E+00	4.1948E-01
Accumulated dose (rem)		2.1579E-01	1.2982E+01	7.9799E-01

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =	4.0000	Ci	kg	Atoms	Decay
Co-58		4.7806E-12	1.5034E-19	1.5610E+06	1.0222E+16
Co-60		5.7308E-12	5.0697E-18	5.0884E+07	1.2240E+16
Kr-85		1.3876E+06	3.5368E+00	2.5058E+25	5.2155E+20
Kr-85m		1.2041E+07	1.4632E-03	1.0367E+22	5.7209E+21
Kr-87		4.8855E+06	1.7248E-04	1.1939E+21	4.5673E+21
Kr-88		2.2932E+07	1.8288E-03	1.2515E+22	1.2583E+22
Rb-86		1.6097E-10	1.9784E-18	1.3853E+07	4.6704E+17
Sr-89		6.7866E-09	2.3360E-16	1.5806E+09	1.4518E+19
Sr-90		9.3876E-10	6.8821E-15	4.6050E+10	2.0051E+18
Sr-91		6.3285E-09	1.7458E-18	1.1553E+07	1.6492E+19
Sr-92		3.2846E-09	2.6132E-19	1.7106E+06	1.4155E+19
Y-90		3.0257E-11	5.5613E-20	3.7212E+05	2.1708E+16
Y-91		9.0006E-11	3.6701E-18	2.4288E+07	1.8638E+17
Y-92		1.4884E-09	1.5468E-19	1.0125E+06	3.2957E+17
Y-93		7.9547E-11	2.3843E-20	1.5439E+05	2.0486E+17
Zr-95		1.1527E-10	5.3655E-18	3.4012E+07	2.4649E+17
Zr-97		9.7279E-11	5.0887E-20	3.1592E+05	2.3233E+17
Nb-95		1.1629E-10	2.9740E-18	1.8853E+07	2.4839E+17
Mo-99		1.5333E-09	3.1969E-18	1.9447E+07	3.3698E+18
Tc-99m		1.3943E-09	2.6517E-19	1.6130E+06	2.9875E+18
Ru-103		1.3458E-09	4.1700E-17	2.4381E+08	2.8802E+18
Ru-105		5.1608E-10	7.6774E-20	4.4033E+05	1.6893E+18
Ru-106		5.9171E-10	1.7686E-16	1.0048E+09	1.2641E+18
Rh-105		8.9387E-10	1.0590E-18	6.0739E+06	1.9375E+18
Sb-127		1.8077E-09	6.7691E-18	3.2098E+07	3.9405E+18
Sb-129		2.9074E-09	5.1702E-19	2.4136E+06	9.6309E+18
Te-127		1.8266E-09	6.9213E-19	3.2820E+06	3.9344E+18
Te-127m		2.4931E-10	2.6431E-17	1.2533E+08	5.3236E+17
Te-129		3.5766E-09	1.7078E-19	7.9728E+05	1.0327E+19
Te-129m		8.0830E-10	2.6831E-17	1.2526E+08	1.7263E+18
Te-131m		2.2528E-09	2.8252E-18	1.2988E+07	5.1240E+18
Te-132		2.3250E-08	7.6584E-17	3.4939E+08	5.0871E+19
I-131		3.6001E+04	2.9039E-04	1.3349E+21	2.4471E+20
I-132		2.8476E+04	2.7587E-06	1.2586E+19	3.4398E+20
I-133		6.5450E+04	5.7777E-05	2.6161E+20	4.8474E+20
I-134		3.4866E+03	1.3070E-07	5.8738E+17	2.5851E+20
I-135		4.5922E+04	1.3076E-05	5.8331E+19	4.1845E+20
Xe-133		1.5726E+08	8.4013E-01	3.8040E+24	5.9555E+22
Xe-135		5.7505E+07	2.2518E-02	1.0045E+23	2.3914E+22
Cs-134		2.0015E-08	1.5470E-14	6.9523E+10	5.7809E+19
Cs-136		4.8501E-09	6.6176E-17	2.9303E+08	1.4099E+19
Cs-137		1.2710E-08	1.4612E-13	6.4230E+11	3.6705E+19
Ba-139		1.6668E-09	1.0190E-19	4.4149E+05	1.4320E+19
Ba-140		1.1935E-08	1.6302E-16	7.0125E+08	2.5648E+19
La-140		5.4413E-10	9.7895E-19	4.2110E+06	2.9940E+17
La-141		5.6199E-11	9.9374E-21	4.2443E+04	1.9450E+17
Ce-141		2.8402E-10	9.9678E-18	4.2572E+07	6.0752E+17
Ce-143		2.4440E-10	3.6803E-19	1.5499E+06	5.5271E+17

Ce-144	2.3666E-10	7.4201E-17	3.1031E+08	5.0561E+17
Pr-143	1.0365E-10	1.5392E-18	6.4820E+06	2.2002E+17
Nd-147	4.4972E-11	5.5591E-19	2.2774E+06	9.6743E+16
Np-239	3.2228E-09	1.3892E-17	3.5003E+07	7.1168E+18
Pu-238	1.3185E-12	7.7017E-17	1.9488E+08	2.8161E+15
Pu-239	7.8149E-14	1.2573E-15	3.1680E+09	1.6685E+14
Pu-240	7.8732E-14	3.4552E-16	8.6698E+08	1.6816E+14
Pu-241	4.6931E-11	4.5559E-16	1.1384E+09	1.0024E+17
Am-241	3.3246E-14	9.6866E-18	2.4205E+07	7.0965E+13
Cm-242	6.5244E-12	1.9686E-18	4.8988E+06	1.3942E+16
Cm-244	8.3904E-13	1.0371E-17	2.5597E+07	1.7921E+15

## Sprayed Drywell Transport Group Inventory:

Time (h) =	4.0000	Atmosphere	Sump	
Noble gases (atoms)	2.8986E+25	0.0000E+00		
Elemental I (atoms)	1.8759E+08	5.6543E+22		
Organic I (atoms)	1.6680E+21	0.0000E+00		
Aerosols (kg)	1.7238E-13	5.1152E+01		
Dose Effective (Ci/cc)	I-131 (Thyroid)			1.7991E-05
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)			2.1710E-05
Total I (Ci)				1.7933E+05

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.1552E+22
Elemental I (atoms)	0.0000E+00	1.4926E+18
Organic I (atoms)	0.0000E+00	1.3476E+18
Aerosols (kg)	0.0000E+00	1.3613E-03

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.1552E+22
Elemental I (atoms)	0.0000E+00	1.4926E+18
Organic I (atoms)	0.0000E+00	1.3476E+18
Aerosols (kg)	0.0000E+00	1.3613E-03

## Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.0787E+22
Elemental I (atoms)	0.0000E+00	7.4509E+17
Organic I (atoms)	0.0000E+00	6.7438E+17
Aerosols (kg)	0.0000E+00	6.7957E-04

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.0792E+17
Elemental I (atoms)	0.0000E+00	5.3539E+12
Organic I (atoms)	0.0000E+00	6.6169E+12
Aerosols (kg)	0.0000E+00	4.8830E-09

## Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 4.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.1079E+08
Elemental I (atoms)	0.0000E+00	3.0527E+04
Organic I (atoms)	0.0000E+00	1.9837E+04
Aerosols (kg)	0.0000E+00	2.8813E-17

## Exclusion Area Boundary Doses:

Time (h) = 8.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.9443E+01	7.1885E+01	2.2360E+01
Accumulated dose (rem)	3.2801E+01	1.6216E+02	3.9972E+01

## Low Population Zone Doses:

Time (h) = 8.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	5.9186E-01	2.1883E+00	6.8066E-01
Accumulated dose (rem)	1.1694E+00	6.8517E+00	1.4785E+00

## Control Room Doses:

Time (h) = 8.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	4.7763E-01	9.6120E+00	8.9567E-01
Accumulated dose (rem)	6.9342E-01	2.2594E+01	1.6937E+00

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 8.0000	Ci	kg	Atoms	Decay
Kr-85	1.3846E+06	3.5290E+00	2.5003E+25	1.2600E+21
Kr-85m	6.4706E+06	7.8626E-04	5.5706E+21	1.0500E+22
Kr-87	5.5090E+05	1.9449E-05	1.3462E+20	5.6255E+21
Kr-88	8.6197E+06	6.8742E-04	4.7042E+21	2.0376E+22
Sr-90	2.6644E-15	1.9533E-20	1.3070E+05	2.0051E+18
I-131	3.5409E+04	2.8562E-04	1.3130E+21	2.6373E+20
I-132	8.5111E+03	8.2454E-07	3.7618E+18	3.5278E+20
I-133	5.7156E+04	5.0455E-05	2.2846E+20	5.1735E+20
I-134	1.4721E+02	5.5182E-09	2.4799E+16	2.5907E+20
I-135	3.0123E+04	8.5774E-06	3.8263E+19	4.3841E+20
Xe-133	1.5349E+08	8.2002E-01	3.7130E+24	1.4233E+23
Xe-135	4.2302E+07	1.6565E-02	7.3893E+22	5.0295E+22
Cs-134	7.6917E-14	5.9449E-20	2.6717E+05	5.7809E+19
Cs-137	4.8850E-14	5.6161E-19	2.4687E+06	3.6705E+19

## Sprayed Drywell Transport Group Inventory:

Time (h) = 8.0000	Atmosphere	Sump	
Noble gases (atoms)	2.8800E+25	0.0000E+00	
Elemental I (atoms)	6.5078E+02	5.6543E+22	
Organic I (atoms)	1.5835E+21	0.0000E+00	
Aerosols (kg)	6.5225E-19	5.1152E+01	
Dose Effective (Ci/cc)	I-131 (Thyroid)		1.7042E-05
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		1.9889E-05
Total I (Ci)			1.3135E+05

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 8.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.7027E+22
Elemental I (atoms)	0.0000E+00	1.4926E+18
Organic I (atoms)	0.0000E+00	2.7801E+18
Aerosols (kg)	0.0000E+00	1.3613E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 8.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.7027E+22
Elemental I (atoms)	0.0000E+00	1.4926E+18
Organic I (atoms)	0.0000E+00	2.7801E+18
Aerosols (kg)	0.0000E+00	1.3613E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 8.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.3561E+22
Elemental I (atoms)	0.0000E+00	7.4509E+17
Organic I (atoms)	0.0000E+00	1.3927E+18
Aerosols (kg)	0.0000E+00	6.7957E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 8.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.6120E+17
Elemental I (atoms)	0.0000E+00	5.3539E+12
Organic I (atoms)	0.0000E+00	1.5236E+13
Aerosols (kg)	0.0000E+00	4.8830E-09

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 8.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.7837E+09
Elemental I (atoms)	0.0000E+00	7.0514E+04
Organic I (atoms)	0.0000E+00	1.0455E+05
Aerosols (kg)	0.0000E+00	6.7955E-17

Exclusion Area Boundary Doses:

Time (h) = 24.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.2692E+01	1.9758E+02	3.9085E+01
Accumulated dose (rem)	6.5493E+01	3.5974E+02	7.9057E+01

Low Population Zone Doses:

Time (h) = 24.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	6.2979E-01	1.9576E+00	6.9313E-01
Accumulated dose (rem)	1.7992E+00	8.8092E+00	2.1716E+00

Control Room Doses:

Time (h) = 24.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	4.9486E-01	1.1579E+01	8.9018E-01
Accumulated dose (rem)	1.1883E+00	3.4174E+01	2.5838E+00

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 24.0000	Ci	kg	Atoms	Decay
Kr-85	1.3723E+06	3.4978E+00	2.4781E+25	4.1972E+21
Kr-85m	5.3952E+05	6.5559E-05	4.6447E+20	1.5587E+18
Kr-87	8.9065E+01	3.1443E-09	2.1765E+16	5.7600E+21
Kr-88	1.7207E+05	1.3723E-05	9.3911E+19	2.4975E+22
Sr-90	2.6643E-15	1.9532E-20	1.3069E+05	2.0051E+18
I-131	3.3138E+04	2.6730E-04	1.2288E+21	3.3673E+20
I-132	6.7925E+01	6.5805E-09	3.0022E+16	3.5651E+20
I-133	3.3241E+04	2.9343E-05	1.3286E+20	6.1137E+20
I-134	4.6775E-04	1.7534E-14	7.8800E+10	2.5910E+20
I-135	5.5769E+03	1.5880E-06	7.0840E+18	4.6942E+20
Xe-133	1.3932E+08	7.4429E-01	3.3701E+24	4.5405E+23
Xe-135	1.2386E+07	4.8502E-03	2.1636E+22	1.0219E+23
Cs-134	7.6870E-14	5.9413E-20	2.6701E+05	5.7809E+19
Cs-137	4.8848E-14	5.6159E-19	2.4686E+06	3.6705E+19

## Sprayed Drywell Transport Group Inventory:

Time (h) = 24.0000	Atmosphere	Sump	
Noble gases (atoms)	2.8174E+25	0.0000E+00	
Elemental I (atoms)	5.6834E+02	5.6543E+22	
Organic I (atoms)	1.3687E+21	0.0000E+00	
Aerosols (kg)	6.5177E-19	5.1152E+01	
Dose Effective (Ci/cc)	I-131 (Thyroid)		1.4435E-05
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		1.5795E-05
Total I (Ci)			7.2023E+04

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 24.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.4749E+23
Elemental I (atoms)	0.0000E+00	1.4926E+18
Organic I (atoms)	0.0000E+00	7.9653E+18
Aerosols (kg)	0.0000E+00	1.3613E-03

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 24.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.4749E+23
Elemental I (atoms)	0.0000E+00	1.4926E+18
Organic I (atoms)	0.0000E+00	7.9653E+18
Aerosols (kg)	0.0000E+00	1.3613E-03

## Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 24.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	7.3934E+22
Elemental I (atoms)	0.0000E+00	7.4509E+17

Organic I (atoms)	0.0000E+00	3.9927E+18
Aerosols (kg)	0.0000E+00	6.7957E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 24.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	8.6568E+17
Elemental I (atoms)	0.0000E+00	5.3539E+12
Organic I (atoms)	0.0000E+00	4.6437E+13
Aerosols (kg)	0.0000E+00	4.8830E-09

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 24.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.9722E+10
Elemental I (atoms)	0.0000E+00	2.1631E+05
Organic I (atoms)	0.0000E+00	1.0292E+06
Aerosols (kg)	0.0000E+00	2.2444E-16

Exclusion Area Boundary Doses:

Time (h) = 48.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	9.3227E+00	1.2159E+02	1.3057E+01
Accumulated dose (rem)	7.4815E+01	4.8133E+02	9.2114E+01

Low Population Zone Doses:

Time (h) = 48.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	6.8275E-02	5.8515E-01	8.6247E-02
Accumulated dose (rem)	1.8675E+00	9.3944E+00	2.2579E+00

Control Room Doses:

Time (h) = 48.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	5.6845E-02	2.6847E+00	1.3938E-01
Accumulated dose (rem)	1.2451E+00	3.6858E+01	2.7232E+00

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 48.0000	Ci	kg	Atoms	Decay
Kr-85	1.3630E+06	3.4741E+00	2.4613E+25	8.5687E+21
Kr-85m	1.3076E+04	1.5889E-06	1.1257E+19	1.6039E+22
Kr-87	1.8430E-04	6.5065E-15	4.5038E+10	5.7600E+21
Kr-88	4.8857E+02	3.8963E-08	2.6664E+17	2.5069E+22
Sr-90	2.6642E-15	1.9531E-20	1.3069E+05	2.0051E+18
I-131	3.0200E+04	2.4360E-04	1.1198E+21	4.3788E+20
I-132	4.8750E-02	4.7228E-12	2.1547E+13	3.5654E+20
I-133	1.4841E+04	1.3101E-05	5.9319E+19	6.8430E+20
I-135	4.4722E+02	1.2735E-07	5.6807E+17	4.7592E+20
Xe-133	1.2127E+08	6.4786E-01	2.9335E+24	8.6984E+23
Xe-135	1.9746E+06	7.7323E-04	3.4493E+21	1.2032E+23
Cs-134	7.6801E-14	5.9359E-20	2.6677E+05	5.7809E+19
Cs-137	4.8846E-14	5.6157E-19	2.4685E+06	3.6705E+19

Sprayed Drywell Transport Group Inventory:



Time (h) = 48.0000	Atmosphere	Sump	
Noble gases (atoms)	2.7550E+25	0.0000E+00	
Elemental I (atoms)	4.9330E+02	5.6543E+22	
Organic I (atoms)	1.1797E+21	0.0000E+00	
Aerosols (kg)	6.5129E-19	5.1152E+01	
Dose Effective (Ci/cc)	I-131 (Thyroid)		1.2149E-05
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		1.2715E-05
Total I (Ci)			4.5488E+04

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 48.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.2140E+23
Elemental I (atoms)	0.0000E+00	1.4926E+18
Organic I (atoms)	0.0000E+00	1.1337E+19
Aerosols (kg)	0.0000E+00	1.3613E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 48.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.2140E+23
Elemental I (atoms)	0.0000E+00	1.4926E+18
Organic I (atoms)	0.0000E+00	1.1337E+19
Aerosols (kg)	0.0000E+00	1.3613E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 48.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.1068E+23
Elemental I (atoms)	0.0000E+00	7.4509E+17
Organic I (atoms)	0.0000E+00	5.6688E+18
Aerosols (kg)	0.0000E+00	6.7957E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 48.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.7526E+18
Elemental I (atoms)	0.0000E+00	5.3539E+12
Organic I (atoms)	0.0000E+00	8.6895E+13
Aerosols (kg)	0.0000E+00	4.8830E-09

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 48.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	8.1810E+10
Elemental I (atoms)	0.0000E+00	4.0696E+05
Organic I (atoms)	0.0000E+00	3.8533E+06
Aerosols (kg)	0.0000E+00	4.5900E-16

Exclusion Area Boundary Doses:

Time (h) = 72.0000	Whole Body	Thyroid	TEDE
--------------------	------------	---------	------

Delta dose (rem)	6.3249E+00	1.0455E+02	9.5205E+00
Accumulated dose (rem)	8.1140E+01	5.8588E+02	1.0163E+02

## Low Population Zone Doses:

Time (h) = 72.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	4.6321E-02	5.0316E-01	6.1700E-02
Accumulated dose (rem)	1.9138E+00	9.8976E+00	2.3196E+00

## Control Room Doses:

Time (h) = 72.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.3108E-02	2.0340E+00	9.5278E-02
Accumulated dose (rem)	1.2782E+00	3.8892E+01	2.8185E+00

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 72.0000	Ci	kg	Atoms	Decay
Kr-85	1.3538E+06	3.4505E+00	2.4447E+25	1.2911E+22
Kr-85m	3.1691E+02	3.8508E-08	2.7283E+17	1.6050E+22
Kr-87	3.8137E-10	1.3464E-20	9.3197E+04	5.7600E+21
Kr-88	1.3872E+00	1.1063E-10	7.5706E+14	2.5069E+22
Sr-90	2.6640E-15	1.9530E-20	1.3068E+05	2.0051E+18
I-131	2.7522E+04	2.2200E-04	1.0205E+21	5.3007E+20
I-132	3.4987E-05	3.3895E-15	1.5464E+10	3.5654E+20
I-133	6.6257E+03	5.8489E-06	2.6483E+19	7.1687E+20
I-135	3.5863E+01	1.0212E-08	4.5554E+16	4.7644E+20
Xe-133	1.0556E+08	5.6392E-01	2.5534E+24	1.2318E+24
Xe-135	3.1472E+05	1.2324E-04	5.4975E+20	1.2321E+23
Cs-134	7.6730E-14	5.9305E-20	2.6652E+05	5.7809E+19
Cs-137	4.8843E-14	5.6153E-19	2.4683E+06	3.6705E+19

## Sprayed Drywell Transport Group Inventory:

Time (h) = 72.0000	Atmosphere	Sump	
Noble gases (atoms)	2.7001E+25	0.0000E+00	
Elemental I (atoms)	4.4081E+02	5.6543E+22	
Organic I (atoms)	1.0471E+21	0.0000E+00	
Aerosols (kg)	6.5090E-19	5.1152E+01	
Dose Effective (Ci/cc) I-131 (Thyroid)			1.0641E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			1.0891E-05
Total I (Ci)			3.4184E+04

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 72.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.9376E+23
Elemental I (atoms)	0.0000E+00	1.4926E+18
Organic I (atoms)	0.0000E+00	1.4289E+19
Aerosols (kg)	0.0000E+00	1.3613E-03

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 72.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.9376E+23
Elemental I (atoms)	0.0000E+00	1.4926E+18

Organic I (atoms)	0.0000E+00	1.4289E+19
Aerosols (kg)	0.0000E+00	1.3613E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 72.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.4665E+23
Elemental I (atoms)	0.0000E+00	7.4509E+17
Organic I (atoms)	0.0000E+00	7.1365E+18
Aerosols (kg)	0.0000E+00	6.7957E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 72.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.6209E+18
Elemental I (atoms)	0.0000E+00	5.3539E+12
Organic I (atoms)	0.0000E+00	1.2232E+14
Aerosols (kg)	0.0000E+00	4.8830E-09

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 72.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.8482E+11
Elemental I (atoms)	0.0000E+00	5.7506E+05
Organic I (atoms)	0.0000E+00	8.0538E+06
Aerosols (kg)	0.0000E+00	6.9340E-16

Exclusion Area Boundary Doses:

Time (h) = 96.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	5.2363E+00	9.2533E+01	8.0589E+00
Accumulated dose (rem)	8.6377E+01	6.7841E+02	1.0969E+02

Low Population Zone Doses:

Time (h) = 96.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.8348E-02	4.4533E-01	5.1932E-02
Accumulated dose (rem)	1.9521E+00	1.0343E+01	2.3715E+00

Control Room Doses:

Time (h) = 96.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.7422E-02	1.8002E+00	8.2335E-02
Accumulated dose (rem)	1.3057E+00	4.0692E+01	2.9008E+00

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 96.0000	Ci	kg	Atoms	Decay
Kr-85	1.3446E+06	3.4272E+00	2.4281E+25	1.7223E+22
Kr-85m	7.6805E+00	9.3329E-10	6.6122E+15	1.6051E+22
Kr-88	3.9386E-03	3.1410E-13	2.1495E+12	2.5069E+22
Sr-90	2.6638E-15	1.9529E-20	1.3067E+05	2.0051E+18
I-131	2.5082E+04	2.0232E-04	9.3007E+20	6.1408E+20
I-132	2.5111E-08	2.4328E-18	1.1099E+07	3.5654E+20

I-133	2.9581E+03	2.6113E-06	1.1824E+19	7.3140E+20
I-135	2.8759E+00	8.1891E-10	3.6530E+15	4.7648E+20
Xe-133	9.1878E+07	4.9085E-01	2.2225E+24	1.5468E+24
Xe-135	5.0154E+04	1.9640E-05	8.7609E+19	1.2367E+23
Cs-134	7.6660E-14	5.9250E-20	2.6628E+05	5.7809E+19
Cs-137	4.8840E-14	5.6149E-19	2.4682E+06	3.6705E+19

## Sprayed Drywell Transport Group Inventory:

Time (h) = 96.0000	Atmosphere	Sump	
Noble gases (atoms)	2.6504E+25	0.0000E+00	
Elemental I (atoms)	3.9918E+02	5.6543E+22	
Organic I (atoms)	9.4190E+20	0.0000E+00	
Aerosols (kg)	6.5056E-19	5.1152E+01	
Dose Effective (Ci/cc)	I-131 (Thyroid)		9.5070E-06
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		9.6180E-06
Total I (Ci)			2.8043E+04

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.6473E+23
Elemental I (atoms)	0.0000E+00	1.4926E+18
Organic I (atoms)	0.0000E+00	1.6928E+19
Aerosols (kg)	0.0000E+00	1.3613E-03

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.6473E+23
Elemental I (atoms)	0.0000E+00	1.4926E+18
Organic I (atoms)	0.0000E+00	1.6928E+19
Aerosols (kg)	0.0000E+00	1.3613E-03

## Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.8193E+23
Elemental I (atoms)	0.0000E+00	7.4509E+17
Organic I (atoms)	0.0000E+00	8.4485E+18
Aerosols (kg)	0.0000E+00	6.7957E-04

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.4726E+18
Elemental I (atoms)	0.0000E+00	5.3539E+12
Organic I (atoms)	0.0000E+00	1.5399E+14
Aerosols (kg)	0.0000E+00	4.8830E-09

## Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported

Noble gases (atoms)	0.0000E+00	3.2755E+11
Elemental I (atoms)	0.0000E+00	7.2634E+05
Organic I (atoms)	0.0000E+00	1.3361E+07
Aerosols (kg)	0.0000E+00	9.2767E-16

## Exclusion Area Boundary Doses:

Time (h) = 240.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.9670E+01	3.9680E+02	3.1755E+01
Accumulated dose (rem)	1.0605E+02	1.0752E+03	1.4145E+02

## Low Population Zone Doses:

Time (h) = 240.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.6447E-02	4.8316E-01	5.1162E-02
Accumulated dose (rem)	1.9886E+00	1.0826E+01	2.4227E+00

## Control Room Doses:

Time (h) = 240.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	4.1265E-02	3.0889E+00	1.3534E-01
Accumulated dose (rem)	1.3469E+00	4.3781E+01	3.0362E+00

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 240.0000	Ci	kg	Atoms	Decay
Kr-85	1.2908E+06	3.2901E+00	2.3310E+25	4.2491E+22
Kr-85m	1.5566E-09	1.8914E-19	1.3401E+06	1.6051E+22
Sr-90	2.6628E-15	1.9521E-20	1.3062E+05	2.0051E+18
I-131	1.4370E+04	1.1591E-04	5.3285E+20	9.8291E+20
I-133	2.3426E+01	2.0679E-08	9.3635E+16	7.4303E+20
I-135	7.6475E-07	2.1776E-16	9.7140E+08	4.7649E+20
Xe-133	3.9957E+07	2.1347E-01	9.6656E+23	2.7427E+24
Xe-135	8.2094E-01	3.2147E-10	1.4340E+15	1.2376E+23
Cs-134	7.6238E-14	5.8924E-20	2.6481E+05	5.7809E+19
Cs-137	4.8821E-14	5.6128E-19	2.4672E+06	3.6705E+19

## Sprayed Drywell Transport Group Inventory:

Time (h) = 240.0000	Atmosphere	Sump	
Noble gases (atoms)	2.4277E+25	0.0000E+00	
Elemental I (atoms)	2.3500E+02	5.6543E+22	
Organic I (atoms)	5.3294E+20	0.0000E+00	
Aerosols (kg)	6.4898E-19	5.1152E+01	
Dose Effective (Ci/cc)	I-131 (Thyroid)		5.3433E-06
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		5.3442E-06
Total I (Ci)			1.4394E+04

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 240.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	7.6747E+23
Elemental I (atoms)	0.0000E+00	1.4926E+18
Organic I (atoms)	0.0000E+00	2.8338E+19
Aerosols (kg)	0.0000E+00	1.3613E-03

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 240.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	7.6747E+23
Elemental I (atoms)	0.0000E+00	1.4926E+18
Organic I (atoms)	0.0000E+00	2.8338E+19
Aerosols (kg)	0.0000E+00	1.3613E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 240.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.8216E+23
Elemental I (atoms)	0.0000E+00	7.4509E+17
Organic I (atoms)	0.0000E+00	1.4121E+19
Aerosols (kg)	0.0000E+00	6.7957E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 240.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	8.3055E+18
Elemental I (atoms)	0.0000E+00	5.3539E+12
Organic I (atoms)	0.0000E+00	2.9090E+14
Aerosols (kg)	0.0000E+00	4.8830E-09

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 240.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.9700E+12
Elemental I (atoms)	0.0000E+00	1.3945E+06
Organic I (atoms)	0.0000E+00	5.8296E+07
Aerosols (kg)	0.0000E+00	2.3311E-15

Exclusion Area Boundary Doses:

Time (h) = 720.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.4285E+01	4.4679E+02	2.7888E+01
Accumulated dose (rem)	1.2033E+02	1.5220E+03	1.6934E+02

Low Population Zone Doses:

Time (h) = 720.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.6470E-02	5.4403E-01	4.3033E-02
Accumulated dose (rem)	2.0151E+00	1.1370E+01	2.4657E+00

Control Room Doses:

Time (h) = 720.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.9626E-02	3.4469E+00	1.3457E-01
Accumulated dose (rem)	1.3765E+00	4.7228E+01	3.1707E+00

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 720.0000	Ci	kg	Atoms	Decay
Kr-85	1.1267E+06	2.8717E+00	2.0346E+25	1.1964E+23

Sr-90	2.6593E-15	1.9495E-20	1.3045E+05	2.0051E+18
I-131	2.2444E+03	1.8103E-05	8.3222E+19	1.4004E+21
I-133	2.3191E-06	2.0472E-15	9.2695E+09	7.4313E+20
Xe-133	2.4899E+06	1.3302E-02	6.0231E+22	3.6056E+24
Cs-134	7.4847E-14	5.7849E-20	2.5998E+05	5.7809E+19
Cs-137	4.8760E-14	5.6057E-19	2.4641E+06	3.6705E+19

## Sprayed Drywell Transport Group Inventory:

Time (h) = 720.0000	Atmosphere	Sump	
Noble gases (atoms)	2.0406E+25	0.0000E+00	
Elemental I (atoms)	4.1890E+01	5.6543E+22	
Organic I (atoms)	8.3222E+19	0.0000E+00	
Aerosols (kg)	6.4577E-19	5.1152E+01	
Dose Effective (Ci/cc)	I-131 (Thyroid)		8.3430E-07
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		8.3430E-07
Total I (Ci)			2.2444E+03

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.9411E+24
Elemental I (atoms)	0.0000E+00	1.4926E+18
Organic I (atoms)	0.0000E+00	4.1208E+19
Aerosols (kg)	0.0000E+00	1.3613E-03

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.9411E+24
Elemental I (atoms)	0.0000E+00	1.4926E+18
Organic I (atoms)	0.0000E+00	4.1208E+19
Aerosols (kg)	0.0000E+00	1.3613E-03

## Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	9.6561E+23
Elemental I (atoms)	0.0000E+00	7.4509E+17
Organic I (atoms)	0.0000E+00	2.0519E+19
Aerosols (kg)	0.0000E+00	6.7957E-04

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.2389E+19
Elemental I (atoms)	0.0000E+00	5.3539E+12
Organic I (atoms)	0.0000E+00	4.4535E+14
Aerosols (kg)	0.0000E+00	4.8830E-09

## Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported

Noble gases (atoms) 0.0000E+00 1.6256E+13  
 Elemental I (atoms) 0.0000E+00 2.2021E+06  
 Organic I (atoms) 0.0000E+00 1.9271E+08  
 Aerosols (kg) 0.0000E+00 6.9912E-15

932

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

Time (hr)	Sprayed Drywell	MSIV Failed Control V	Intact Control Volume
	I-131 (Curies)	I-131 (Curies)	I-131 (Curies)
0.000	4.5275E+03	0.0000E+00	0.0000E+00
0.033	2.7135E+05	0.0000E+00	0.0000E+00
0.167	1.3576E+06	3.9790E+01	3.9477E+01
0.500	5.5313E+05	1.1429E+02	1.1009E+02
0.667	8.8246E+05	1.5207E+02	1.4508E+02
1.000	9.1720E+05	2.3343E+02	2.1879E+02
1.160	9.2016E+05	2.6845E+02	2.4937E+02
1.410	9.2449E+05	3.1815E+02	2.9148E+02
1.660	9.2879E+05	3.6236E+02	3.2757E+02
1.910	9.3308E+05	4.0173E+02	3.5857E+02
2.000	9.3462E+05	4.1483E+02	3.6864E+02
2.200	8.0958E+04	4.0449E+02	3.5454E+02
2.250	5.7367E+04	3.9927E+02	3.4847E+02
2.300	4.6222E+04	3.9394E+02	3.4234E+02
2.350	4.0955E+04	3.8861E+02	3.3624E+02
2.700	3.6220E+04	3.5298E+02	2.9626E+02
3.000	3.6151E+04	3.2519E+02	2.6599E+02
3.300	3.6106E+04	2.9976E+02	2.3905E+02
3.600	3.6061E+04	2.7650E+02	2.1506E+02
3.900	3.6016E+04	2.5522E+02	1.9370E+02
4.000	3.6001E+04	2.4854E+02	1.8711E+02
4.300	3.5956E+04	2.2963E+02	1.6882E+02
4.600	3.5912E+04	2.1234E+02	1.5253E+02
4.900	3.5867E+04	1.9652E+02	1.3802E+02
5.200	3.5822E+04	1.8204E+02	1.2511E+02
5.500	3.5778E+04	1.6879E+02	1.1361E+02
5.800	3.5733E+04	1.5667E+02	1.0337E+02
6.100	3.5689E+04	1.4558E+02	9.4248E+01
6.400	3.5645E+04	1.3543E+02	8.6128E+01
6.700	3.5600E+04	1.2614E+02	7.8896E+01
7.000	3.5556E+04	1.1764E+02	7.2455E+01
7.300	3.5512E+04	1.0987E+02	6.6719E+01
7.600	3.5468E+04	1.0275E+02	6.1610E+01
7.900	3.5424E+04	9.6236E+01	5.7059E+01
8.000	3.5409E+04	9.4190E+01	5.5655E+01
8.300	3.5365E+04	8.8403E+01	5.1754E+01
8.600	3.5321E+04	8.3105E+01	4.8278E+01
8.900	3.5277E+04	7.8256E+01	4.5181E+01
9.200	3.5234E+04	7.3818E+01	4.2422E+01
9.500	3.5190E+04	6.9755E+01	3.9962E+01
9.800	3.5146E+04	6.6035E+01	3.7770E+01
10.100	3.5102E+04	6.2630E+01	3.5816E+01
10.400	3.5059E+04	5.9512E+01	3.4074E+01
24.000	3.3138E+04	2.5531E+01	1.9116E+01



48.000	3.0200E+04	2.2837E+01	1.7423E+01
72.000	2.7522E+04	2.0800E+01	1.5879E+01
96.000	2.5082E+04	1.8956E+01	1.4471E+01
240.000	1.4370E+04	1.0860E+01	8.2905E+00
720.000	2.2444E+03	1.6962E+00	1.2948E+00

Time (hr)	Intact Control Volume I-131 (Curies)	Intact Control Volume I-131 (Curies)	Intact Control Volume I-131 (Curies)
0.000	0.0000E+00	0.0000E+00	0.0000E+00
0.033	0.0000E+00	0.0000E+00	0.0000E+00
0.167	3.3659E-01	2.0061E+01	4.6680E-02
0.500	3.8341E+00	5.9831E+01	6.2060E-01
0.667	5.9288E+00	8.0631E+01	1.0313E+00
1.000	1.1113E+01	1.2675E+02	2.1645E+00
1.160	1.3811E+01	1.4754E+02	2.8279E+00
1.410	1.8000E+01	1.7821E+02	3.9746E+00
1.660	2.1993E+01	2.0679E+02	5.2177E+00
1.910	2.5697E+01	2.3344E+02	6.5243E+00
2.000	2.6953E+01	2.4259E+02	7.0051E+00
2.200	2.8317E+01	2.4080E+02	7.6080E+00
2.250	2.8555E+01	2.3899E+02	7.7463E+00
2.300	2.8751E+01	2.3709E+02	7.8791E+00
2.350	2.8908E+01	2.3518E+02	8.0066E+00
2.700	2.9117E+01	2.2200E+02	8.7601E+00
3.000	2.8425E+01	2.1132E+02	9.2396E+00
3.300	2.7270E+01	2.0122E+02	9.5948E+00
3.600	2.5866E+01	1.9165E+02	9.8484E+00
3.900	2.4354E+01	1.8259E+02	1.0020E+01
4.000	2.3843E+01	1.7968E+02	1.0061E+01
4.300	2.2321E+01	1.7126E+02	1.0146E+01
4.600	2.0852E+01	1.6328E+02	1.0181E+01
4.900	1.9465E+01	1.5573E+02	1.0176E+01
5.200	1.8174E+01	1.4858E+02	1.0140E+01
5.500	1.6985E+01	1.4181E+02	1.0078E+01
5.800	1.5900E+01	1.3540E+02	9.9979E+00
6.100	1.4913E+01	1.2933E+02	9.9031E+00
6.400	1.4021E+01	1.2358E+02	9.7976E+00
6.700	1.3217E+01	1.1814E+02	9.6845E+00
7.000	1.2494E+01	1.1299E+02	9.5664E+00
7.300	1.1845E+01	1.0811E+02	9.4451E+00
7.600	1.1263E+01	1.0349E+02	9.3225E+00
7.900	1.0742E+01	9.9109E+01	9.1998E+00
8.000	1.0581E+01	9.7703E+01	9.1591E+00
8.300	1.0129E+01	9.3633E+01	9.0347E+00
8.600	9.7264E+00	8.9779E+01	8.9130E+00
8.900	9.3666E+00	8.6129E+01	8.7943E+00
9.200	9.0453E+00	8.2672E+01	8.6791E+00
9.500	8.7583E+00	7.9398E+01	8.5675E+00
9.800	8.5019E+00	7.6298E+01	8.4596E+00
10.100	8.2727E+00	7.3361E+01	8.3556E+00
10.400	8.0679E+00	7.0580E+01	8.2556E+00
24.000	6.1266E+00	2.4578E+01	6.3029E+00
48.000	5.5974E+00	1.8993E+01	5.5885E+00
72.000	5.1014E+00	1.6946E+01	5.0748E+00
96.000	4.6491E+00	1.5405E+01	4.6230E+00
240.000	2.6635E+00	8.8228E+00	2.6485E+00
720.000	4.1600E-01	1.3780E+00	4.1365E-01

Time (hr)	Environment I-131 (Curies)	Control Room I-131 (Curies)	Unsprayed Drywell I-131 (Curies)
0.000	0.0000E+00	0.0000E+00	1.6680E-09
0.033	0.0000E+00	0.0000E+00	5.9922E-06
0.167	1.7761E-01	4.9182E-04	1.5009E-04
0.500	2.9303E+00	6.5579E-03	4.6245E-04
0.667	5.3278E+00	1.0810E-02	6.3450E-04
1.000	1.2803E+01	9.8514E-03	1.0352E-03
1.160	1.7716E+01	9.7134E-03	1.2295E-03
1.410	2.7092E+01	9.8435E-03	1.5341E-03
1.660	3.8486E+01	1.0323E-02	1.8399E-03
1.910	5.1820E+01	1.1081E-02	2.1468E-03
2.000	5.7079E+01	1.1410E-02	2.2576E-03
2.200	6.4190E+01	1.0953E-02	2.3410E-03
2.250	6.5976E+01	1.0850E-02	2.3451E-03
2.300	6.7762E+01	1.0751E-02	2.3481E-03
2.350	6.9546E+01	1.0655E-02	2.3505E-03
2.700	8.1925E+01	1.0055E-02	2.3649E-03
3.000	9.2317E+01	9.6158E-03	2.3767E-03
3.300	1.0245E+02	9.2242E-03	2.3886E-03
3.600	1.1229E+02	8.8668E-03	2.4004E-03
3.900	1.2184E+02	8.5358E-03	2.4122E-03
4.000	1.2496E+02	8.4305E-03	2.4161E-03
4.300	1.3412E+02	8.1277E-03	2.4279E-03
4.600	1.4300E+02	7.8431E-03	2.4396E-03
4.900	1.5162E+02	7.5755E-03	2.4513E-03
5.200	1.5999E+02	7.3240E-03	2.4629E-03
5.500	1.6813E+02	7.0881E-03	2.4745E-03
5.800	1.7607E+02	6.8672E-03	2.4861E-03
6.100	1.8380E+02	6.6609E-03	2.4977E-03
6.400	1.9136E+02	6.4687E-03	2.5092E-03
6.700	1.9876E+02	6.2900E-03	2.5207E-03
7.000	2.0600E+02	6.1243E-03	2.5322E-03
7.300	2.1311E+02	5.9709E-03	2.5436E-03
7.600	2.2010E+02	5.8292E-03	2.5551E-03
7.900	2.2697E+02	5.6985E-03	2.5664E-03
8.000	2.2923E+02	5.6573E-03	2.5702E-03
8.300	2.3594E+02	4.9790E-03	2.5816E-03
8.600	2.4255E+02	4.4270E-03	2.5929E-03
8.900	2.4908E+02	3.9772E-03	2.6042E-03
9.200	2.5554E+02	3.6102E-03	2.6154E-03
9.500	2.6192E+02	3.3103E-03	2.6266E-03
9.800	2.6825E+02	3.0648E-03	2.6378E-03
10.100	2.7452E+02	2.8635E-03	2.6490E-03
10.400	2.8073E+02	2.6980E-03	2.6601E-03
24.000	5.3993E+02	1.7896E-03	3.1346E-03
48.000	7.4956E+02	5.3320E-04	3.8417E-03
72.000	9.4069E+02	4.8592E-04	4.4042E-03
96.000	1.1149E+03	4.4284E-04	4.8419E-03
240.000	1.8796E+03	1.5092E-04	5.6868E-03
720.000	2.7452E+03	2.3570E-05	2.5418E-03

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

Time (hr)	Exclusion Area Bounda		Low Population Zone		Control Room	
	Thyroid (rem)	TEDE (rem)	Thyroid (rem)	TEDE (rem)	Thyroid (rem)	TEDE (rem)
0.000	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.033	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.167	1.2956E-01	6.5805E-03	9.9072E-03	5.0321E-04	8.2934E-03	3.4486E-04
0.500	2.1310E+00	1.1631E-01	1.6296E-01	8.8946E-03	4.0371E-01	1.6712E-02
0.667	3.8729E+00	2.2738E-01	2.9616E-01	1.7388E-02	9.3333E-01	3.8776E-02
1.000	9.3326E+00	7.0263E-01	7.1367E-01	5.3730E-02	2.1904E+00	9.2616E-02
1.160	1.2924E+01	1.0973E+00	9.8829E-01	8.3914E-02	2.7637E+00	1.1828E-01
1.410	1.9774E+01	1.9902E+00	1.5121E+00	1.5219E-01	3.6569E+00	1.6084E-01
1.660	2.8086E+01	3.2671E+00	2.1478E+00	2.4984E-01	4.5782E+00	2.0898E-01
1.910	3.7792E+01	4.9659E+00	2.8900E+00	3.7975E-01	5.5563E+00	2.6534E-01
2.000	4.1615E+01	5.6855E+00	3.1823E+00	4.3478E-01	5.9268E+00	2.8808E-01
2.200	4.6777E+01	6.7075E+00	3.3395E+00	4.6589E-01	6.7450E+00	3.4001E-01
2.250	4.8072E+01	6.9719E+00	3.3788E+00	4.7394E-01	6.9443E+00	3.5287E-01
2.300	4.9364E+01	7.2399E+00	3.4182E+00	4.8209E-01	7.1417E+00	3.6571E-01
2.350	5.0654E+01	7.5114E+00	3.4575E+00	4.9036E-01	7.3371E+00	3.7851E-01
2.700	5.9586E+01	9.5040E+00	3.7294E+00	5.5102E-01	8.6580E+00	4.6791E-01
3.000	6.7048E+01	1.1307E+01	3.9565E+00	6.0589E-01	9.7308E+00	5.4429E-01
3.300	7.4291E+01	1.3167E+01	4.1770E+00	6.6253E-01	1.0755E+01	6.2060E-01
3.600	8.1298E+01	1.5063E+01	4.3903E+00	7.2024E-01	1.1736E+01	6.9681E-01
3.900	8.8067E+01	1.6974E+01	4.5964E+00	7.7842E-01	1.2677E+01	7.7276E-01
4.000	9.0271E+01	1.7612E+01	4.6634E+00	7.9783E-01	1.2982E+01	7.9799E-01
4.300	9.6728E+01	1.9520E+01	4.8600E+00	8.5590E-01	1.3873E+01	8.7328E-01
4.600	1.0296E+02	2.1410E+01	5.0498E+00	9.1345E-01	1.4730E+01	9.4782E-01
4.900	1.0899E+02	2.3274E+01	5.2332E+00	9.7018E-01	1.5554E+01	1.0214E+00
5.200	1.1482E+02	2.5103E+01	5.4107E+00	1.0259E+00	1.6347E+01	1.0938E+00
5.500	1.2047E+02	2.6893E+01	5.5827E+00	1.0804E+00	1.7112E+01	1.1648E+00
5.800	1.2595E+02	2.8639E+01	5.7495E+00	1.1335E+00	1.7850E+01	1.2344E+00
6.100	1.3127E+02	3.0339E+01	5.9117E+00	1.1853E+00	1.8562E+01	1.3025E+00
6.400	1.3646E+02	3.1991E+01	6.0695E+00	1.2355E+00	1.9251E+01	1.3688E+00
6.700	1.4151E+02	3.3593E+01	6.2233E+00	1.2843E+00	1.9919E+01	1.4335E+00
7.000	1.4645E+02	3.5146E+01	6.3735E+00	1.3316E+00	2.0566E+01	1.4964E+00
7.300	1.5127E+02	3.6650E+01	6.5204E+00	1.3774E+00	2.1194E+01	1.5576E+00
7.600	1.5600E+02	3.8106E+01	6.6642E+00	1.4217E+00	2.1805E+01	1.6171E+00
7.900	1.6063E+02	3.9513E+01	6.8053E+00	1.4645E+00	2.2399E+01	1.6748E+00
8.000	1.6216E+02	3.9972E+01	6.8517E+00	1.4785E+00	2.2594E+01	1.6937E+00
8.300	1.6666E+02	4.1317E+01	6.8963E+00	1.5029E+00	2.3139E+01	1.7460E+00
8.600	1.7108E+02	4.2618E+01	6.9401E+00	1.5264E+00	2.3620E+01	1.7915E+00
8.900	1.7544E+02	4.3875E+01	6.9833E+00	1.5492E+00	2.4049E+01	1.8315E+00
9.200	1.7973E+02	4.5091E+01	7.0258E+00	1.5712E+00	2.4435E+01	1.8671E+00
9.500	1.8397E+02	4.6267E+01	7.0678E+00	1.5925E+00	2.4786E+01	1.8991E+00
9.800	1.8815E+02	4.7405E+01	7.1093E+00	1.6130E+00	2.5108E+01	1.9282E+00
10.100	1.9229E+02	4.8506E+01	7.1502E+00	1.6329E+00	2.5407E+01	1.9549E+00
10.400	1.9638E+02	4.9571E+01	7.1908E+00	1.6521E+00	2.5687E+01	1.9796E+00
24.000	3.5974E+02	7.9057E+01	8.8092E+00	2.1716E+00	3.4174E+01	2.5838E+00
48.000	4.8133E+02	9.2114E+01	9.3944E+00	2.2579E+00	3.6858E+01	2.7232E+00
72.000	5.8588E+02	1.0163E+02	9.8976E+00	2.3196E+00	3.8892E+01	2.8185E+00
96.000	6.7841E+02	1.0969E+02	1.0343E+01	2.3715E+00	4.0692E+01	2.9008E+00
240.000	1.0752E+03	1.4145E+02	1.0826E+01	2.4227E+00	4.3781E+01	3.0362E+00
720.000	1.5220E+03	1.6934E+02	1.1370E+01	2.4657E+00	4.7228E+01	3.1707E+00

#####  
Worst Two-Hour Doses  
#####

## Exclusion Area Boundary

Time (hr)	Whole Body (rem)	Thyroid (rem)	TEDE (rem)
3.0	1.0619E+01	4.3884E+01	1.2577E+01

## Attachment A4.5 - RADTRAD Output File "QDC39MS02.o0"

```
#####
RADTRAD Version 3.03 (Spring 2001) run on 1/28/2020 at 9:47:00
#####
```

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

```
Plant file           = D:\Projects\RabaioliBrosius\Exelon_RAIs\QDC-0000-N-
1481\Westinghouse\QDC39MS02.psf
Inventory file       = D:\Projects\RabaioliBrosius\Exelon_RAIs\QDC-0000-N-
1481\Westinghouse\DQ39GWD_DEF.nif
Release file        = c:\program files
(x86)\radtrad3.03\defaults\bwr_dba.rft
Dose Conversion file = c:\program files
(x86)\radtrad3.03\defaults\fgr11&12.inp
```

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

Radtrad 3.03 4/15/2001

Quad Cities MSIV Leakeg - Optima Fuel With 39 GWD/MTU, MSIV Leakage =  
100/100/50/0 scfh, 40% Aerosol Settling Velocity, CREV Initiated @ 40  
Minutes, CR Unfiltered Inleakage = 4,000 cfm for <0.6667 hrs and 400 cfm  
>0.6667 hrs

Nuclide Inventory File:

D:\Projects\RabaioliBrosius\Exelon\_RAIs\QDC-0000-N-  
1481\Westinghouse\DQ39GWD\_DEF.nif

Plant Power Level:

3.0161E+03

Compartments:

9

Compartment 1:

Sprayed Drywell

3

9.5000E+04

1

0

0

0

0

0

Compartment 2:

MSIV Failed Control Vol 1

3

2.0024E+02

0

0

0

0

0

Compartment 3:

Intact Control Volume 2

3

1.5293E+02

0

0

0

0

0

Compartment 4:

Intact Control Volume 3

3

4.9110E+01

0

0

0

0

0

Compartment 5:

Intact Control Volume 4

3

1.6375E+02

0

0

0

0

0

Compartment 6:

Intact Control Volume 5

3

4.9110E+01

0

0

0

0

0

Compartment 7:

Environment

2

0.0000E+00

0

0

0

0

0

Compartment 8:

Control Room

1

1.8400E+05

0  
0  
0  
0  
0

Compartment 9:

Unsprayed Drywell

3

6.3000E+04

0  
0  
0  
0  
0

Pathways:

13

Pathway 1:

Drywell to MSIV Failed Control Vol 1

1  
2  
2

Pathway 2:

MSIV Failed Control Vol 1 to Environment

2  
7  
2

Pathway 3:

Drywell to Intact Control Volume 2

1  
3  
2

Pathway 4:

Intact Control Volume 2 to Intact Control Volume 3

3  
4  
2

Pathway 5:

Intact Control Volume 3 to Environment

4  
7  
2

Pathway 6:

Drywell to Intact Control Volume 4

1  
5  
2

Pathway 7:

Intact Control Volume 4 to Intact Control Volume 5

5  
6  
2

Pathway 8:

Intact Control Volume 5 to Environment

6  
7  
2

Pathway 9:

Filtered Intake to Control Room

7

8

2

Pathway 10:

Unfiltered Inleakage to Control Room

7

8

2

Pathway 11:

Control Room Exhaust to Environment

8

7

2

Pathway 12:

Sprayed Drywell to Unsprayed Drywell

1

9

2

Pathway 13:

Unsprayed Drywell to Sprayed Drywell

9

1

2

End of Plant Model File

Scenario Description Name:

Plant Model Filename:

Source Term:

1

1 1.0000E+00

c:\program files (x86)\radtrad3.03\defaults\fgr11&12.inp

c:\program files (x86)\radtrad3.03\defaults\bwr\_dba.rft

0.0000E+00

1

9.5000E-01 4.8500E-02 1.5000E-03 1.0000E+00

Overlying Pool:

0

0.0000E+00

0

0

0

0

Compartments:

9

Compartment 1:

1

1

1

0.0000E+00

6

0.0000E+00 0.0000E+00

1.6670E-01 1.5000E+01

2.2000E+00 1.5000E+00

2.3000E+00 1.5000E+00



4.0000E+00 0.0000E+00

7.2000E+02 0.0000E+00

1

0.0000E+00

6

0.0000E+00 0.0000E+00

1.6670E-01 1.5000E+01

2.2000E+00 1.5000E+01

2.3000E+00 0.0000E+00

4.0000E+00 0.0000E+00

7.2000E+02 0.0000E+00

1

0.0000E+00

0

0

0

0

0

Compartment 2:

0

1

0

0

0

0

0

0

Compartment 3:

0

1

0

0

0

0

0

0

0

Compartment 4:

0

1

0

0

0

0

0

0

0

Compartment 5:

0

1

0

0

0

0

0

0

0  
 Compartment 6:  
 0  
 1  
 0  
 0  
 0  
 0  
 0  
 0  
 0

Compartment 7:  
 0  
 1  
 0  
 0  
 0  
 0  
 0  
 0  
 0

Compartment 8:  
 0  
 1  
 0  
 0  
 0  
 0  
 0  
 0  
 0

Compartment 9:  
 0  
 1  
 0  
 0  
 0  
 0  
 0  
 0  
 0

Pathways:  
 13

Pathway 1:

0  
 0  
 0  
 0  
 0  
 1  
 5  
 0.0000E+00    0.0000E+00    0.0000E+00    0.0000E+00    0.0000E+00  
 3.3300E-02    5.9500E-01    0.0000E+00    0.0000E+00    0.0000E+00  
 2.0000E+00    3.4900E-01    0.0000E+00    0.0000E+00    0.0000E+00  
 2.4000E+01    1.7500E-01    0.0000E+00    0.0000E+00    0.0000E+00  
 7.2000E+02    0.0000E+00    0.0000E+00    0.0000E+00    0.0000E+00  
 0

0  
0  
0  
0  
0

Pathway 2:

0  
0  
0  
0  
0

1  
10

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	1.6670E+00	8.7820E+01	6.8400E+00	0.0000E+00
2.0000E+00	9.7900E-01	8.7820E+01	6.8400E+00	0.0000E+00
8.0000E+00	9.7900E-01	8.7820E+01	9.1100E+00	0.0000E+00
2.4000E+01	4.8900E-01	8.7820E+01	1.5690E+01	0.0000E+00
4.8000E+01	4.8900E-01	8.7820E+01	3.1540E+01	0.0000E+00
7.2000E+01	4.8900E-01	8.7820E+01	5.2530E+01	0.0000E+00
9.6000E+01	4.8900E-01	8.7820E+01	7.2070E+01	0.0000E+00
2.4000E+02	4.8900E-01	8.7820E+01	9.7260E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

0  
0  
0  
0  
0  
0

Pathway 3:

0  
0  
0  
0  
0  
1  
5

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	5.9500E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	3.4900E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	1.7500E-01	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

0  
0  
0  
0  
0  
0

Pathway 4:

0  
0  
0  
0  
0  
1

10

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
------------	------------	------------	------------	------------

3.3300E-02	1.6670E+00	7.6750E+01	4.1600E+00	0.0000E+00
2.0000E+00	9.7900E-01	7.6750E+01	4.1600E+00	0.0000E+00
8.0000E+00	9.7900E-01	7.6750E+01	5.5700E+00	0.0000E+00
2.4000E+01	4.8900E-01	7.6750E+01	9.7400E+00	0.0000E+00
4.8000E+01	4.8900E-01	7.6750E+01	2.0390E+01	0.0000E+00
7.2000E+01	4.8900E-01	7.6750E+01	3.6240E+01	0.0000E+00
9.6000E+01	4.8900E-01	7.6750E+01	5.4010E+01	0.0000E+00
2.4000E+02	4.8900E-01	7.6750E+01	9.3310E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

0  
0  
0  
0  
0  
0

Pathway 5:

0  
0  
0  
0  
0  
1

10

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	1.6670E+00	8.0220E+01	1.4970E+01	0.0000E+00
2.0000E+00	9.7900E-01	8.0220E+01	1.4970E+01	0.0000E+00
8.0000E+00	9.7900E-01	8.0220E+01	1.9630E+01	0.0000E+00
2.4000E+01	4.8900E-01	8.0220E+01	3.2260E+01	0.0000E+00
4.8000E+01	4.8900E-01	8.0220E+01	5.7570E+01	0.0000E+00
7.2000E+01	4.8900E-01	8.0220E+01	8.0730E+01	0.0000E+00
9.6000E+01	4.8900E-01	8.0220E+01	9.2810E+01	0.0000E+00
2.4000E+02	4.8900E-01	8.0220E+01	9.7840E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

0  
0  
0  
0  
0  
0

Pathway 6:

0  
0  
0  
0  
0  
1

5

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	2.9700E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	1.7500E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	8.7000E-02	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

0  
0  
0  
0  
0



0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
2.0000E+00	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
8.0000E+00	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
2.4000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
9.6000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

0  
0  
0  
0  
0  
0

Pathway 10:

0  
0  
0  
0  
0  
1  
8

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	4.0000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
8.0000E+00	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
9.6000E+01	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

0  
0  
0  
0  
0  
0

Pathway 11:

0  
0  
0  
0  
0  
1  
8

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	6.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
8.0000E+00	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
9.6000E+01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

0  
0  
0  
0  
0

0  
 Pathway 12:  
 0  
 0  
 0  
 0  
 0  
 1  
 2  
 0.0000E+00 2.1000E+03 0.0000E+00 0.0000E+00 0.0000E+00  
 7.2000E+02 0.0000E+00 0.0000E+00 0.0000E+00 0.0000E+00  
 0  
 0  
 0  
 0  
 0  
 0

Pathway 13:  
 0  
 0  
 0  
 0  
 0  
 1  
 2  
 0.0000E+00 2.1000E+03 0.0000E+00 0.0000E+00 0.0000E+00  
 7.2000E+02 0.0000E+00 0.0000E+00 0.0000E+00 0.0000E+00  
 0  
 0  
 0  
 0  
 0  
 0

Dose Locations:  
 3  
 Location 1:  
 Exclusion Area Boundary  
 7  
 1  
 2  
 0.0000E+00 1.3600E-03  
 7.2000E+02 0.0000E+00  
 1  
 2  
 0.0000E+00 3.5000E-04  
 7.2000E+02 0.0000E+00  
 0

Location 2:  
 Low Population Zone  
 7  
 1  
 6  
 0.0000E+00 1.0200E-03  
 2.0000E+00 8.2300E-04  
 8.0000E+00 3.5500E-04  
 2.4000E+01 1.3920E-04  
 9.6000E+01 5.5200E-05

7.2000E+02 0.0000E+00

1

4

0.0000E+00 3.5000E-04

8.0000E+00 1.8000E-04

2.4000E+01 2.3000E-04

7.2000E+02 0.0000E+00

0

Location 3:

Control Room

8

0

1

2

0.0000E+00 3.5000E-04

7.2000E+02 0.0000E+00

1

4

0.0000E+00 1.0000E+00

2.4000E+01 6.0000E-01

9.6000E+01 4.0000E-01

7.2000E+02 0.0000E+00

Effective Volume Location:

1

6

0.0000E+00 1.0200E-03

2.0000E+00 8.2300E-04

8.0000E+00 3.5500E-04

2.4000E+01 2.3200E-04

9.6000E+01 1.3800E-04

7.2000E+02 0.0000E+00

Simulation Parameters:

7

0.0000E+00 1.0000E-01

1.0000E+00 1.0000E-02

2.0000E+00 5.0000E-01

8.0000E+00 1.0000E+00

2.4000E+01 2.0000E+00

9.6000E+01 5.0000E+00

7.2000E+02 0.0000E+00

Output Filename:

D:\Projects\RabaioliBrosius\Exelon\_RAIs\QDC-0000-N-1481\Westinghouse\QDC39MS02.o0

1

1

1

0

0

End of Scenario File



```
#####  
RADTRAD Version 3.03 (Spring 2001) run on 1/28/2020 at 9:47:00  
#####
```

```
#####  
Plant Description  
#####
```

Number of Nuclides = 60

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

Number of compartments = 9

Compartment information

Compartment number 1 (Source term fraction = 1.0000E+00  
)

Name: Sprayed Drywell

Compartment volume = 9.5000E+04 (Cubic feet)

Compartment type is Normal

Removal devices within compartment:

Spray(s)

Pathways into and out of compartment 1

Inlet Pathway Number 13: Unsprayed Drywell to Sprayed Drywell

Exit Pathway Number 1: Drywell to MSIV Failed Control Vol 1

Exit Pathway Number 3: Drywell to Intact Control Volume 2

Exit Pathway Number 6: Drywell to Intact Control Volume 4

Exit Pathway Number 12: Sprayed Drywell to Unsprayed Drywell

Compartment number 2

Name: MSIV Failed Control Vol 1

Compartment volume = 2.0024E+02 (Cubic feet)

Compartment type is Normal

Pathways into and out of compartment 2

Inlet Pathway Number 1: Drywell to MSIV Failed Control Vol 1

Exit Pathway Number 2: MSIV Failed Control Vol 1 to Environment

Compartment number 3

Name: Intact Control Volume 2

Compartment volume = 1.5293E+02 (Cubic feet)

Compartment type is Normal

Pathways into and out of compartment 3

Inlet Pathway Number 3: Drywell to Intact Control Volume 2

Exit Pathway Number 4: Intact Control Volume 2 to Intact Control  
Volume 3

Compartment number 4

Name: Intact Control Volume 3

Compartment volume = 4.9110E+01 (Cubic feet)

Compartment type is Normal

Pathways into and out of compartment 4

Inlet Pathway Number 4: Intact Control Volume 2 to Intact Control  
Volume 3

Exit Pathway Number 5: Intact Control Volume 3 to Environment

Compartment number 5

Name: Intact Control Volume 4

Compartment volume = 1.6375E+02 (Cubic feet)

Compartment type is Normal

Pathways into and out of compartment 5

Inlet Pathway Number 6: Drywell to Intact Control Volume 4

Exit Pathway Number 7: Intact Control Volume 4 to Intact Control Volume 5

Compartment number 6

Name: Intact Control Volume 5

Compartment volume = 4.9110E+01 (Cubic feet)

Compartment type is Normal

Pathways into and out of compartment 6

Inlet Pathway Number 7: Intact Control Volume 4 to Intact Control Volume 5

Exit Pathway Number 8: Intact Control Volume 5 to Environment

Compartment number 7

Name: Environment

Compartment type is Environment

Pathways into and out of compartment 7

Inlet Pathway Number 2: MSIV Failed Control Vol 1 to Environment

Inlet Pathway Number 5: Intact Control Volume 3 to Environment

Inlet Pathway Number 8: Intact Control Volume 5 to Environment

Inlet Pathway Number 11: Control Room Exhaust to Environment

Exit Pathway Number 9: Filtered Intake to Control Room

Exit Pathway Number 10: Unfiltered Inleakage to Control Room

Compartment number 8

Name: Control Room

Compartment volume = 1.8400E+05 (Cubic feet)

Compartment type is Control Room

Pathways into and out of compartment 8

Inlet Pathway Number 9: Filtered Intake to Control Room

Inlet Pathway Number 10: Unfiltered Inleakage to Control Room

Exit Pathway Number 11: Control Room Exhaust to Environment

Compartment number 9

Name: Unsprayed Drywell

Compartment volume = 6.3000E+04 (Cubic feet)

Compartment type is Normal

Pathways into and out of compartment 9

Inlet Pathway Number 12: Sprayed Drywell to Unsprayed Drywell

Exit Pathway Number 13: Unsprayed Drywell to Sprayed Drywell

Total number of pathways = 13

#####  
 RADTRAD Version 3.03 (Spring 2001) run on 1/28/2020 at 9:47:00  
 #####

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

Radioactive Decay is enabled  
 Calculation of Daughters is enabled

Release Fractions and Timings

	GAP	EARLY IN-VESSEL	LATE RELEASE	RELEASE MASS
	0.500000 hr	1.5000 hrs	0.0000 hrs	(gm)
NOBLES	5.0000E-02	9.5000E-01	0.0000E+00	4.433E+03
IODINE	5.0000E-02	2.5000E-01	0.0000E+00	2.603E+02
CESIUM	5.0000E-02	2.0000E-01	0.0000E+00	4.865E+04
TELLURIUM	0.0000E+00	5.0000E-02	0.0000E+00	3.482E+01
STRONTIUM	0.0000E+00	2.0000E-02	0.0000E+00	1.714E+03
BARIUM	0.0000E+00	2.0000E-02	0.0000E+00	3.979E+01
RUTHENIUM	0.0000E+00	2.5000E-03	0.0000E+00	5.508E+01
CERIUM	0.0000E+00	5.0000E-04	0.0000E+00	5.379E+02
LANTHANUM	0.0000E+00	2.0000E-04	0.0000E+00	8.763E+00

Inventory Power = 3016. MWt

Nuclide Name	Group	Specific Inventory (Ci/MWt)	half life (s)	Whole Body DCF (Sv-m3/Bq-s)	Inhaled Thyroid (Sv/Bq)	Inhaled Effective (Sv/Bq)
Co-58	7	1.529E+02	6.117E+06	4.760E-14	8.720E-10	2.940E-09
Co-60	7	1.830E+02	1.663E+08	1.260E-13	1.620E-08	5.910E-08
Kr-85	1	4.609E+02	3.383E+08	1.190E-16	0.000E+00	0.000E+00
Kr-85m	1	7.427E+03	1.613E+04	7.480E-15	0.000E+00	0.000E+00
Kr-87	1	1.436E+04	4.578E+03	4.120E-14	0.000E+00	0.000E+00
Kr-88	1	2.022E+04	1.022E+04	1.020E-13	0.000E+00	0.000E+00
Rb-86	3	6.465E+01	1.612E+06	4.810E-15	1.330E-09	1.790E-09
Sr-89	5	2.715E+04	4.363E+06	7.730E-17	7.960E-12	1.120E-08
Sr-90	5	3.747E+03	9.190E+08	7.530E-18	2.690E-10	3.510E-07
Sr-91	5	3.382E+04	3.420E+04	4.924E-14	9.930E-12	4.547E-10
Sr-92	5	3.647E+04	9.756E+03	6.790E-14	3.920E-12	2.180E-10
Y-90	9	3.846E+03	2.304E+05	1.900E-16	5.170E-13	2.280E-09
Y-91	9	3.481E+04	5.055E+06	2.600E-16	8.500E-12	1.320E-08
Y-92	9	3.647E+04	1.274E+04	1.300E-14	1.050E-12	2.110E-10
Y-93	9	4.178E+04	3.636E+04	4.800E-15	9.260E-13	5.820E-10
Zr-95	9	4.609E+04	5.528E+06	3.600E-14	1.440E-09	6.390E-09
Zr-97	9	4.575E+04	6.084E+04	4.432E-14	2.315E-11	1.171E-09
Nb-95	9	4.642E+04	3.037E+06	3.740E-14	3.580E-10	1.570E-09
Mo-99	7	5.106E+04	2.376E+05	7.280E-15	1.520E-11	1.070E-09
Tc-99m	7	4.476E+04	2.167E+04	5.890E-15	5.010E-11	8.800E-12
Ru-103	7	4.310E+04	3.394E+06	2.251E-14	2.570E-10	2.421E-09
Ru-105	7	3.077E+04	1.598E+04	3.810E-14	4.150E-12	1.230E-10
Ru-106	7	1.890E+04	3.181E+07	1.040E-14	1.720E-09	1.290E-07
Rh-105	7	2.901E+04	1.273E+05	3.720E-15	2.880E-12	2.580E-10
Sb-127	4	2.974E+03	3.326E+05	3.330E-14	6.150E-11	1.630E-09
Sb-129	4	8.819E+03	1.555E+04	7.140E-14	9.720E-12	1.740E-10
Te-127	4	2.957E+03	3.366E+04	2.420E-16	1.840E-12	8.600E-11

Te-127m	4	3.979E+02	9.418E+06	1.470E-16	9.660E-11	5.810E-09
Te-129	4	8.687E+03	4.176E+03	2.750E-15	5.090E-13	2.090E-11
Te-129m	4	1.290E+03	2.903E+06	3.337E-15	1.563E-10	6.484E-09
Te-131m	4	3.945E+03	1.080E+05	7.463E-14	3.669E-08	1.758E-09
Te-132	4	3.846E+04	2.815E+05	1.030E-14	6.280E-08	2.550E-09
I-131	2	2.702E+04	6.947E+05	1.820E-14	2.920E-07	8.890E-09
I-132	2	3.912E+04	8.280E+03	1.120E-13	1.740E-09	1.030E-10
I-133	2	5.537E+04	7.488E+04	2.940E-14	4.860E-08	1.580E-09
I-134	2	6.101E+04	3.156E+03	1.300E-13	2.880E-10	3.550E-11
I-135	2	5.172E+04	2.380E+04	8.294E-14	8.460E-09	3.320E-10
Xe-133	1	5.305E+04	4.532E+05	1.560E-15	0.000E+00	0.000E+00
Xe-135	1	2.195E+04	3.272E+04	1.190E-14	0.000E+00	0.000E+00
Cs-134	3	7.990E+03	6.507E+07	7.570E-14	1.110E-08	1.250E-08
Cs-136	3	1.953E+03	1.132E+06	1.060E-13	1.730E-09	1.980E-09
Cs-137	3	5.073E+03	9.467E+08	2.725E-14	7.930E-09	8.630E-09
Ba-139	6	4.973E+04	4.962E+03	2.170E-15	2.400E-12	4.640E-11
Ba-140	6	4.807E+04	1.101E+06	8.580E-15	2.560E-10	1.010E-09
La-140	9	5.172E+04	1.450E+05	1.170E-13	6.870E-11	1.310E-09
La-141	9	4.542E+04	1.415E+04	2.390E-15	9.400E-12	1.570E-10
La-142	9	4.376E+04	5.550E+03	1.440E-13	8.740E-12	6.840E-11
Ce-141	8	4.542E+04	2.808E+06	3.430E-15	2.550E-11	2.420E-09
Ce-143	8	4.244E+04	1.188E+05	1.290E-14	6.230E-12	9.160E-10
Ce-144	8	3.780E+04	2.456E+07	2.773E-15	2.920E-10	1.010E-07
Pr-143	9	4.111E+04	1.172E+06	2.100E-17	1.680E-18	2.190E-09
Nd-147	9	1.814E+04	9.487E+05	6.190E-15	1.820E-11	1.850E-09
Np-239	8	5.404E+05	2.035E+05	7.690E-15	7.620E-12	6.780E-10
Pu-238	8	2.105E+02	2.769E+09	4.880E-18	3.860E-10	7.790E-05
Pu-239	8	1.247E+01	7.594E+11	4.240E-18	3.750E-10	8.330E-05
Pu-240	8	1.257E+01	2.063E+11	4.750E-18	3.760E-10	8.330E-05
Pu-241	8	7.493E+03	4.544E+08	7.250E-20	9.150E-12	1.340E-06
Am-241	9	1.326E+01	1.364E+10	8.180E-16	1.600E-09	1.200E-04
Cm-242	9	2.606E+03	1.407E+07	5.690E-18	9.410E-10	4.670E-06
Cm-244	9	3.349E+02	5.715E+08	4.910E-18	1.010E-09	6.700E-05

Nuclide	Daughter	Fraction	Daughter	Fraction	Daughter	Fraction
Kr-85m	Kr-85	0.21	none	0.00	none	0.00
Kr-87	Rb-87	1.00	none	0.00	none	0.00
Kr-88	Rb-88	1.00	none	0.00	none	0.00
Sr-90	Y-90	1.00	none	0.00	none	0.00
Sr-91	Y-91m	0.58	Y-91	0.42	none	0.00
Sr-92	Y-92	1.00	none	0.00	none	0.00
Y-93	Zr-93	1.00	none	0.00	none	0.00
Zr-95	Nb-95m	0.01	Nb-95	0.99	none	0.00
Zr-97	Nb-97m	0.95	Nb-97	0.05	none	0.00
Mo-99	Tc-99m	0.88	Tc-99	0.12	none	0.00
Tc-99m	Tc-99	1.00	none	0.00	none	0.00
Ru-103	Rh-103m	1.00	none	0.00	none	0.00
Ru-105	Rh-105	1.00	none	0.00	none	0.00
Ru-106	Rh-106	1.00	none	0.00	none	0.00
Sb-127	Te-127m	0.18	Te-127	0.82	none	0.00
Sb-129	Te-129m	0.22	Te-129	0.77	none	0.00
Te-127m	Te-127	0.98	none	0.00	none	0.00
Te-129	I-129	1.00	none	0.00	none	0.00
Te-129m	Te-129	0.65	I-129	0.35	none	0.00
Te-131m	Te-131	0.22	I-131	0.78	none	0.00
Te-132	I-132	1.00	none	0.00	none	0.00
I-131	Xe-131m	0.01	none	0.00	none	0.00

I-133	Xe-133m	0.03	Xe-133	0.97	none	0.00
I-135	Xe-135m	0.15	Xe-135	0.85	none	0.00
Xe-135	Cs-135	1.00	none	0.00	none	0.00
Cs-137	Ba-137m	0.95	none	0.00	none	0.00
Ba-140	La-140	1.00	none	0.00	none	0.00
La-141	Ce-141	1.00	none	0.00	none	0.00
Ce-143	Pr-143	1.00	none	0.00	none	0.00
Ce-144	Pr-144m	0.02	Pr-144	0.98	none	0.00
Nd-147	Pm-147	1.00	none	0.00	none	0.00
Np-239	Pu-239	1.00	none	0.00	none	0.00
Pu-238	U-234	1.00	none	0.00	none	0.00
Pu-239	U-235	1.00	none	0.00	none	0.00
Pu-240	U-236	1.00	none	0.00	none	0.00
Pu-241	U-237	0.00	Am-241	1.00	none	0.00
Am-241	Np-237	1.00	none	0.00	none	0.00
Cm-242	Pu-238	1.00	none	0.00	none	0.00
Cm-244	Pu-240	1.00	none	0.00	none	0.00

## Iodine fractions

Aerosol	=	9.5000E-01
Elemental	=	4.8500E-02
Organic	=	1.5000E-03

## COMPARTMENT DATA

Compartment number 1: Sprayed Drywell

## Sprays: Aerosol Removal Data

Time (hr)	Removal Coef. (hr <sup>-1</sup> )
0.0000E+00	0.0000E+00
1.6670E-01	1.5000E+01
2.2000E+00	1.5000E+00
2.3000E+00	1.5000E+00
4.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00

## Sprays: Elemental Removal Data

Time (hr)	Removal Coef. (hr <sup>-1</sup> )
0.0000E+00	0.0000E+00
1.6670E-01	1.5000E+01
2.2000E+00	1.5000E+01
2.3000E+00	0.0000E+00
4.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00

Compartment number 2: MSIV Failed Control Vol 1

Compartment number 3: Intact Control Volume 2

Compartment number 4: Intact Control Volume 3

Compartment number 5: Intact Control Volume 4

Compartment number 6: Intact Control Volume 5

Compartment number 7: Environment

Compartment number 8: Control Room

Compartment number 9: Unsprayed Drywell

PATHWAY DATA

Pathway number 1: Drywell to MSIV Failed Control Vol 1

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	5.9500E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	3.4900E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	1.7500E-01	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 2: MSIV Failed Control Vol 1 to Environment

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	1.6670E+00	8.7820E+01	6.8400E+00	0.0000E+00
2.0000E+00	9.7900E-01	8.7820E+01	6.8400E+00	0.0000E+00
8.0000E+00	9.7900E-01	8.7820E+01	9.1100E+00	0.0000E+00
2.4000E+01	4.8900E-01	8.7820E+01	1.5690E+01	0.0000E+00
4.8000E+01	4.8900E-01	8.7820E+01	3.1540E+01	0.0000E+00
7.2000E+01	4.8900E-01	8.7820E+01	5.2530E+01	0.0000E+00
9.6000E+01	4.8900E-01	8.7820E+01	7.2070E+01	0.0000E+00
2.4000E+02	4.8900E-01	8.7820E+01	9.7260E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 3: Drywell to Intact Control Volume 2

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	5.9500E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	3.4900E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	1.7500E-01	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 4: Intact Control Volume 2 to Intact Control Volume 3

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	1.6670E+00	7.6750E+01	4.1600E+00	0.0000E+00
2.0000E+00	9.7900E-01	7.6750E+01	4.1600E+00	0.0000E+00
8.0000E+00	9.7900E-01	7.6750E+01	5.5700E+00	0.0000E+00

2.4000E+01	4.8900E-01	7.6750E+01	9.7400E+00	0.0000E+00
4.8000E+01	4.8900E-01	7.6750E+01	2.0390E+01	0.0000E+00
7.2000E+01	4.8900E-01	7.6750E+01	3.6240E+01	0.0000E+00
9.6000E+01	4.8900E-01	7.6750E+01	5.4010E+01	0.0000E+00
2.4000E+02	4.8900E-01	7.6750E+01	9.3310E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 5: Intact Control Volume 3 to Environment

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	1.6670E+00	8.0220E+01	1.4970E+01	0.0000E+00
2.0000E+00	9.7900E-01	8.0220E+01	1.4970E+01	0.0000E+00
8.0000E+00	9.7900E-01	8.0220E+01	1.9630E+01	0.0000E+00
2.4000E+01	4.8900E-01	8.0220E+01	3.2260E+01	0.0000E+00
4.8000E+01	4.8900E-01	8.0220E+01	5.7570E+01	0.0000E+00
7.2000E+01	4.8900E-01	8.0220E+01	8.0730E+01	0.0000E+00
9.6000E+01	4.8900E-01	8.0220E+01	9.2810E+01	0.0000E+00
2.4000E+02	4.8900E-01	8.0220E+01	9.7840E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 6: Drywell to Intact Control Volume 4

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	2.9700E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	1.7500E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	8.7000E-02	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 7: Intact Control Volume 4 to Intact Control Volume 5

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	8.3300E-01	8.9010E+01	4.7500E+00	0.0000E+00
2.0000E+00	4.8900E-01	8.9010E+01	4.7500E+00	0.0000E+00
8.0000E+00	4.8900E-01	8.9010E+01	6.3500E+00	0.0000E+00
2.4000E+01	2.4500E-01	8.9010E+01	1.1060E+01	0.0000E+00
4.8000E+01	2.4500E-01	8.9010E+01	2.2950E+01	0.0000E+00
7.2000E+01	2.4500E-01	8.9010E+01	4.0200E+01	0.0000E+00
9.6000E+01	2.4500E-01	8.9010E+01	5.8780E+01	0.0000E+00
2.4000E+02	2.4500E-01	8.9010E+01	9.4930E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 8: Intact Control Volume 5 to Environment

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	8.3300E-01	8.9030E+01	1.4970E+01	0.0000E+00
2.0000E+00	4.8900E-01	8.9030E+01	1.4970E+01	0.0000E+00
8.0000E+00	4.8900E-01	8.9030E+01	1.9630E+01	0.0000E+00
2.4000E+01	2.4500E-01	8.9030E+01	3.2260E+01	0.0000E+00
4.8000E+01	2.4500E-01	8.9030E+01	5.7570E+01	0.0000E+00
7.2000E+01	2.4500E-01	8.9030E+01	8.0730E+01	0.0000E+00
9.6000E+01	2.4500E-01	8.9030E+01	9.2810E+01	0.0000E+00
2.4000E+02	2.4500E-01	8.9030E+01	9.7840E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 9: Filtered Intake to Control Room

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
2.0000E+00	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
8.0000E+00	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
2.4000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
9.6000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 10: Unfiltered Inleakage to Control Room

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	4.0000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
8.0000E+00	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
9.6000E+01	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 11: Control Room Exhaust to Environment

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	6.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
8.0000E+00	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
9.6000E+01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00



Pathway number 12: Sprayed Drywell to Unsprayed Drywell

Pathway Filter: Removal Data

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

Pathway number 13: Unsprayed Drywell to Sprayed Drywell

Pathway Filter: Removal Data

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

#### LOCATION DATA

Location Exclusion Area Boundary is in compartment 7

Location X/Q Data

Time (hr)	X/Q (s * m <sup>-3</sup> )
0.0000E+00	1.3600E-03
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 Low Population Zone is in compartment 7

Location X/Q Data

Time (hr)	X/Q (s * m <sup>-3</sup> )
0.0000E+00	1.0200E-03
2.0000E+00	8.2300E-04
8.0000E+00	3.5500E-04
2.4000E+01	1.3920E-04
9.6000E+01	5.5200E-05
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
8.0000E+00	1.8000E-04
2.4000E+01	2.3000E-04
7.2000E+02	0.0000E+00

Location Control Room is in compartment 8

Location X/Q Data

Time (hr)	X/Q (s * m <sup>-3</sup> )
0.0000E+00	1.0200E-03
2.0000E+00	8.2300E-04
8.0000E+00	3.5500E-04
2.4000E+01	2.3200E-04
9.6000E+01	1.3800E-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 Occupancy Factor Data

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

## USER SPECIFIED TIME STEP DATA - SUPPLEMENTAL TIME STEPS

Time	Time step
0.0000E+00	1.0000E-01
1.0000E+00	1.0000E-02
2.0000E+00	5.0000E-01
8.0000E+00	1.0000E+00
2.4000E+01	2.0000E+00
9.6000E+01	5.0000E+00
7.2000E+02	0.0000E+00

#####  
 RADTRAD Version 3.03 (Spring 2001) run on 1/28/2020 at 9:47:00  
 #####

```

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

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

Exclusion Area Boundary Doses:

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

Low Population Zone Doses:

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

Control Room Doses:

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

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =	0.0333	Ci	kg	Atoms	Decay
------------	--------	----	----	-------	-------

Sprayed Drywell Transport Group Inventory:

Time (h) =	0.0333	Atmosphere	Sump
Noble gases (atoms)		9.5010E+22	0.0000E+00
Elemental I (atoms)		6.2714E+20	0.0000E+00
Organic I (atoms)		1.9396E+19	0.0000E+00
Aerosols (kg)		6.3695E-01	0.0000E+00
Dose Effective (Ci/cc)		I-131 (Thyroid)	1.3887E-04
Dose Effective (Ci/cc)		I-131 (ICRP2 Thyroid)	1.7722E-04
Total I (Ci)			2.2808E+06

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

Pathway

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

Drywell to Intact Control Volume 2 Transport Group Inventory:

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

Drywell to Intact Control Volume 4 Transport Group Inventory:

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

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

		Pathway	
Time (h) =	0.0333	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.1133E+21	
Elemental I (atoms)	0.0000E+00	1.3960E+19	
Organic I (atoms)	0.0000E+00	4.3176E+17	
Aerosols (kg)	0.0000E+00	1.4168E-02	

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

		Pathway	
Time (h) =	0.0333	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.5936E+19	
Elemental I (atoms)	0.0000E+00	3.0345E+17	
Organic I (atoms)	0.0000E+00	9.3849E+15	
Aerosols (kg)	0.0000E+00	3.0796E-04	

Exclusion Area Boundary Doses:

Time (h) =	0.1667	Whole Body	Thyroid	TEDE
Delta dose (rem)		1.1925E-03	1.2262E-01	6.2282E-03
Accumulated dose (rem)		1.1925E-03	1.2262E-01	6.2282E-03

Low Population Zone Doses:

Time (h) =	0.1667	Whole Body	Thyroid	TEDE
Delta dose (rem)		8.9441E-04	9.1962E-02	4.6712E-03
Accumulated dose (rem)		8.9441E-04	9.1962E-02	4.6712E-03

Control Room Doses:

Time (h) =	0.1667	Whole Body	Thyroid	TEDE
------------	--------	------------	---------	------

Delta dose (rem)	3.9185E-06	7.8822E-03	3.2776E-04
Accumulated dose (rem)	3.9185E-06	7.8822E-03	3.2776E-04

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =	Ci	kg	Atoms	Decay
Kr-85	2.1025E+04	5.3588E-02	3.7967E+23	3.2238E+17
Kr-85m	3.3017E+05	4.0120E-05	2.8424E+20	5.1134E+18
Kr-87	5.9815E+05	2.1117E-05	1.4617E+20	9.5020E+18
Kr-88	8.8559E+05	7.0625E-05	4.8331E+20	1.3795E+19
Rb-86	2.9483E+03	3.6235E-05	2.5373E+20	4.5213E+16
I-131	1.2318E+06	9.9362E-03	4.5677E+22	1.8893E+19
I-132	1.7255E+06	1.6717E-04	7.6266E+20	2.6857E+19
I-133	2.5118E+06	2.2173E-03	1.0040E+22	3.8597E+19
I-134	2.4394E+06	9.1442E-05	4.1095E+20	3.9380E+19
I-135	2.3184E+06	6.6016E-04	2.9449E+21	3.5790E+19
Xe-133	2.4200E+06	1.2928E-02	5.8539E+22	3.7100E+19
Xe-135	1.0138E+06	3.9699E-04	1.7709E+21	1.5397E+19
Cs-134	3.6447E+05	2.8170E-01	1.2660E+24	5.5886E+18
Cs-136	8.9056E+04	1.2151E-03	5.3805E+21	1.3657E+18
Cs-137	2.3141E+05	2.6605E+00	1.1695E+25	3.5483E+18

## Sprayed Drywell Transport Group Inventory:

Time (h) =	Atmosphere	Sump
Noble gases (atoms)	4.4089E+23	0.0000E+00
Elemental I (atoms)	2.9020E+21	0.0000E+00
Organic I (atoms)	8.9753E+19	0.0000E+00
Aerosols (kg)	2.9558E+00	0.0000E+00
Dose Effective (Ci/cc) I-131 (Thyroid)		6.4301E-04
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)		8.1779E-04
Total I (Ci)		1.0227E+07

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

Time (h) =	Pathway	
	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.3642E+19
Elemental I (atoms)	0.0000E+00	8.9969E+16
Organic I (atoms)	0.0000E+00	2.7825E+15
Aerosols (kg)	0.0000E+00	9.1457E-05

## Drywell to Intact Control Volume 2 Transport Group Inventory:

Time (h) =	Pathway	
	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.3642E+19
Elemental I (atoms)	0.0000E+00	8.9969E+16
Organic I (atoms)	0.0000E+00	2.7825E+15
Aerosols (kg)	0.0000E+00	9.1457E-05

## Drywell to Intact Control Volume 4 Transport Group Inventory:

Time (h) =	Pathway	
	Filtered	Transported
Noble gases (atoms)	0.0000E+00	6.8095E+18
Elemental I (atoms)	0.0000E+00	4.4909E+16
Organic I (atoms)	0.0000E+00	1.3889E+15

Aerosols (kg) 0.0000E+00 4.5652E-05

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 0.1667	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.0261E+22
Elemental I (atoms)	0.0000E+00	3.3150E+20
Organic I (atoms)	0.0000E+00	1.0253E+19
Aerosols (kg)	0.0000E+00	3.3696E-01

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 0.1667	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.2156E+21
Elemental I (atoms)	0.0000E+00	3.4390E+19
Organic I (atoms)	0.0000E+00	1.0636E+18
Aerosols (kg)	0.0000E+00	3.4966E-02

Exclusion Area Boundary Doses:

Time (h) = 0.5000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.5310E-02	1.8460E+00	1.0034E-01
Accumulated dose (rem)	2.6503E-02	1.9686E+00	1.0657E-01

Low Population Zone Doses:

Time (h) = 0.5000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.8983E-02	1.3845E+00	7.5255E-02
Accumulated dose (rem)	1.9877E-02	1.4764E+00	7.9926E-02

Control Room Doses:

Time (h) = 0.5000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.2428E-04	3.6554E-01	1.5127E-02
Accumulated dose (rem)	2.2820E-04	3.7342E-01	1.5455E-02

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 0.5000	Ci	kg	Atoms	Decay
Kr-85	5.5286E+04	1.4091E-01	9.9836E+23	2.2514E+18
Kr-85m	8.2455E+05	1.0019E-04	7.0987E+20	3.4544E+19
Kr-87	1.3116E+06	4.6304E-05	3.2052E+20	5.9118E+19
Kr-88	2.1468E+06	1.7120E-04	1.1716E+21	9.1437E+19
Rb-86	1.2754E+03	1.5674E-05	1.0976E+20	1.0863E+17
I-131	5.3661E+05	4.3284E-03	1.9898E+22	4.5514E+19
I-132	7.4559E+05	7.2232E-05	3.2954E+20	6.4371E+19
I-133	1.0833E+06	9.5626E-04	4.3298E+21	9.2628E+19
I-134	8.1734E+05	3.0639E-05	1.3769E+20	8.6221E+19
I-135	9.7629E+05	2.7800E-04	1.2401E+21	8.5117E+19
Xe-133	6.3570E+06	3.3961E-02	1.5377E+23	2.5901E+20
Xe-135	2.6558E+06	1.0400E-03	4.6392E+21	1.0819E+20
Cs-134	1.5774E+05	1.2192E-01	5.4791E+23	1.3431E+19
Cs-136	3.8514E+04	5.2550E-04	2.3269E+21	3.2812E+18
Cs-137	1.0015E+05	1.1514E+00	5.0613E+24	8.5274E+18

## Sprayed Drywell Transport Group Inventory:

Time (h) =	0.5000	Atmosphere	Sump
Noble gases (atoms)	1.1590E+24	0.0000E+00	
Elemental I (atoms)	1.2484E+21	7.6315E+21	
Organic I (atoms)	2.3445E+20	0.0000E+00	
Aerosols (kg)	1.2792E+00	7.7865E+00	
Dose Effective (Ci/cc)	I-131 (Thyroid)		2.7896E-04
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		3.5248E-04
Total I (Ci)			4.1591E+06

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

		Pathway	
Time (h) =	0.5000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.1538E+20	
Elemental I (atoms)	0.0000E+00	2.8116E+17	
Organic I (atoms)	0.0000E+00	2.3439E+16	
Aerosols (kg)	0.0000E+00	2.8653E-04	

## Drywell to Intact Control Volume 2 Transport Group Inventory:

		Pathway	
Time (h) =	0.5000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.1538E+20	
Elemental I (atoms)	0.0000E+00	2.8116E+17	
Organic I (atoms)	0.0000E+00	2.3439E+16	
Aerosols (kg)	0.0000E+00	2.8653E-04	

## Drywell to Intact Control Volume 4 Transport Group Inventory:

		Pathway	
Time (h) =	0.5000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.7592E+19	
Elemental I (atoms)	0.0000E+00	1.4034E+17	
Organic I (atoms)	0.0000E+00	1.1700E+16	
Aerosols (kg)	0.0000E+00	1.4302E-04	

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

		Pathway	
Time (h) =	0.5000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.0933E+23	
Elemental I (atoms)	0.0000E+00	1.0063E+21	
Organic I (atoms)	0.0000E+00	8.3158E+19	
Aerosols (kg)	0.0000E+00	1.0254E+00	

## Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

		Pathway	
Time (h) =	0.5000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.1136E+23	
Elemental I (atoms)	0.0000E+00	3.8188E+20	
Organic I (atoms)	0.0000E+00	2.2603E+19	
Aerosols (kg)	0.0000E+00	3.8988E-01	

## Exclusion Area Boundary Doses:

Time (h) =	0.6667	Whole Body	Thyroid	TEDE
Delta dose (rem)		3.3404E-02	1.6237E+00	1.0098E-01
Accumulated dose (rem)		5.9907E-02	3.5923E+00	2.0755E-01

## Low Population Zone Doses:

Time (h) =	0.6667	Whole Body	Thyroid	TEDE
Delta dose (rem)		2.5053E-02	1.2178E+00	7.5738E-02
Accumulated dose (rem)		4.4930E-02	2.6942E+00	1.5566E-01

## Control Room Doses:

Time (h) =	0.6667	Whole Body	Thyroid	TEDE
Delta dose (rem)		3.8736E-04	4.9051E-01	2.0429E-02
Accumulated dose (rem)		6.1555E-04	8.6393E-01	3.5884E-02

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =	0.6667	Ci	kg	Atoms	Decay
Co-58		4.4405E+01	1.3965E-06	1.4500E+19	9.0095E+14
Co-60		5.3161E+01	4.7029E-05	4.7202E+20	1.0786E+15
Kr-85		1.8269E+05	4.6564E-01	3.2990E+24	5.6628E+18
Kr-85m		2.6553E+06	3.2266E-04	2.2860E+21	8.4723E+19
Kr-87		3.9576E+06	1.3972E-04	9.6713E+20	1.3622E+20
Kr-88		6.8110E+06	5.4318E-04	3.7171E+21	2.2104E+20
Rb-86		1.6517E+03	2.0299E-05	1.4215E+20	1.4457E+17
Sr-89		6.3072E+04	2.1710E-03	1.4690E+22	1.2797E+18
Sr-90		8.7080E+03	6.3838E-02	4.2716E+23	1.7667E+17
Sr-91		7.4866E+04	2.0653E-05	1.3667E+20	1.5278E+18
Sr-92		7.1468E+04	5.6859E-06	3.7219E+19	1.4801E+18
Y-90		9.8349E+01	1.8077E-07	1.2096E+18	1.8368E+15
Y-91		8.1031E+02	3.3042E-05	2.1866E+20	1.6414E+16
Y-92		2.1882E+03	2.2740E-07	1.4885E+18	2.0672E+16
Y-93		9.2754E+02	2.7801E-07	1.8002E+18	1.8922E+16
Zr-95		1.0708E+03	4.9845E-05	3.1597E+20	2.1726E+16
Zr-97		1.0345E+03	5.4117E-07	3.3598E+18	2.1059E+16
Nb-95		1.0788E+03	2.7588E-05	1.7488E+20	2.1886E+16
Mo-99		1.4729E+04	3.0711E-05	1.8681E+20	2.9909E+17
Tc-99m		1.3008E+04	2.4738E-06	1.5048E+19	2.6261E+17
Ru-103		1.2514E+04	3.8775E-04	2.2671E+21	2.5391E+17
Ru-105		8.0551E+03	1.1983E-06	6.8728E+18	1.6549E+17
Ru-106		5.4901E+03	1.6410E-03	9.3230E+21	1.1139E+17
Rh-105		8.4283E+03	9.9854E-06	5.7270E+19	1.7087E+17
Sb-127		1.7193E+04	6.4379E-05	3.0528E+20	3.4902E+17
Sb-129		4.6040E+04	8.1872E-06	3.8221E+19	9.4621E+17
Te-127		1.7145E+04	6.4965E-06	3.0805E+19	3.4688E+17
Te-127m		2.3119E+03	2.4510E-04	1.1622E+21	4.6905E+16
Te-129		4.8091E+04	2.2964E-06	1.0720E+19	9.6086E+17
Te-129m		7.4967E+03	2.4885E-04	1.1617E+21	1.5209E+17
Te-131m		2.2570E+04	2.8304E-05	1.3012E+20	4.5876E+17
Te-132		2.2214E+05	7.3169E-04	3.3381E+21	4.5100E+18
I-131		8.5233E+05	6.8751E-03	3.1605E+22	6.3821E+19
I-132		1.1991E+06	1.1616E-04	5.2996E+20	9.0284E+19
I-133		1.7119E+06	1.5112E-03	6.8428E+21	1.2949E+20
I-134		1.1385E+06	4.2678E-05	1.9180E+20	1.1233E+20
I-135		1.5246E+06	4.3413E-04	1.9366E+21	1.1814E+20
Xe-133		2.1007E+07	1.1223E-01	5.0817E+23	6.5137E+20



Xe-135	8.8891E+06	3.4808E-03	1.5527E+22	2.7431E+20
Cs-134	2.0434E+05	1.5793E-01	7.0977E+23	1.7876E+19
Cs-136	4.9874E+04	6.8050E-04	3.0133E+21	4.3663E+18
Cs-137	1.2974E+05	1.4916E+00	6.5566E+24	1.1350E+19
Ba-139	8.2650E+04	5.0529E-06	2.1892E+19	1.7464E+18
Ba-140	1.1155E+05	1.5237E-03	6.5541E+21	2.2635E+18
La-140	1.3839E+03	2.4898E-06	1.0710E+19	2.4851E+16
La-141	9.3846E+02	1.6594E-07	7.0874E+17	1.9312E+16
La-142	7.5358E+02	5.2643E-08	2.2325E+17	1.5854E+16
Ce-141	2.6387E+03	9.2607E-05	3.9552E+20	5.3536E+16
Ce-143	2.4315E+03	3.6614E-06	1.5419E+19	4.9414E+16
Ce-144	2.1960E+03	6.8852E-04	2.8794E+21	4.4554E+16
Pr-143	9.5573E+02	1.4193E-05	5.9770E+19	1.9383E+16
Nd-147	4.2083E+02	5.2020E-06	2.1311E+19	8.5399E+15
Np-239	3.1141E+04	1.3424E-04	3.3824E+20	6.3244E+17
Pu-238	1.2230E+01	7.1439E-04	1.8076E+21	2.4813E+14
Pu-239	7.2457E-01	1.1657E-02	2.9373E+22	1.4700E+13
Pu-240	7.3031E-01	3.2050E-03	8.0421E+21	1.4817E+13
Pu-241	4.3534E+02	4.2261E-03	1.0560E+22	8.8324E+15
Am-241	3.0819E-01	8.9794E-05	2.2438E+20	6.2525E+12
Cm-242	6.0556E+01	1.8271E-05	4.5468E+19	1.2286E+15
Cm-244	7.7830E+00	9.6202E-05	2.3744E+20	1.5791E+14

## Sprayed Drywell Transport Group Inventory:

Time (h) =	0.6667	Atmosphere	Sump	
Noble gases (atoms)	3.8297E+24	0.0000E+00		
Elemental I (atoms)	1.9793E+21	1.2075E+22		
Organic I (atoms)	3.5761E+20	0.0000E+00		
Aerosols (kg)	1.7508E+00	1.1832E+01		
Dose Effective (Ci/cc)	I-131 (Thyroid)		4.4225E-04	
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		5.5738E-04	
Total I (Ci)			6.4264E+06	

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.7405E+20
Elemental I (atoms)	0.0000E+00	3.9248E+17
Organic I (atoms)	0.0000E+00	4.2080E+16
Aerosols (kg)	0.0000E+00	3.8787E-04

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.7405E+20
Elemental I (atoms)	0.0000E+00	3.9248E+17
Organic I (atoms)	0.0000E+00	4.2080E+16
Aerosols (kg)	0.0000E+00	3.8787E-04

## Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.3680E+20
Elemental I (atoms)	0.0000E+00	1.9591E+17

Organic I (atoms)	0.0000E+00	2.1004E+16
Aerosols (kg)	0.0000E+00	1.9361E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 0.6667	Filtered	Transported
Noble gases (atoms)	0.0000E+00	9.6936E+23
Elemental I (atoms)	0.0000E+00	1.3992E+21
Organic I (atoms)	0.0000E+00	1.4895E+20
Aerosols (kg)	0.0000E+00	1.3831E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 0.6667	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.6547E+23
Elemental I (atoms)	0.0000E+00	6.1354E+20
Organic I (atoms)	0.0000E+00	4.8852E+19
Aerosols (kg)	0.0000E+00	6.2255E-01

Exclusion Area Boundary Doses:

Time (h) = 2.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.7878E+00	3.5532E+01	4.5095E+00
Accumulated dose (rem)	2.8477E+00	3.9124E+01	4.7171E+00

Low Population Zone Doses:

Time (h) = 2.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.0908E+00	2.6649E+01	3.3822E+00
Accumulated dose (rem)	2.1358E+00	2.9343E+01	3.5378E+00

Control Room Doses:

Time (h) = 2.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.6250E-02	4.6582E+00	2.2837E-01
Accumulated dose (rem)	2.6865E-02	5.5222E+00	2.6425E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 2.0000	Ci	kg	Atoms	Decay
Co-58	5.0851E+01	1.5992E-06	1.6604E+19	9.7346E+15
Co-60	6.0909E+01	5.3884E-05	5.4082E+20	1.1657E+16
Kr-85	9.4023E+05	2.3965E+00	1.6979E+25	1.0970E+20
Kr-85m	1.1118E+07	1.3510E-03	9.5718E+21	1.4224E+21
Kr-87	9.8475E+06	3.4765E-04	2.4065E+21	1.6206E+21
Kr-88	2.5316E+07	2.0190E-03	1.3817E+22	3.4225E+21
Rb-86	1.7229E+03	2.1174E-05	1.4827E+20	4.4810E+17
Sr-89	7.2212E+04	2.4856E-03	1.6819E+22	1.3825E+19
Sr-90	9.9774E+03	7.3144E-02	4.8943E+23	1.9094E+18
Sr-91	7.7828E+04	2.1470E-05	1.4208E+20	1.5716E+19
Sr-92	5.8225E+04	4.6323E-06	3.0322E+19	1.3507E+19
Y-90	1.1338E+02	2.0840E-07	1.3944E+18	2.0940E+16
Y-91	9.2802E+02	3.7841E-05	2.5042E+20	1.7753E+17
Y-92	2.0811E+03	2.1628E-07	1.4157E+18	3.4679E+17
Y-93	9.6982E+02	2.9069E-07	1.8823E+18	1.9521E+17

Zr-95	1.2262E+03	5.7076E-05	3.6181E+20	2.3474E+17
Zr-97	1.1223E+03	5.8707E-07	3.6447E+18	2.2133E+17
Nb-95	1.2360E+03	3.1609E-05	2.0037E+20	2.3655E+17
Mo-99	1.6642E+04	3.4698E-05	2.1107E+20	3.2094E+18
Tc-99m	1.4885E+04	2.8308E-06	1.7220E+19	2.8454E+18
Ru-103	1.4325E+04	4.4384E-04	2.5950E+21	2.7429E+18
Ru-105	7.4950E+03	1.1150E-06	6.3949E+18	1.6108E+18
Ru-106	6.2898E+03	1.8800E-03	1.0681E+22	1.2038E+18
Rh-105	9.6227E+03	1.1401E-05	6.5386E+19	1.8452E+18
Sb-127	1.9503E+04	7.3030E-05	3.4630E+20	3.7529E+18
Sb-129	4.2592E+04	7.5741E-06	3.5358E+19	9.1839E+18
Te-127	1.9554E+04	7.4094E-06	3.5134E+19	3.7471E+18
Te-127m	2.6493E+03	2.8086E-04	1.3318E+21	5.0698E+17
Te-129	4.7891E+04	2.2868E-06	1.0676E+19	9.8475E+18
Te-129m	8.5917E+03	2.8520E-04	1.3314E+21	1.6440E+18
Te-131m	2.5076E+04	3.1447E-05	1.4456E+20	4.8807E+18
Te-132	2.5153E+05	8.2850E-04	3.7798E+21	4.8449E+19
I-131	9.1931E+05	7.4153E-03	3.4089E+22	2.2415E+20
I-132	1.2944E+06	1.2540E-04	5.7211E+20	3.1679E+20
I-133	1.7738E+06	1.5658E-03	7.0898E+21	4.4508E+20
I-134	4.2974E+05	1.6109E-05	7.2397E+19	2.4436E+20
I-135	1.4360E+06	4.0889E-04	1.8240E+21	3.8620E+20
Xe-133	1.0777E+08	5.7577E-01	2.6070E+24	1.2593E+22
Xe-135	4.5742E+07	1.7912E-02	7.9902E+22	5.3523E+21
Cs-134	2.1357E+05	1.6507E-01	7.4185E+23	5.5464E+19
Cs-136	5.1978E+04	7.0920E-04	3.1404E+21	1.3528E+19
Cs-137	1.3561E+05	1.5591E+00	6.8533E+24	3.5216E+19
Ba-139	4.8434E+04	2.9611E-06	1.2829E+19	1.3683E+19
Ba-140	1.2742E+05	1.7405E-03	7.4868E+21	2.4426E+19
La-140	1.5974E+03	2.8740E-06	1.2363E+19	2.9053E+17
La-141	8.4994E+02	1.5029E-07	6.4188E+17	1.8550E+17
La-142	4.7412E+02	3.3120E-08	1.4046E+17	1.2825E+17
Ce-141	3.0226E+03	1.0608E-04	4.5307E+20	5.7855E+17
Ce-143	2.7090E+03	4.0793E-06	1.7179E+19	5.2646E+17
Ce-144	2.5158E+03	7.8878E-04	3.2987E+21	4.8151E+17
Pr-143	1.0951E+03	1.6262E-05	6.8485E+19	2.0954E+17
Nd-147	4.8049E+02	5.9395E-06	2.4332E+19	9.2132E+16
Np-239	3.5102E+04	1.5131E-04	3.8126E+20	6.7782E+18
Pu-238	1.4013E+01	8.1854E-04	2.0712E+21	2.6818E+15
Pu-239	8.3035E-01	1.3359E-02	3.3661E+22	1.5889E+14
Pu-240	8.3678E-01	3.6722E-03	9.2144E+21	1.6014E+14
Pu-241	4.9880E+02	4.8421E-03	1.2100E+22	9.5459E+16
Am-241	3.5316E-01	1.0290E-04	2.5712E+20	6.7582E+13
Cm-242	6.9367E+01	2.0930E-05	5.2083E+19	1.3277E+16
Cm-244	8.9176E+00	1.1023E-04	2.7205E+20	1.7066E+15

## Sprayed Drywell Transport Group Inventory:

Time (h) =	2.0000	Atmosphere	Sump	
Noble gases (atoms)	1.9692E+25	0.0000E+00		
Elemental I (atoms)	2.0641E+21	5.3236E+22		
Organic I (atoms)	1.1513E+21	0.0000E+00		
Aerosols (kg)	1.8392E+00	4.8224E+01		
Dose Effective (Ci/cc)	I-131 (Thyroid)		4.6997E-04	
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		5.8246E-04	
Total I (Ci)			5.8532E+06	

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
2.0000		
Noble gases (atoms)	0.0000E+00	6.3256E+21
Elemental I (atoms)	0.0000E+00	1.4237E+18
Organic I (atoms)	0.0000E+00	4.2642E+17
Aerosols (kg)	0.0000E+00	1.2996E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
2.0000		
Noble gases (atoms)	0.0000E+00	6.3256E+21
Elemental I (atoms)	0.0000E+00	1.4237E+18
Organic I (atoms)	0.0000E+00	4.2642E+17
Aerosols (kg)	0.0000E+00	1.2996E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
2.0000		
Noble gases (atoms)	0.0000E+00	3.1575E+21
Elemental I (atoms)	0.0000E+00	7.1064E+17
Organic I (atoms)	0.0000E+00	2.1285E+17
Aerosols (kg)	0.0000E+00	6.4870E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
2.0000		
Noble gases (atoms)	0.0000E+00	2.2328E+25
Elemental I (atoms)	0.0000E+00	5.0387E+21
Organic I (atoms)	0.0000E+00	1.5054E+21
Aerosols (kg)	0.0000E+00	4.6010E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
2.0000		
Noble gases (atoms)	0.0000E+00	1.2913E+25
Elemental I (atoms)	0.0000E+00	3.6877E+21
Organic I (atoms)	0.0000E+00	9.2401E+20
Aerosols (kg)	0.0000E+00	3.4220E+00

Exclusion Area Boundary Doses:

Time (h) =	Whole Body	Thyroid	TEDE
2.2000			
Delta dose (rem)	5.5802E-01	4.8314E+00	7.9727E-01
Accumulated dose (rem)	3.4057E+00	4.3955E+01	5.5144E+00

Low Population Zone Doses:

Time (h) =	Whole Body	Thyroid	TEDE
2.2000			
Delta dose (rem)	3.3768E-01	2.9237E+00	4.8247E-01
Accumulated dose (rem)	2.4735E+00	3.2267E+01	4.0203E+00

Control Room Doses:

Time (h) =	2.2000	Whole Body	Thyroid	TEDE
Delta dose (rem)		1.0734E-02	7.6638E-01	4.6239E-02
Accumulated dose (rem)		3.7599E-02	6.2885E+00	3.1049E-01

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =	Ci	kg	Atoms	Decay
Co-58	5.1072E+00	1.6061E-07	1.6677E+18	9.9746E+15
Co-60	6.1179E+00	5.4122E-06	5.4322E+19	1.1944E+16
Kr-85	8.8921E+05	2.2665E+00	1.6058E+25	1.3367E+20
Kr-85m	1.0195E+07	1.2388E-03	8.7766E+21	1.7016E+21
Kr-87	8.3513E+06	2.9483E-04	2.0408E+21	1.8586E+21
Kr-88	2.2802E+07	1.8185E-03	1.2444E+22	4.0526E+21
Rb-86	1.7700E+02	2.1753E-06	1.5233E+19	4.5633E+17
Sr-89	7.2523E+03	2.4963E-04	1.6891E+21	1.4166E+19
Sr-90	1.0022E+03	7.3468E-03	4.9160E+22	1.9565E+18
Sr-91	7.7040E+03	2.1252E-06	1.4064E+19	1.6081E+19
Sr-92	5.5566E+03	4.4208E-07	2.8937E+18	1.3776E+19
Y-90	1.5909E+01	2.9241E-08	1.9566E+17	2.1552E+16
Y-91	9.3894E+01	3.8287E-06	2.5337E+19	1.8193E+17
Y-92	6.7159E+02	6.9795E-08	4.5686E+17	3.6465E+17
Y-93	9.6084E+01	2.8800E-08	1.8649E+17	1.9976E+17
Zr-95	1.2315E+02	5.7324E-06	3.6338E+19	2.4053E+17
Zr-97	1.1180E+02	5.8485E-08	3.6310E+17	2.2661E+17
Nb-95	1.2415E+02	3.1749E-06	2.0126E+19	2.4238E+17
Mo-99	1.6681E+03	3.4779E-06	2.1156E+19	3.2879E+18
Tc-99m	1.4947E+03	2.8426E-07	1.7291E+18	2.9153E+18
Ru-103	1.4386E+03	4.4575E-05	2.6062E+20	2.8105E+18
Ru-105	7.2968E+02	1.0855E-07	6.2258E+17	1.6458E+18
Ru-106	6.3176E+02	1.8883E-04	1.0728E+21	1.2335E+18
Rh-105	9.6566E+02	1.1441E-06	6.5617E+18	1.8905E+18
Sb-127	1.9560E+03	7.3244E-06	3.4731E+19	3.8449E+18
Sb-129	4.1430E+03	7.3674E-07	3.4393E+18	9.3825E+18
Te-127	1.9627E+03	7.4372E-07	3.5266E+18	3.8391E+18
Te-127m	2.6611E+02	2.8211E-05	1.3377E+20	5.1948E+17
Te-129	4.7096E+03	2.2489E-07	1.0498E+18	1.0066E+19
Te-129m	8.6299E+02	2.8647E-05	1.3373E+20	1.6846E+18
Te-131m	2.5071E+03	3.1440E-06	1.4453E+19	4.9988E+18
Te-132	2.5219E+04	8.3070E-05	3.7898E+20	4.9635E+19
I-131	1.1456E+05	9.2406E-04	4.2479E+21	2.2904E+20
I-132	1.4640E+05	1.4183E-05	6.4706E+19	3.2334E+20
I-133	2.1974E+05	1.9398E-04	8.7831E+20	4.5449E+20
I-134	4.5755E+04	1.7152E-06	7.7081E+18	2.4650E+20
I-135	1.7536E+05	4.9935E-05	2.2275E+20	3.9377E+20
Xe-133	1.0180E+08	5.4386E-01	2.4625E+24	1.5339E+22
Xe-135	4.2477E+07	1.6633E-02	7.4199E+22	6.5070E+21
Cs-134	2.1948E+04	1.6964E-02	7.6237E+22	5.6485E+19
Cs-136	5.3393E+03	7.2850E-05	3.2258E+20	1.3776E+19
Cs-137	1.3936E+04	1.6022E-01	7.0428E+23	3.5865E+19
Ba-139	4.3994E+03	2.6896E-07	1.1653E+18	1.3903E+19
Ba-140	1.2793E+04	1.7474E-04	7.5166E+20	2.5027E+19
La-140	2.5197E+02	4.5333E-07	1.9500E+18	2.9962E+17
La-141	8.2411E+01	1.4572E-08	6.2238E+16	1.8945E+17
La-142	4.3527E+01	3.0406E-09	1.2895E+16	1.3041E+17
Ce-141	3.0353E+02	1.0653E-05	4.5498E+19	5.9281E+17
Ce-143	2.7096E+02	4.0802E-07	1.7183E+18	5.3922E+17

Ce-144	2.5269E+02	7.9226E-05	3.3133E+20	4.9338E+17
Pr-143	1.1014E+02	1.6356E-06	6.8880E+18	2.1471E+17
Nd-147	4.8237E+01	5.9626E-07	2.4427E+18	9.4400E+16
Np-239	3.5172E+03	1.5161E-05	3.8201E+19	6.9438E+18
Pu-238	1.4075E+00	8.2217E-05	2.0803E+20	2.7479E+15
Pu-239	8.3406E-02	1.3419E-03	3.3811E+21	1.6281E+14
Pu-240	8.4049E-02	3.6885E-04	9.2553E+20	1.6409E+14
Pu-241	5.0101E+01	4.8636E-04	1.2153E+21	9.7814E+16
Am-241	3.5476E-02	1.0336E-05	2.5828E+19	6.9249E+13
Cm-242	6.9672E+00	2.1022E-06	5.2312E+18	1.3604E+16
Cm-244	8.9571E-01	1.1071E-05	2.7325E+19	1.7487E+15

## Sprayed Drywell Transport Group Inventory:

Time (h) =	2.2000	Atmosphere	Sump	
Noble gases (atoms)	1.8618E+25	0.0000E+00		
Elemental I (atoms)	2.1030E+20	5.5265E+22		
Organic I (atoms)	1.0918E+21	0.0000E+00		
Aerosols (kg)	1.8875E-01	5.0034E+01		
Dose Effective (Ci/cc)	I-131 (Thyroid)			5.8411E-05
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)			7.2094E-05
Total I (Ci)				7.0182E+05

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	7.1674E+21
Elemental I (atoms)	0.0000E+00	1.4535E+18
Organic I (atoms)	0.0000E+00	4.7577E+17
Aerosols (kg)	0.0000E+00	1.3262E-03

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	7.1674E+21
Elemental I (atoms)	0.0000E+00	1.4535E+18
Organic I (atoms)	0.0000E+00	4.7577E+17
Aerosols (kg)	0.0000E+00	1.3262E-03

## Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.5796E+21
Elemental I (atoms)	0.0000E+00	7.2559E+17
Organic I (atoms)	0.0000E+00	2.3760E+17
Aerosols (kg)	0.0000E+00	6.6204E-04

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.7393E+25
Elemental I (atoms)	0.0000E+00	5.2181E+21
Organic I (atoms)	0.0000E+00	1.8024E+21
Aerosols (kg)	0.0000E+00	4.7610E+00

## Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 2.2000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.6912E+25
Elemental I (atoms)	0.0000E+00	4.1678E+21
Organic I (atoms)	0.0000E+00	1.1653E+21
Aerosols (kg)	0.0000E+00	3.8528E+00

## Exclusion Area Boundary Doses:

Time (h) = 2.3000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.9370E-01	2.4158E+00	4.1284E-01
Accumulated dose (rem)	3.6994E+00	4.6371E+01	5.9272E+00

## Low Population Zone Doses:

Time (h) = 2.3000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.7773E-01	1.4619E+00	2.4983E-01
Accumulated dose (rem)	2.6512E+00	3.3729E+01	4.2701E+00

## Control Room Doses:

Time (h) = 2.3000	Whole Body	Thyroid	TEDE
Delta dose (rem)	5.5236E-03	3.7159E-01	2.2834E-02
Accumulated dose (rem)	4.3123E-02	6.6601E+00	3.3333E-01

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 2.3000	Ci	kg	Atoms	Decay
Co-58	3.1730E+00	9.9786E-08	1.0361E+18	1.0017E+16
Co-60	3.8011E+00	3.3626E-06	3.3750E+19	1.1995E+16
Kr-85	8.7392E+05	2.2275E+00	1.5781E+25	1.4531E+20
Kr-85m	9.8655E+06	1.1988E-03	8.4933E+21	1.8340E+21
Kr-87	7.7723E+06	2.7439E-04	1.8993E+21	1.9650E+21
Kr-88	2.1870E+07	1.7441E-03	1.1935E+22	4.3474E+21
Rb-86	1.1095E+02	1.3635E-06	9.5482E+18	4.5781E+17
Sr-89	4.5056E+03	1.5509E-04	1.0494E+21	1.4226E+19
Sr-90	6.2264E+02	4.5646E-03	3.0543E+22	1.9648E+18
Sr-91	4.7517E+03	1.3108E-06	8.6747E+18	1.6144E+19
Sr-92	3.3652E+03	2.6773E-07	1.7525E+18	1.3822E+19
Y-90	1.1137E+01	2.0471E-08	1.3697E+17	2.1691E+16
Y-91	5.8524E+01	2.3864E-06	1.5793E+19	1.8270E+17
Y-92	5.3669E+02	5.5776E-08	3.6510E+17	3.7097E+17
Y-93	5.9289E+01	1.7771E-08	1.1507E+17	2.0055E+17
Zr-95	7.6509E+01	3.5614E-06	2.2576E+19	2.4154E+17
Zr-97	6.9180E+01	3.6188E-08	2.2467E+17	2.2753E+17
Nb-95	7.7135E+01	1.9726E-06	1.2504E+19	2.4341E+17
Mo-99	1.0353E+03	2.1586E-06	1.3130E+19	3.3017E+18
Tc-99m	9.2852E+02	1.7658E-07	1.0742E+18	2.9276E+18
Ru-103	8.9374E+02	2.7692E-05	1.6191E+20	2.8224E+18
Ru-105	4.4633E+02	6.6398E-08	3.8082E+17	1.6518E+18
Ru-106	3.9251E+02	1.1732E-04	6.6654E+20	1.2387E+18
Rh-105	5.9967E+02	7.1046E-07	4.0748E+18	1.8985E+18
Sb-127	1.2144E+03	4.5473E-06	2.1562E+19	3.8611E+18
Sb-129	2.5331E+03	4.5045E-07	2.1029E+18	9.4165E+18

Te-127	1.2190E+03	4.6191E-07	2.1903E+18	3.8553E+18
Te-127m	1.6533E+02	1.7528E-05	8.3115E+19	5.2168E+17
Te-129	2.8947E+03	1.3822E-07	6.4527E+17	1.0104E+19
Te-129m	5.3618E+02	1.7798E-05	8.3088E+19	1.6917E+18
Te-131m	1.5541E+03	1.9489E-06	8.9591E+18	5.0195E+18
Te-132	1.5655E+04	5.1566E-05	2.3526E+20	4.9844E+19
I-131	7.9948E+04	6.4487E-04	2.9645E+21	2.3011E+20
I-132	9.7785E+04	9.4733E-06	4.3220E+19	3.2465E+20
I-133	1.5290E+05	1.3497E-04	6.1114E+20	4.5653E+20
I-134	2.9515E+04	1.1064E-06	4.9722E+18	2.4691E+20
I-135	1.2115E+05	3.4498E-05	1.5389E+20	3.9539E+20
Xe-133	9.9990E+07	5.3419E-01	2.4188E+24	1.6671E+22
Xe-135	4.1390E+07	1.6208E-02	7.2301E+22	7.0604E+21
Cs-134	1.3760E+04	1.0635E-02	4.7794E+22	5.6668E+19
Cs-136	3.3465E+03	4.5661E-05	2.0219E+20	1.3821E+19
Cs-137	8.7369E+03	1.0045E-01	4.4153E+23	3.5981E+19
Ba-139	2.5993E+03	1.5891E-07	6.8847E+17	1.3939E+19
Ba-140	7.9464E+03	1.0854E-04	4.6690E+20	2.5133E+19
La-140	1.8188E+02	3.2723E-07	1.4076E+18	3.0186E+17
La-141	5.0307E+01	8.8955E-09	3.7993E+16	1.9013E+17
La-142	2.5854E+01	1.8061E-09	7.6595E+15	1.3077E+17
Ce-141	1.8857E+02	6.6179E-06	2.8265E+19	5.9532E+17
Ce-143	1.6799E+02	2.5297E-07	1.0653E+18	5.4146E+17
Ce-144	1.5700E+02	4.9223E-05	2.0585E+20	4.9547E+17
Pr-143	6.8471E+01	1.0168E-06	4.2821E+18	2.1562E+17
Nd-147	2.9962E+01	3.7036E-07	1.5173E+18	9.4799E+16
Np-239	2.1825E+03	9.4079E-06	2.3705E+19	6.9729E+18
Pu-238	8.7450E-01	5.1081E-05	1.2925E+20	2.7596E+15
Pu-239	5.1821E-02	8.3372E-04	2.1007E+21	1.6350E+14
Pu-240	5.2220E-02	2.2917E-04	5.7503E+20	1.6479E+14
Pu-241	3.1128E+01	3.0217E-04	7.5508E+20	9.8228E+16
Am-241	2.2042E-02	6.4222E-06	1.6048E+19	6.9542E+13
Cm-242	4.3287E+00	1.3061E-06	3.2501E+18	1.3662E+16
Cm-244	5.5650E-01	6.8787E-06	1.6977E+19	1.7561E+15

## Sprayed Drywell Transport Group Inventory:

Time (h) =	2.3000	Atmosphere	Sump	
Noble gases (atoms)	1.8295E+25	0.0000E+00		
Elemental I (atoms)	1.3136E+20	5.5506E+22		
Organic I (atoms)	1.0734E+21	0.0000E+00		
Aerosols (kg)	1.1827E-01	5.0251E+01		
Dose Effective (Ci/cc)	I-131 (Thyroid)		4.0711E-05	
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		5.0156E-05	
Total I (Ci)			4.8130E+05	

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	7.5741E+21
Elemental I (atoms)	0.0000E+00	1.4570E+18
Organic I (atoms)	0.0000E+00	4.9964E+17
Aerosols (kg)	0.0000E+00	1.3294E-03

## Drywell to Intact Control Volume 2 Transport Group Inventory:

Pathway



Time (h) =	2.3000	Filtered	Transported
Noble gases (atoms)	0.0000E+00		7.5741E+21
Elemental I (atoms)	0.0000E+00		1.4570E+18
Organic I (atoms)	0.0000E+00		4.9964E+17
Aerosols (kg)	0.0000E+00		1.3294E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

		Pathway	
Time (h) =	2.3000	Filtered	Transported
Noble gases (atoms)	0.0000E+00		3.7835E+21
Elemental I (atoms)	0.0000E+00		7.2737E+17
Organic I (atoms)	0.0000E+00		2.4957E+17
Aerosols (kg)	0.0000E+00		6.6364E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

		Pathway	
Time (h) =	2.3000	Filtered	Transported
Noble gases (atoms)	0.0000E+00		2.9840E+25
Elemental I (atoms)	0.0000E+00		5.2394E+21
Organic I (atoms)	0.0000E+00		1.9460E+21
Aerosols (kg)	0.0000E+00		4.7802E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

		Pathway	
Time (h) =	2.3000	Filtered	Transported
Noble gases (atoms)	0.0000E+00		1.9040E+25
Elemental I (atoms)	0.0000E+00		4.3557E+21
Organic I (atoms)	0.0000E+00		1.2924E+21
Aerosols (kg)	0.0000E+00		4.0219E+00

Exclusion Area Boundary Doses:

Time (h) =	4.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		5.7431E+00	3.8689E+01	7.6009E+00
Accumulated dose (rem)		9.4425E+00	8.5060E+01	1.3528E+01

Low Population Zone Doses:

Time (h) =	4.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		3.4754E+00	2.3412E+01	4.5997E+00
Accumulated dose (rem)		6.1266E+00	5.7141E+01	8.8698E+00

Control Room Doses:

Time (h) =	4.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		1.1315E-01	5.4791E+00	3.7257E-01
Accumulated dose (rem)		1.5628E-01	1.2139E+01	7.0589E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =	4.0000	Ci	kg	Atoms	Decay
Co-58		3.8633E+00	1.2150E-07	1.2615E+18	1.1427E+16
Co-60		4.6312E+00	4.0970E-06	4.1121E+19	1.3684E+16
Kr-85		8.3493E+05	2.1281E+00	1.5077E+25	3.3569E+20

Kr-85m	7.2454E+06	8.8041E-04	6.2376E+21	3.7249E+21
Kr-87	2.9397E+06	1.0378E-04	7.1837E+20	3.0713E+21
Kr-88	1.3798E+07	1.1004E-03	7.5304E+21	8.2507E+21
Rb-86	1.3532E+02	1.6631E-06	1.1646E+19	5.0724E+17
Sr-89	5.4844E+03	1.8878E-04	1.2774E+21	1.6228E+19
Sr-90	7.5864E+02	5.5616E-03	3.7214E+22	2.2416E+18
Sr-91	5.1142E+03	1.4108E-06	9.3364E+18	1.8143E+19
Sr-92	2.6544E+03	2.1118E-07	1.3823E+18	1.5061E+19
Y-90	2.7461E+01	5.0473E-08	3.3773E+17	2.8823E+16
Y-91	7.3212E+01	2.9853E-06	1.9756E+19	2.0902E+17
Y-92	1.4300E+03	1.4861E-07	9.7280E+17	7.5299E+17
Y-93	6.4284E+01	1.9268E-08	1.2477E+17	2.2558E+17
Zr-95	9.3149E+01	4.3359E-06	2.7486E+19	2.7554E+17
Zr-97	7.8613E+01	4.1123E-08	2.5531E+17	2.5734E+17
Nb-95	9.3980E+01	2.4034E-06	1.5235E+19	2.7769E+17
Mo-99	1.2391E+03	2.5835E-06	1.5715E+19	3.7582E+18
Tc-99m	1.1269E+03	2.1430E-07	1.3036E+18	3.3373E+18
Ru-103	1.0876E+03	3.3699E-05	1.9703E+20	3.2194E+18
Ru-105	4.1706E+02	6.2043E-08	3.5584E+17	1.8284E+18
Ru-106	4.7818E+02	1.4293E-04	8.1201E+20	1.4132E+18
Rh-105	7.2236E+02	8.5582E-07	4.9085E+18	2.1637E+18
Sb-127	1.4608E+03	5.4703E-06	2.5939E+19	4.3978E+18
Sb-129	2.3495E+03	4.1781E-07	1.9505E+18	1.0416E+19
Te-127	1.4761E+03	5.5934E-07	2.6523E+18	4.3937E+18
Te-127m	2.0147E+02	2.1359E-05	1.0128E+20	5.9517E+17
Te-129	2.8922E+03	1.3810E-07	6.4472E+17	1.1257E+19
Te-129m	6.5320E+02	2.1683E-05	1.0122E+20	1.9300E+18
Te-131m	1.8206E+03	2.2831E-06	1.0496E+19	5.6983E+18
Te-132	1.8789E+04	6.1889E-05	2.8235E+20	5.6756E+19
I-131	1.0030E+05	8.0904E-04	3.7192E+21	2.6178E+20
I-132	8.2163E+04	7.9599E-06	3.6315E+19	3.5665E+20
I-133	1.8235E+05	1.6097E-04	7.2887E+20	5.1571E+20
I-134	9.7141E+03	3.6414E-07	1.6365E+18	2.5364E+20
I-135	1.2794E+05	3.6432E-05	1.6252E+20	4.3976E+20
Xe-133	9.4631E+07	5.0555E-01	2.2891E+24	3.8351E+22
Xe-135	3.4673E+07	1.3577E-02	6.0566E+22	1.5505E+22
Cs-134	1.6826E+04	1.3005E-02	5.8444E+22	6.2805E+19
Cs-136	4.0772E+03	5.5631E-05	2.4634E+20	1.5311E+19
Cs-137	1.0684E+04	1.2284E-01	5.3995E+23	3.9878E+19
Ba-139	1.3470E+03	8.2350E-08	3.5678E+17	1.4747E+19
Ba-140	9.6447E+03	1.3174E-04	5.6670E+20	2.8659E+19
La-140	4.9992E+02	8.9942E-07	3.8689E+18	4.2652E+17
La-141	4.5416E+01	8.0306E-09	3.4299E+16	2.0974E+17
La-142	1.4668E+01	1.0247E-09	4.3456E+15	1.3910E+17
Ce-141	2.2948E+02	8.0539E-06	3.4398E+19	6.7909E+17
Ce-143	1.9751E+02	2.9741E-07	1.2525E+18	6.1495E+17
Ce-144	1.9125E+02	5.9964E-05	2.5077E+20	5.6525E+17
Pr-143	8.3861E+01	1.2454E-06	5.2446E+18	2.4612E+17
Nd-147	3.6343E+01	4.4924E-07	1.8404E+18	1.0809E+17
Np-239	2.6044E+03	1.1226E-05	2.8287E+19	7.9340E+18
Pu-238	1.0655E+00	6.2239E-05	1.5748E+20	3.1483E+15
Pu-239	6.3154E-02	1.0161E-03	2.5602E+21	1.8654E+14
Pu-240	6.3625E-02	2.7922E-04	7.0063E+20	1.8800E+14
Pu-241	3.7926E+01	3.6817E-04	9.1999E+20	1.1206E+17
Am-241	2.6868E-02	7.8284E-06	1.9562E+19	7.9342E+13
Cm-242	5.2725E+00	1.5909E-06	3.9588E+18	1.5586E+16
Cm-244	6.7805E-01	8.3811E-06	2.0685E+19	2.0035E+15

## Sprayed Drywell Transport Group Inventory:

Time (h) =	4.0000	Atmosphere	Sump
Noble gases (atoms)	1.7442E+25	0.0000E+00	
Elemental I (atoms)	5.7758E+20	5.5506E+22	
Organic I (atoms)	1.0052E+21	0.0000E+00	
Aerosols (kg)	1.4458E-01	5.0845E+01	
Dose Effective (Ci/cc)	I-131 (Thyroid)		5.0131E-05
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		6.0523E-05
Total I (Ci)			5.0247E+05

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

		Pathway	
Time (h) =	4.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.4171E+22	
Elemental I (atoms)	0.0000E+00	1.6465E+18	
Organic I (atoms)	0.0000E+00	8.8408E+17	
Aerosols (kg)	0.0000E+00	1.4166E-03	

## Drywell to Intact Control Volume 2 Transport Group Inventory:

		Pathway	
Time (h) =	4.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.4171E+22	
Elemental I (atoms)	0.0000E+00	1.6465E+18	
Organic I (atoms)	0.0000E+00	8.8408E+17	
Aerosols (kg)	0.0000E+00	1.4166E-03	

## Drywell to Intact Control Volume 4 Transport Group Inventory:

		Pathway	
Time (h) =	4.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	7.0914E+21	
Elemental I (atoms)	0.0000E+00	8.2239E+17	
Organic I (atoms)	0.0000E+00	4.4234E+17	
Aerosols (kg)	0.0000E+00	7.0739E-04	

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

		Pathway	
Time (h) =	4.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	6.9535E+25	
Elemental I (atoms)	0.0000E+00	6.3797E+21	
Organic I (atoms)	0.0000E+00	4.2593E+21	
Aerosols (kg)	0.0000E+00	5.3052E+00	

## Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

		Pathway	
Time (h) =	4.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.7935E+25	
Elemental I (atoms)	0.0000E+00	5.9554E+21	
Organic I (atoms)	0.0000E+00	3.5644E+21	
Aerosols (kg)	0.0000E+00	5.1667E+00	

## Exclusion Area Boundary Doses:

Time (h) =	8.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.2225E+01	7.1435E+01	1.5338E+01	
Accumulated dose (rem)	2.1668E+01	1.5649E+02	2.8866E+01	

## Low Population Zone Doses:

Time (h) =	8.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	7.3979E+00	4.3228E+01	9.2817E+00	
Accumulated dose (rem)	1.3525E+01	1.0037E+02	1.8152E+01	

## Control Room Doses:

Time (h) =	8.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.0647E-01	9.3240E+00	7.3177E-01	
Accumulated dose (rem)	4.6275E-01	2.1463E+01	1.4377E+00	

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =	8.0000	Ci	kg	Atoms	Decay
Co-58		4.7503E+00	1.4939E-07	1.5511E+18	1.3931E+16
Co-60		5.7033E+00	5.0455E-06	5.0641E+19	1.6689E+16
Kr-85		8.3370E+05	2.1250E+00	1.5055E+25	7.8018E+20
Kr-85m		3.8962E+06	4.7344E-04	3.3542E+21	6.6011E+21
Kr-87		3.3172E+05	1.1711E-05	8.1062E+19	3.7081E+21
Kr-88		5.1902E+06	4.1392E-04	2.8326E+21	1.2941E+22
Rb-86		1.6563E+02	2.0356E-06	1.4255E+19	5.9476E+17
Sr-89		6.7391E+03	2.3197E-04	1.5696E+21	1.9782E+19
Sr-90		9.3432E+02	6.8495E-03	4.5832E+22	2.7337E+18
Sr-91		4.7043E+03	1.2977E-06	8.5881E+18	2.1017E+19
Sr-92		1.1752E+03	9.3496E-08	6.1200E+17	1.6133E+19
Y-90		7.2020E+01	1.3237E-07	8.8575E+17	5.6607E+16
Y-91		9.4514E+01	3.8540E-06	2.5505E+19	2.5771E+17
Y-92		1.8552E+03	1.9280E-07	1.2621E+18	1.7686E+18
Y-93		6.0166E+01	1.8034E-08	1.1677E+17	2.6199E+17
Zr-95		1.1451E+02	5.3305E-06	3.3790E+19	3.3591E+17
Zr-97		8.2170E+01	4.2983E-08	2.6686E+17	3.0434E+17
Nb-95		1.1574E+02	2.9598E-06	1.8762E+19	3.3866E+17
Mo-99		1.4633E+03	3.0509E-06	1.8559E+19	4.5452E+18
Tc-99m		1.3630E+03	2.5921E-07	1.5768E+18	4.0584E+18
Ru-103		1.3355E+03	4.1381E-05	2.4194E+20	3.9239E+18
Ru-105		2.7508E+02	4.0922E-08	2.3471E+17	2.0289E+18
Ru-106		5.8873E+02	1.7597E-04	9.9975E+20	1.7233E+18
Rh-105		8.5128E+02	1.0086E-06	5.7845E+18	2.6226E+18
Sb-127		1.7460E+03	6.5380E-06	3.1002E+19	5.3313E+18
Sb-129		1.5231E+03	2.7084E-07	1.2644E+18	1.1537E+19
Te-127		1.7882E+03	6.7758E-07	3.2130E+18	5.3403E+18
Te-127m		2.4821E+02	2.6314E-05	1.2478E+20	7.2590E+17
Te-129		2.1795E+03	1.0407E-07	4.8584E+17	1.2700E+19
Te-129m		8.0333E+02	2.6666E-05	1.2449E+20	2.3535E+18
Te-131m		2.0442E+03	2.5636E-06	1.1785E+19	6.8259E+18
Te-132		2.2334E+04	7.3567E-05	3.3563E+20	6.8729E+19
I-131		1.1398E+05	9.1939E-04	4.2265E+21	3.2246E+20
I-132		4.4519E+04	4.3129E-06	1.9677E+19	3.9062E+20
I-133		1.8395E+05	1.6238E-04	7.3525E+20	6.1968E+20
I-134		4.7376E+02	1.7759E-08	7.9813E+16	2.5540E+20
I-135		9.6945E+04	2.7605E-05	1.2314E+20	5.0333E+20

Xe-133	9.2436E+07	4.9383E-01	2.2360E+24	8.8179E+22
Xe-135	2.5546E+07	1.0004E-02	4.4625E+22	3.1422E+22
Cs-134	2.0719E+04	1.6014E-02	7.1968E+22	7.3720E+19
Cs-136	4.9774E+03	6.7913E-05	3.0072E+20	1.7944E+19
Cs-137	1.3159E+04	1.5128E-01	6.6499E+23	4.6810E+19
Ba-139	2.2194E+02	1.3568E-08	5.8784E+16	1.5119E+19
Ba-140	1.1771E+04	1.6079E-04	6.9164E+20	3.4887E+19
La-140	1.3621E+03	2.4505E-06	1.0541E+19	9.4663E+17
La-141	2.7624E+01	4.8845E-09	2.0862E+16	2.3080E+17
La-142	2.9909E+00	2.0893E-10	8.8606E+14	1.4347E+17
Ce-141	2.8177E+02	9.8889E-06	4.2236E+19	8.2774E+17
Ce-143	2.2364E+02	3.3677E-07	1.4182E+18	7.3780E+17
Ce-144	2.3545E+02	7.3821E-05	3.0872E+20	6.8930E+17
Pr-143	1.0439E+02	1.5502E-06	6.5281E+18	3.0082E+17
Nd-147	4.4291E+01	5.4749E-07	2.2429E+18	1.3154E+17
Np-239	3.0540E+03	1.3164E-05	3.3170E+19	9.5824E+18
Pu-238	1.3123E+00	7.6654E-05	1.9396E+20	3.8395E+15
Pu-239	7.7821E-02	1.2520E-03	3.1547E+21	2.2752E+14
Pu-240	7.8360E-02	3.4389E-04	8.6289E+20	2.2927E+14
Pu-241	4.6709E+01	4.5343E-04	1.1330E+21	1.3667E+17
Am-241	3.3125E-02	9.6513E-06	2.4117E+19	9.6781E+13
Cm-242	6.4890E+00	1.9579E-06	4.8722E+18	1.9005E+16
Cm-244	8.3506E-01	1.0322E-05	2.5475E+19	2.4434E+15

## Sprayed Drywell Transport Group Inventory:

Time (h) =	8.0000	Atmosphere	Sump	
Noble gases (atoms)	1.7342E+25	0.0000E+00		
Elemental I (atoms)	5.5105E+20	5.5506E+22		
Organic I (atoms)	9.5631E+20	0.0000E+00		
Aerosols (kg)	1.7802E-01	5.0845E+01		
Dose Effective (Ci/cc)	I-131 (Thyroid)			5.4894E-05
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)			6.4246E-05
Total I (Ci)				4.3987E+05

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.9504E+22
Elemental I (atoms)	0.0000E+00	2.1444E+18
Organic I (atoms)	0.0000E+00	1.7483E+18
Aerosols (kg)	0.0000E+00	1.5715E-03

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.9504E+22
Elemental I (atoms)	0.0000E+00	2.1444E+18
Organic I (atoms)	0.0000E+00	1.7483E+18
Aerosols (kg)	0.0000E+00	1.5715E-03

## Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.4780E+22

Elemental I (atoms)	0.0000E+00	1.0720E+18
Organic I (atoms)	0.0000E+00	8.7567E+17
Aerosols (kg)	0.0000E+00	7.8503E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 8.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.6180E+26
Elemental I (atoms)	0.0000E+00	9.3754E+21
Organic I (atoms)	0.0000E+00	9.4593E+21
Aerosols (kg)	0.0000E+00	6.2369E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 8.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.5021E+26
Elemental I (atoms)	0.0000E+00	8.9533E+21
Organic I (atoms)	0.0000E+00	8.7651E+21
Aerosols (kg)	0.0000E+00	6.1323E+00

Exclusion Area Boundary Doses:

Time (h) = 24.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.9939E+01	2.0706E+02	2.7865E+01
Accumulated dose (rem)	4.1606E+01	3.6356E+02	5.6731E+01

Low Population Zone Doses:

Time (h) = 24.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	5.2046E+00	2.7797E+01	6.2687E+00
Accumulated dose (rem)	1.8729E+01	1.2817E+02	2.4420E+01

Control Room Doses:

Time (h) = 24.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.0221E-01	1.2006E+01	7.7566E-01
Accumulated dose (rem)	7.6497E-01	3.3469E+01	2.2133E+00

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 24.0000	Ci	kg	Atoms	Decay
Co-58	4.6944E+00	1.4763E-07	1.5329E+18	2.3994E+16
Co-60	5.6718E+00	5.0176E-06	5.0361E+19	2.8809E+16
Kr-85	8.2923E+05	2.1136E+00	1.4974E+25	2.5520E+21
Kr-85m	3.2601E+05	3.9614E-05	2.8066E+20	9.6679E+21
Kr-87	5.3818E+01	1.9000E-09	1.3152E+16	3.7891E+21
Kr-88	1.0398E+05	8.2922E-06	5.6746E+19	1.5713E+22
Rb-86	1.6073E+02	1.9753E-06	1.3832E+19	9.4246E+17
Sr-89	6.6424E+03	2.2864E-04	1.5471E+21	3.4039E+19
Sr-90	9.2933E+02	6.8130E-03	4.5587E+22	4.7194E+18
Sr-91	1.4561E+03	4.0169E-07	2.6582E+18	2.6919E+19
Sr-92	1.9521E+01	1.5531E-09	1.0166E+16	1.6734E+19
Y-90	2.0870E+02	3.8360E-07	2.5667E+18	3.5220E+17
Y-91	1.0239E+02	4.1752E-06	2.7630E+19	4.6901E+17
Y-92	1.8990E+02	1.9735E-08	1.2918E+17	3.4994E+18

Y-93	1.9960E+01	5.9827E-09	3.8741E+16	3.3964E+17
Zr-95	1.1309E+02	5.2641E-06	3.3370E+19	5.7842E+17
Zr-97	4.2404E+01	2.2182E-08	1.3771E+17	4.3243E+17
Nb-95	1.1509E+02	2.9432E-06	1.8657E+19	5.8452E+17
Mo-99	1.2304E+03	2.5654E-06	1.5605E+19	7.4081E+18
Tc-99m	1.2320E+03	2.3429E-07	1.4252E+18	6.7213E+18
Ru-103	1.3129E+03	4.0681E-05	2.3785E+20	6.7457E+18
Ru-105	2.2509E+01	3.3486E-09	1.9206E+16	2.2439E+18
Ru-106	5.8489E+02	1.7482E-04	9.9322E+20	2.9738E+18
Rh-105	6.4442E+02	7.6348E-07	4.3789E+18	4.2161E+18
Sb-127	1.5403E+03	5.7678E-06	2.7350E+19	8.8281E+18
Sb-129	1.1628E+02	2.0677E-08	9.6527E+16	1.2702E+19
Te-127	1.6663E+03	6.3138E-07	2.9939E+18	8.9275E+18
Te-127m	2.4710E+02	2.6196E-05	1.2422E+20	1.2536E+18
Te-129	8.4628E+02	4.0410E-08	1.8865E+17	1.4996E+19
Te-129m	7.8980E+02	2.6217E-05	1.2239E+20	4.0515E+18
Te-131m	1.4050E+03	1.7620E-06	8.0999E+18	1.0459E+19
Te-132	1.9279E+04	6.3502E-05	2.8971E+20	1.1299E+20
I-131	1.0712E+05	8.6404E-04	3.9720E+21	5.5796E+20
I-132	2.3071E+04	2.2351E-06	1.0197E+19	4.4430E+20
I-133	1.0736E+05	9.4770E-05	4.2911E+20	9.2277E+20
I-134	1.5107E-03	5.6629E-14	2.5450E+11	2.5548E+20
I-135	1.8012E+04	5.1289E-06	2.2879E+19	6.0327E+20
Xe-133	8.4204E+07	4.4985E-01	2.0369E+24	2.7625E+23
Xe-135	7.5261E+06	2.9471E-03	1.3146E+22	6.2845E+22
Cs-134	2.0597E+04	1.5919E-02	7.1544E+22	1.1774E+20
Cs-136	4.7795E+03	6.5212E-05	2.8876E+20	2.8338E+19
Cs-137	1.3089E+04	1.5048E-01	6.6145E+23	7.4775E+19
Ba-139	7.0713E-02	4.3231E-12	1.8730E+13	1.5178E+19
Ba-140	1.1292E+04	1.5424E-04	6.6347E+20	5.9457E+19
La-140	3.8124E+03	6.8589E-06	2.9504E+19	6.4466E+18
La-141	1.6346E+00	2.8904E-10	1.2345E+15	2.5039E+17
La-142	2.2351E-03	1.5613E-13	6.6215E+11	1.4435E+17
Ce-141	2.7645E+02	9.7023E-06	4.1439E+19	1.4225E+18
Ce-143	1.5896E+02	2.3938E-07	1.0081E+18	1.1415E+18
Ce-144	2.3382E+02	7.3311E-05	3.0659E+20	1.1893E+18
Pr-143	1.0668E+02	1.5843E-06	6.6718E+18	5.2581E+17
Nd-147	4.2241E+01	5.2215E-07	2.1391E+18	2.2372E+17
Np-239	2.4966E+03	1.0762E-05	2.7116E+19	1.5476E+19
Pu-238	1.3054E+00	7.6253E-05	1.9294E+20	6.6286E+15
Pu-239	7.7554E-02	1.2477E-03	3.1439E+21	3.9307E+14
Pu-240	7.7946E-02	3.4207E-04	8.5833E+20	3.9581E+14
Pu-241	4.6457E+01	4.5099E-04	1.1269E+21	2.3593E+17
Am-241	3.3086E-02	9.6399E-06	2.4088E+19	1.6732E+14
Cm-242	6.4364E+00	1.9420E-06	4.8327E+18	3.2777E+16
Cm-244	8.3059E-01	1.0267E-05	2.5339E+19	4.2181E+15

## Sprayed Drywell Transport Group Inventory:

Time (h) =	24.0000	Atmosphere	Sump	
Noble gases (atoms)	1.7025E+25	0.0000E+00		
Elemental I (atoms)	4.7868E+20	5.5506E+22		
Organic I (atoms)	8.3071E+20	0.0000E+00		
Aerosols (kg)	1.7694E-01	5.0845E+01		
Dose Effective (Ci/cc)	I-131 (Thyroid)		4.6707E-05	
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		5.1354E-05	
Total I (Ci)			2.5556E+05	

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 24.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	9.0102E+22
Elemental I (atoms)	0.0000E+00	3.9535E+18
Organic I (atoms)	0.0000E+00	4.8878E+18
Aerosols (kg)	0.0000E+00	2.1974E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 24.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	9.0102E+22
Elemental I (atoms)	0.0000E+00	3.9535E+18
Organic I (atoms)	0.0000E+00	4.8878E+18
Aerosols (kg)	0.0000E+00	2.1974E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 24.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.5165E+22
Elemental I (atoms)	0.0000E+00	1.9792E+18
Organic I (atoms)	0.0000E+00	2.4499E+18
Aerosols (kg)	0.0000E+00	1.0989E-03

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 24.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.2642E+26
Elemental I (atoms)	0.0000E+00	2.0261E+22
Organic I (atoms)	0.0000E+00	2.8350E+22
Aerosols (kg)	0.0000E+00	1.0003E+01

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 24.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.1490E+26
Elemental I (atoms)	0.0000E+00	1.9841E+22
Organic I (atoms)	0.0000E+00	2.7659E+22
Aerosols (kg)	0.0000E+00	9.8992E+00

Exclusion Area Boundary Doses:

Time (h) = 48.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	5.6949E+00	1.2416E+02	1.0470E+01
Accumulated dose (rem)	4.7301E+01	4.8772E+02	6.7202E+01

Low Population Zone Doses:

Time (h) = 48.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	5.8289E-01	8.3512E+00	9.0408E-01
Accumulated dose (rem)	1.9312E+01	1.3652E+02	2.5324E+01



## Control Room Doses:

Time (h) = 48.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.4467E-02	2.7583E+00	1.4029E-01
Accumulated dose (rem)	7.9943E-01	3.6228E+01	2.3536E+00

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 48.0000	Ci	kg	Atoms	Decay
Co-58	4.6304E+00	1.4562E-07	1.5120E+18	3.8898E+16
Co-60	5.6474E+00	4.9960E-06	5.0144E+19	4.6900E+16
Kr-85	8.2581E+05	2.1049E+00	1.4913E+25	5.1972E+21
Kr-85m	7.9223E+03	9.6267E-07	6.8204E+18	9.9414E+21
Kr-87	1.1166E-04	3.9422E-15	2.7288E+10	3.7891E+21
Kr-88	2.9601E+02	2.3607E-08	1.6155E+17	1.5769E+22
Rb-86	1.5426E+02	1.8958E-06	1.3275E+19	1.4458E+18
Sr-89	6.5260E+03	2.2463E-04	1.5200E+21	5.5086E+19
Sr-90	9.2561E+02	6.7857E-03	4.5405E+22	7.6842E+18
Sr-91	2.5176E+02	6.9450E-08	4.5960E+17	2.9113E+19
Sr-92	4.1960E-02	3.3383E-12	2.1852E+13	1.6744E+19
Y-90	3.7332E+02	6.8617E-07	4.5913E+18	1.2782E+18
Y-91	1.0417E+02	4.2476E-06	2.8110E+19	8.0045E+17
Y-92	2.2090E+00	2.2957E-10	1.5027E+15	3.6371E+18
Y-93	3.8294E+00	1.1478E-09	7.4325E+15	3.7088E+17
Zr-95	1.1143E+02	5.1869E-06	3.2880E+19	9.3725E+17
Zr-97	1.5783E+01	8.2562E-09	5.1258E+16	5.1854E+17
Nb-95	1.1456E+02	2.9298E-06	1.8572E+19	9.5143E+17
Mo-99	9.5249E+02	1.9860E-06	1.2080E+19	1.0878E+19
Tc-99m	9.7468E+02	1.8536E-07	1.1276E+18	1.0067E+19
Ru-103	1.2849E+03	3.9812E-05	2.3277E+20	1.0898E+19
Ru-105	5.2901E-01	7.8698E-11	4.5136E+14	2.2627E+18
Ru-106	5.8148E+02	1.7381E-04	9.8744E+20	4.8380E+18
Rh-105	4.0295E+02	4.7739E-07	2.7380E+18	5.8617E+18
Sb-127	1.2815E+03	4.7985E-06	2.2754E+19	1.3325E+19
Sb-129	2.4625E+00	4.3791E-10	2.0443E+15	1.2796E+19
Te-127	1.4561E+03	5.5172E-07	2.6162E+18	1.3754E+19
Te-127m	2.4616E+02	2.6097E-05	1.2375E+20	2.0419E+18
Te-129	6.6995E+02	3.1990E-08	1.4934E+17	1.6729E+19
Te-129m	7.7075E+02	2.5585E-05	1.1944E+20	6.5457E+18
Te-131m	8.0379E+02	1.0080E-06	4.6338E+18	1.3900E+19
Te-132	1.5523E+04	5.1131E-05	2.3327E+20	1.6839E+20
I-131	9.7953E+04	7.9010E-04	3.6321E+21	8.8551E+20
I-132	1.8528E+04	1.7950E-06	8.1892E+18	5.0167E+20
I-133	4.8059E+04	4.2424E-05	1.9209E+20	1.1586E+21
I-135	1.4482E+03	4.1239E-07	1.8396E+18	6.2427E+20
Xe-133	7.3498E+07	3.9266E-01	1.7779E+24	5.2792E+23
Xe-135	1.2058E+06	4.7216E-04	2.1063E+21	7.3879E+22
Cs-134	2.0497E+04	1.5842E-02	7.1196E+22	1.8342E+20
Cs-136	4.5153E+03	6.1608E-05	2.7280E+20	4.3190E+19
Cs-137	1.3036E+04	1.4987E-01	6.5880E+23	1.1653E+20
Ba-139	4.0379E-07	2.4686E-17	1.0695E+08	1.5178E+19
Ba-140	1.0652E+04	1.4550E-04	6.2586E+20	9.4519E+19
La-140	6.2416E+03	1.1229E-05	4.8304E+19	2.2553E+19
La-141	2.3624E-02	4.1772E-12	1.7841E+13	2.5161E+17
La-142	4.5843E-08	3.2024E-18	1.3581E+07	1.4435E+17
Ce-141	2.6956E+02	9.4604E-06	4.0406E+19	2.2952E+18
Ce-143	9.5643E+01	1.4402E-07	6.0652E+17	1.5399E+18

Ce-144	2.3234E+02	7.2844E-05	3.0464E+20	1.9344E+18
Pr-143	1.0716E+02	1.5913E-06	6.7016E+18	8.6803E+17
Nd-147	3.9501E+01	4.8828E-07	2.0003E+18	3.5432E+17
Np-239	1.8527E+03	7.9861E-06	2.0123E+19	2.2377E+19
Pu-238	1.3004E+00	7.5958E-05	1.9220E+20	1.0793E+16
Pu-239	7.7419E-02	1.2455E-03	3.1384E+21	6.4076E+14
Pu-240	7.7639E-02	3.4072E-04	8.5494E+20	6.4448E+14
Pu-241	4.6268E+01	4.4915E-04	1.1223E+21	3.8414E+17
Am-241	3.3158E-02	9.6610E-06	2.4141E+19	2.7318E+14
Cm-242	6.3838E+00	1.9261E-06	4.7932E+18	5.3267E+16
Cm-244	8.2723E-01	1.0225E-05	2.5236E+19	6.8677E+15

## Sprayed Drywell Transport Group Inventory:

Time (h) = 48.0000	Atmosphere	Sump	
Noble gases (atoms)	1.6693E+25	0.0000E+00	
Elemental I (atoms)	4.1391E+20	5.5506E+22	
Organic I (atoms)	7.1832E+20	0.0000E+00	
Aerosols (kg)	1.7610E-01	5.0845E+01	
Dose Effective (Ci/cc)	I-131 (Thyroid)		3.9442E-05
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		4.1481E-05
Total I (Ci)			1.6599E+05

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 48.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.3482E+23
Elemental I (atoms)	0.0000E+00	5.1345E+18
Organic I (atoms)	0.0000E+00	6.9374E+18
Aerosols (kg)	0.0000E+00	2.6656E-03

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 48.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.3482E+23
Elemental I (atoms)	0.0000E+00	5.1345E+18
Organic I (atoms)	0.0000E+00	6.9374E+18
Aerosols (kg)	0.0000E+00	2.6656E-03

## Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 48.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	6.7399E+22
Elemental I (atoms)	0.0000E+00	2.5663E+18
Organic I (atoms)	0.0000E+00	3.4689E+18
Aerosols (kg)	0.0000E+00	1.3317E-03

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 48.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.0631E+27
Elemental I (atoms)	0.0000E+00	3.4433E+22
Organic I (atoms)	0.0000E+00	5.2945E+22
Aerosols (kg)	0.0000E+00	1.5622E+01

## Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 48.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.0516E+27
Elemental I (atoms)	0.0000E+00	3.4014E+22
Organic I (atoms)	0.0000E+00	5.2256E+22
Aerosols (kg)	0.0000E+00	1.5519E+01

## Exclusion Area Boundary Doses:

Time (h) = 72.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.8703E+00	9.8777E+01	7.8454E+00
Accumulated dose (rem)	5.1171E+01	5.8650E+02	7.5047E+01

## Low Population Zone Doses:

Time (h) = 72.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.9613E-01	6.6438E+00	6.6350E-01
Accumulated dose (rem)	1.9708E+01	1.4316E+02	2.5988E+01

## Control Room Doses:

Time (h) = 72.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.0110E-02	1.9313E+00	9.7728E-02
Accumulated dose (rem)	8.1954E-01	3.8159E+01	2.4513E+00

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 72.0000	Ci	kg	Atoms	Decay
Co-58	4.5670E+00	1.4363E-07	1.4913E+18	5.3597E+16
Co-60	5.6229E+00	4.9744E-06	4.9927E+19	6.4913E+16
Kr-85	8.2239E+05	2.0961E+00	1.4851E+25	7.8315E+21
Kr-85m	1.9251E+02	2.3393E-08	1.6574E+17	9.9480E+21
Kr-87	2.3168E-10	8.1791E-21	5.6616E+04	3.7891E+21
Kr-88	8.4268E-01	6.7204E-11	4.5990E+14	1.5769E+22
Rb-86	1.4804E+02	1.8194E-06	1.2740E+19	1.9289E+18
Sr-89	6.4115E+03	2.2069E-04	1.4933E+21	7.5763E+19
Sr-90	9.2187E+02	6.7582E-03	4.5221E+22	1.0637E+19
Sr-91	4.3527E+01	1.2007E-08	7.9462E+16	2.9492E+19
Sr-92	9.0191E-05	7.1754E-15	4.6969E+10	1.6744E+19
Y-90	4.9889E+02	9.1696E-07	6.1357E+18	2.6652E+18
Y-91	1.0312E+02	4.2047E-06	2.7826E+19	1.1320E+18
Y-92	2.1073E-02	2.1900E-12	1.4336E+13	3.6386E+18
Y-93	7.3466E-01	2.2020E-10	1.4259E+15	3.7687E+17
Zr-95	1.0979E+02	5.1106E-06	3.2396E+19	1.2908E+18
Zr-97	5.8745E+00	3.0729E-09	1.9078E+16	5.5059E+17
Nb-95	1.1401E+02	2.9157E-06	1.8483E+19	1.3166E+18
Mo-99	7.3734E+02	1.5374E-06	9.3517E+18	1.3564E+19
Tc-99m	7.5583E+02	1.4374E-07	8.7438E+17	1.2680E+19
Ru-103	1.2574E+03	3.8960E-05	2.2779E+20	1.4961E+19
Ru-105	1.2432E-02	1.8494E-12	1.0607E+13	2.2631E+18
Ru-106	5.7808E+02	1.7279E-04	9.8167E+20	6.6913E+18
Rh-105	2.5077E+02	2.9710E-07	1.7040E+18	6.8874E+18
Sb-127	1.0661E+03	3.9920E-06	1.8929E+19	1.7067E+19
Sb-129	5.2151E-02	9.2740E-12	4.3294E+13	1.2798E+19

Te-127	1.2571E+03	4.7633E-07	2.2587E+18	1.7939E+19
Te-127m	2.4496E+02	2.5970E-05	1.2315E+20	2.8269E+18
Te-129	6.5035E+02	3.1054E-08	1.4497E+17	1.8316E+19
Te-129m	7.5202E+02	2.4963E-05	1.1654E+20	8.9794E+18
Te-131m	4.5982E+02	5.7664E-07	2.6509E+18	1.5869E+19
Te-132	1.2498E+04	4.1169E-05	1.8782E+20	2.1301E+20
I-131	8.9544E+04	7.2228E-04	3.3203E+21	1.1850E+21
I-132	1.4918E+04	1.4453E-06	6.5936E+18	5.4785E+20
I-133	2.1513E+04	1.8991E-05	8.5989E+19	1.2642E+21
I-135	1.1644E+02	3.3157E-08	1.4791E+17	6.2596E+20
Xe-133	6.4147E+07	3.4270E-01	1.5517E+24	7.4757E+23
Xe-135	1.9291E+05	7.5540E-05	3.3697E+20	7.5645E+22
Cs-134	2.0397E+04	1.5765E-02	7.0848E+22	2.4878E+20
Cs-136	4.2656E+03	5.8200E-05	2.5771E+20	5.7220E+19
Cs-137	1.2984E+04	1.4927E-01	6.5614E+23	1.5812E+20
Ba-140	1.0048E+04	1.3724E-04	5.9036E+20	1.2759E+20
La-140	7.6309E+03	1.3729E-05	5.9055E+19	4.4660E+19
La-141	3.4140E-04	6.0368E-14	2.5783E+11	2.5162E+17
Ce-141	2.6282E+02	9.2240E-06	3.9396E+19	3.1460E+18
Ce-143	5.7543E+01	8.6651E-08	3.6491E+17	1.7796E+18
Ce-144	2.3085E+02	7.2378E-05	3.0269E+20	2.6746E+18
Pr-143	1.0514E+02	1.5613E-06	6.5752E+18	1.2076E+18
Nd-147	3.6937E+01	4.5658E-07	1.8705E+18	4.7644E+17
Np-239	1.3748E+03	5.9262E-06	1.4932E+19	2.7497E+19
Pu-238	1.2953E+00	7.5663E-05	1.9145E+20	1.4942E+16
Pu-239	7.7237E-02	1.2426E-03	3.1311E+21	8.8795E+14
Pu-240	7.7330E-02	3.3937E-04	8.5155E+20	8.9216E+14
Pu-241	4.6078E+01	4.4731E-04	1.1177E+21	5.3173E+17
Am-241	3.3229E-02	9.6815E-06	2.4192E+19	3.7928E+14
Cm-242	6.3314E+00	1.9103E-06	4.7538E+18	7.3589E+16
Cm-244	8.2385E-01	1.0183E-05	2.5133E+19	9.5066E+15

## Sprayed Drywell Transport Group Inventory:

Time (h) = 72.0000	Atmosphere	Sump	
Noble gases (atoms)	1.6403E+25	0.0000E+00	
Elemental I (atoms)	3.6845E+20	5.5506E+22	
Organic I (atoms)	6.3941E+20	0.0000E+00	
Aerosols (kg)	1.7529E-01	5.0845E+01	
Dose Effective (Ci/cc) I-131 (Thyroid)			3.4652E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			3.5628E-05
Total I (Ci)			1.2609E+05

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 72.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.7873E+23
Elemental I (atoms)	0.0000E+00	6.1718E+18
Organic I (atoms)	0.0000E+00	8.7376E+18
Aerosols (kg)	0.0000E+00	3.1317E-03

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 72.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.7873E+23
Elemental I (atoms)	0.0000E+00	6.1718E+18

Organic I (atoms)	0.0000E+00	8.7376E+18
Aerosols (kg)	0.0000E+00	3.1317E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 72.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	8.9224E+22
Elemental I (atoms)	0.0000E+00	3.0820E+18
Organic I (atoms)	0.0000E+00	4.3638E+18
Aerosols (kg)	0.0000E+00	1.5634E-03

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 72.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.5899E+27
Elemental I (atoms)	0.0000E+00	4.6881E+22
Organic I (atoms)	0.0000E+00	7.4548E+22
Aerosols (kg)	0.0000E+00	2.1215E+01

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 72.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.5785E+27
Elemental I (atoms)	0.0000E+00	4.6463E+22
Organic I (atoms)	0.0000E+00	7.3860E+22
Aerosols (kg)	0.0000E+00	2.1112E+01

Exclusion Area Boundary Doses:

Time (h) = 96.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.2092E+00	8.0708E+01	6.6198E+00
Accumulated dose (rem)	5.4380E+01	6.6720E+02	8.1667E+01

Low Population Zone Doses:

Time (h) = 96.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.2847E-01	5.4285E+00	5.5787E-01
Accumulated dose (rem)	2.0037E+01	1.4859E+02	2.6546E+01

Control Room Doses:

Time (h) = 96.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.6693E-02	1.5781E+00	8.3277E-02
Accumulated dose (rem)	8.3624E-01	3.9737E+01	2.5346E+00

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 96.0000	Ci	kg	Atoms	Decay
Co-58	4.5046E+00	1.4166E-07	1.4709E+18	6.8096E+16
Co-60	5.5986E+00	4.9528E-06	4.9711E+19	8.2848E+16
Kr-85	8.1897E+05	2.0874E+00	1.4789E+25	1.0455E+22
Kr-85m	4.6781E+00	5.6846E-10	4.0274E+15	9.9482E+21
Kr-88	2.3989E-03	1.9131E-13	1.3092E+12	1.5769E+22
Rb-86	1.4208E+02	1.7461E-06	1.2227E+19	2.3925E+18

Sr-89	6.2989E+03	2.1681E-04	1.4671E+21	9.6077E+19
Sr-90	9.1815E+02	6.7309E-03	4.5039E+22	1.3578E+19
Sr-91	7.5254E+00	2.0760E-09	1.3738E+16	2.9557E+19
Sr-92	1.9386E-07	1.5423E-17	1.0096E+08	1.6744E+19
Y-90	5.9447E+02	1.0927E-06	7.3112E+18	4.4037E+18
Y-91	1.0160E+02	4.1428E-06	2.7416E+19	1.4592E+18
Y-92	1.9329E-04	2.0088E-14	1.3149E+11	3.6387E+18
Y-93	1.4094E-01	4.2244E-11	2.7355E+14	3.7802E+17
Zr-95	1.0818E+02	5.0354E-06	3.1920E+19	1.6392E+18
Zr-97	2.1865E+00	1.1437E-09	7.1008E+15	5.6251E+17
Nb-95	1.1345E+02	2.9012E-06	1.8391E+19	1.6800E+18
Mo-99	5.7078E+02	1.1901E-06	7.2393E+18	1.5644E+19
Tc-99m	5.8518E+02	1.1129E-07	6.7697E+17	1.4705E+19
Ru-103	1.2305E+03	3.8126E-05	2.2291E+20	1.8937E+19
Ru-105	2.9216E-04	4.3463E-14	2.4928E+11	2.2631E+18
Ru-106	5.7470E+02	1.7178E-04	9.7593E+20	8.5337E+18
Rh-105	1.5604E+02	1.8487E-07	1.0603E+18	7.5257E+18
Sb-127	8.8688E+02	3.3210E-06	1.5748E+19	2.0179E+19
Sb-129	1.1044E-03	1.9640E-13	9.1687E+11	1.2798E+19
Te-127	1.0872E+03	4.1195E-07	1.9534E+18	2.1554E+19
Te-127m	2.4355E+02	2.5820E-05	1.2244E+20	3.6076E+18
Te-129	6.3447E+02	3.0296E-08	1.4143E+17	1.9863E+19
Te-129m	7.3373E+02	2.4356E-05	1.1370E+20	1.1354E+19
Te-131m	2.6305E+02	3.2988E-07	1.5165E+18	1.6995E+19
Te-132	1.0063E+04	3.3147E-05	1.5123E+20	2.4892E+20
I-131	8.1844E+04	6.6017E-04	3.0348E+21	1.4587E+21
I-132	1.2012E+04	1.1637E-06	5.3089E+18	5.8503E+20
I-133	9.6300E+03	8.5010E-06	3.8492E+19	1.3114E+21
I-135	9.3624E+00	2.6659E-09	1.1892E+16	6.2610E+20
Xe-133	5.5985E+07	2.9909E-01	1.3543E+24	9.3928E+23
Xe-135	3.0841E+04	1.2077E-05	5.3873E+19	7.5928E+22
Cs-134	2.0297E+04	1.5687E-02	7.0502E+22	3.1382E+20
Cs-136	4.0296E+03	5.4981E-05	2.4346E+20	7.0475E+19
Cs-137	1.2931E+04	1.4866E-01	6.5349E+23	1.9954E+20
Ba-140	9.4777E+03	1.2946E-04	5.5688E+20	1.5879E+20
La-140	8.3469E+03	1.5017E-05	6.4596E+19	7.0070E+19
La-141	4.9338E-06	8.7242E-16	3.7261E+09	2.5162E+17
Ce-141	2.5625E+02	8.9934E-06	3.8411E+19	3.9756E+18
Ce-143	3.4621E+01	5.2133E-08	2.1955E+17	1.9239E+18
Ce-144	2.2937E+02	7.1915E-05	3.0075E+20	3.4102E+18
Pr-143	1.0174E+02	1.5109E-06	6.3629E+18	1.5383E+18
Nd-147	3.4539E+01	4.2695E-07	1.7491E+18	5.9064E+17
Np-239	1.0202E+03	4.3977E-06	1.1081E+19	3.1297E+19
Pu-238	1.2903E+00	7.5368E-05	1.9071E+20	1.9075E+16
Pu-239	7.7024E-02	1.2392E-03	3.1224E+21	1.1345E+15
Pu-240	7.7023E-02	3.3802E-04	8.4817E+20	1.1389E+15
Pu-241	4.5889E+01	4.4547E-04	1.1131E+21	6.7872E+17
Am-241	3.3298E-02	9.7017E-06	2.4243E+19	4.8559E+14
Cm-242	6.2794E+00	1.8947E-06	4.7148E+18	9.3744E+16
Cm-244	8.2049E-01	1.0142E-05	2.5031E+19	1.2135E+16

## Sprayed Drywell Transport Group Inventory:

Time (h) =	96.0000	Atmosphere	Sump
Noble gases (atoms)	1.6144E+25	0.0000E+00	
Elemental I (atoms)	3.3234E+20	5.5506E+22	
Organic I (atoms)	5.7675E+20	0.0000E+00	
Aerosols (kg)	1.7450E-01	5.0845E+01	

Dose Effective (Ci/cc) I-131 (Thyroid)	3.1047E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)	3.1542E-05
Total I (Ci)	1.0349E+05

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.2190E+23
Elemental I (atoms)	0.0000E+00	7.1017E+18
Organic I (atoms)	0.0000E+00	1.0351E+19
Aerosols (kg)	0.0000E+00	3.5956E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.2190E+23
Elemental I (atoms)	0.0000E+00	7.1017E+18
Organic I (atoms)	0.0000E+00	1.0351E+19
Aerosols (kg)	0.0000E+00	3.5956E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.1069E+23
Elemental I (atoms)	0.0000E+00	3.5443E+18
Organic I (atoms)	0.0000E+00	5.1661E+18
Aerosols (kg)	0.0000E+00	1.7940E-03

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.1080E+27
Elemental I (atoms)	0.0000E+00	5.8040E+22
Organic I (atoms)	0.0000E+00	9.3912E+22
Aerosols (kg)	0.0000E+00	2.6782E+01

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.0966E+27
Elemental I (atoms)	0.0000E+00	5.7622E+22
Organic I (atoms)	0.0000E+00	9.3227E+22
Aerosols (kg)	0.0000E+00	2.6680E+01

Exclusion Area Boundary Doses:

Time (h) = 240.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.2154E+01	3.3006E+02	2.7750E+01
Accumulated dose (rem)	6.6535E+01	9.9726E+02	1.0942E+02

Low Population Zone Doses:

Time (h) = 240.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	4.9331E-01	8.8034E+00	9.0928E-01
Accumulated dose (rem)	2.0530E+01	1.5739E+02	2.7455E+01

## Control Room Doses:

Time (h) = 240.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.5325E-02	2.5716E+00	1.4670E-01
Accumulated dose (rem)	8.6156E-01	4.2309E+01	2.6813E+00

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 240.0000	Ci	kg	Atoms	Decay
Co-58	4.1473E+00	1.3043E-07	1.3542E+18	1.5102E+17
Co-60	5.4546E+00	4.8254E-06	4.8432E+19	1.8884E+17
Kr-85	7.9879E+05	2.0360E+00	1.4425E+25	2.5968E+22
Kr-85m	9.6323E-10	1.1705E-19	8.2925E+05	9.9482E+21
Rb-86	1.1101E+02	1.3643E-06	9.5532E+18	4.8073E+18
Sr-89	5.6640E+03	1.9496E-04	1.3192E+21	2.1069E+20
Sr-90	8.9612E+02	6.5694E-03	4.3958E+22	3.0975E+19
Sr-91	2.0099E-04	5.5445E-14	3.6692E+11	2.9571E+19
Y-90	8.3370E+02	1.5324E-06	1.0253E+19	1.8639E+19
Y-91	9.2413E+01	3.7683E-06	2.4937E+19	3.3184E+18
Y-93	7.0266E-06	2.1061E-15	1.3638E+10	3.7829E+17
Zr-95	9.8974E+01	4.6071E-06	2.9205E+19	3.6243E+18
Zr-97	5.8126E-03	3.0406E-12	1.8877E+13	5.6957E+17
Nb-95	1.0970E+02	2.8055E-06	1.7784E+19	3.8200E+18
Mo-99	1.2283E+02	2.5610E-07	1.5578E+18	2.1236E+19
Tc-99m	1.2593E+02	2.3949E-08	1.4568E+17	2.0149E+19
Ru-103	1.0807E+03	3.3486E-05	1.9578E+20	4.1069E+19
Ru-106	5.5483E+02	1.6584E-04	9.4218E+20	1.9364E+19
Rh-105	9.0561E+00	1.0729E-08	6.1536E+16	8.5160E+18
Sb-127	2.9400E+02	1.1009E-06	5.2204E+18	3.0478E+19
Te-127	5.1528E+02	1.9525E-07	9.2584E+17	3.5472E+19
Te-127m	2.3246E+02	2.4644E-05	1.1686E+20	8.1774E+18
Te-129	5.4736E+02	2.6137E-08	1.2201E+17	2.8383E+19
Te-129m	6.3300E+02	2.1012E-05	9.8092E+19	2.4437E+19
Te-131m	9.2196E+00	1.1562E-08	5.3151E+16	1.8447E+19
Te-132	2.7418E+03	9.0312E-06	4.1202E+19	3.5692E+20
I-131	4.7659E+04	3.8443E-04	1.7672E+21	2.6713E+21
I-132	3.2726E+03	3.1705E-07	1.4465E+18	6.9682E+20
I-133	7.7481E+01	6.8397E-08	3.0970E+17	1.3494E+21
I-135	2.5294E-06	7.2025E-16	3.2129E+09	6.2611E+20
Xe-133	2.4737E+07	1.3215E-01	5.9838E+23	1.6730E+24
Xe-135	5.1317E-01	2.0095E-10	8.9641E+14	7.5982E+22
Cs-134	1.9709E+04	1.5233E-02	6.8458E+22	6.9743E+20
Cs-136	2.8643E+03	3.9081E-05	1.7305E+20	1.3595E+20
Cs-137	1.2621E+04	1.4510E-01	6.3782E+23	4.4456E+20
Ba-140	6.6765E+03	9.1199E-05	3.9229E+20	3.1214E+20
La-140	7.5376E+03	1.3561E-05	5.8333E+19	2.2814E+20
Ce-141	2.2015E+02	7.7264E-06	3.2999E+19	8.5354E+18
Ce-143	1.6420E+00	2.4726E-09	1.0413E+16	2.1313E+18
Ce-144	2.2070E+02	6.9197E-05	2.8938E+20	7.7257E+18
Pr-143	7.5726E+01	1.1246E-06	4.7358E+18	3.2401E+18
Nd-147	2.3091E+01	2.8543E-07	1.1693E+18	1.1359E+18
Np-239	1.7036E+02	7.3433E-07	1.8503E+18	4.0404E+19
Pu-238	1.2604E+00	7.3625E-05	1.8629E+20	4.3534E+16



Pu-239	7.5426E-02	1.2135E-03	3.0576E+21	2.5970E+15
Pu-240	7.5206E-02	3.3004E-04	8.2815E+20	2.5986E+15
Pu-241	4.4770E+01	4.3461E-04	1.0860E+21	1.5481E+18
Am-241	3.3691E-02	9.8162E-06	2.4529E+19	1.1280E+15
Cm-242	5.9765E+00	1.8033E-06	4.4874E+18	2.1125E+17
Cm-244	8.0062E-01	9.8961E-06	2.4424E+19	2.7680E+16

## Sprayed Drywell Transport Group Inventory:

Time (h) = 240.0000	Atmosphere	Sump	
Noble gases (atoms)	1.5023E+25	0.0000E+00	
Elemental I (atoms)	1.9096E+20	5.5506E+22	
Organic I (atoms)	3.3140E+20	0.0000E+00	
Aerosols (kg)	1.6994E-01	5.0845E+01	
Dose Effective (Ci/cc)	I-131 (Thyroid)		1.7729E-05
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		1.7768E-05
Total I (Ci)			5.1009E+04

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 240.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.6914E+23
Elemental I (atoms)	0.0000E+00	1.1156E+19
Organic I (atoms)	0.0000E+00	1.7387E+19
Aerosols (kg)	0.0000E+00	6.3363E-03

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 240.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.6914E+23
Elemental I (atoms)	0.0000E+00	1.1156E+19
Organic I (atoms)	0.0000E+00	1.7387E+19
Aerosols (kg)	0.0000E+00	6.3363E-03

## Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 240.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.3360E+23
Elemental I (atoms)	0.0000E+00	5.5598E+18
Organic I (atoms)	0.0000E+00	8.6638E+18
Aerosols (kg)	0.0000E+00	3.1565E-03

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 240.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.0748E+27
Elemental I (atoms)	0.0000E+00	1.0669E+23
Organic I (atoms)	0.0000E+00	1.7834E+23
Aerosols (kg)	0.0000E+00	5.9670E+01

## Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 240.0000	Filtered	Transported

Noble gases (atoms)	0.0000E+00	5.0637E+27
Elemental I (atoms)	0.0000E+00	1.0628E+23
Organic I (atoms)	0.0000E+00	1.7766E+23
Aerosols (kg)	0.0000E+00	5.9570E+01

## Exclusion Area Boundary Doses:

Time (h) = 720.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	9.1194E+00	3.6426E+02	3.7192E+01
Accumulated dose (rem)	7.5654E+01	1.3615E+03	1.4661E+02

## Low Population Zone Doses:

Time (h) = 720.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.7014E-01	9.7156E+00	1.1189E+00
Accumulated dose (rem)	2.0900E+01	1.6711E+02	2.8574E+01

## Control Room Doses:

Time (h) = 720.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.8667E-02	2.8106E+00	2.3523E-01
Accumulated dose (rem)	8.8023E-01	4.5119E+01	2.9165E+00

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 720.0000	Ci	kg	Atoms	Decay
Co-58	3.1487E+00	9.9023E-08	1.0282E+18	3.8277E+17
Co-60	5.0008E+00	4.4240E-06	4.4403E+19	5.2284E+17
Kr-85	7.3502E+05	1.8735E+00	1.3273E+25	7.4968E+22
Rb-86	4.8765E+01	5.9932E-07	4.1967E+18	9.6447E+18
Sr-89	3.9748E+03	1.3681E-04	9.2575E+20	5.1562E+20
Sr-90	8.2643E+02	6.0586E-03	4.0539E+22	8.6007E+19
Y-90	8.3078E+02	1.5270E-06	1.0217E+19	7.2872E+19
Y-91	6.7335E+01	2.7457E-06	1.8170E+19	8.3826E+18
Zr-95	7.3591E+01	3.4256E-06	2.1715E+19	9.1004E+18
Zr-97	1.5129E-11	7.9141E-21	4.9134E+04	5.6958E+17
Nb-95	9.4624E+01	2.4198E-06	1.5340E+19	1.0364E+19
Mo-99	7.3350E-01	1.5293E-09	9.3030E+15	2.2760E+19
Tc-99m	7.5201E-01	1.4302E-10	8.6996E+14	2.1633E+19
Ru-103	7.0121E+02	2.1727E-05	1.2703E+20	9.7157E+19
Ru-106	4.9342E+02	1.4748E-04	8.3790E+20	5.2834E+19
Rh-105	6.8544E-04	8.1208E-13	4.6576E+12	8.5770E+18
Sb-127	7.4125E+00	2.7757E-08	1.3162E+17	3.5456E+19
Te-127	2.0145E+02	7.6333E-08	3.6196E+17	5.3311E+19
Te-127m	1.9055E+02	2.0201E-05	9.5791E+19	2.1681E+19
Te-129	3.3458E+02	1.5976E-08	7.4582E+16	4.9196E+19
Te-129m	3.8693E+02	1.2844E-05	5.9959E+19	5.6396E+19
Te-131m	1.2991E-04	1.6291E-13	7.4893E+11	1.8500E+19
Te-132	3.5949E+01	1.1841E-07	5.4022E+17	3.9683E+20
I-131	7.8476E+03	6.3300E-05	2.9099E+20	4.0823E+21
I-132	4.2909E+01	4.1570E-09	1.8965E+16	7.3813E+20
I-133	8.0864E-06	7.1384E-15	3.2322E+10	1.3497E+21
Xe-133	1.6251E+06	8.6819E-03	3.9311E+22	2.2157E+24
Cs-134	1.7868E+04	1.3810E-02	6.2063E+22	1.8976E+21
Cs-136	9.1798E+02	1.2525E-05	5.5462E+19	2.4530E+20
Cs-137	1.1640E+04	1.3382E-01	5.8824E+23	1.2196E+21
Ba-140	2.0767E+03	2.8367E-05	1.2202E+20	5.6395E+20

La-140	2.4124E+03	4.3401E-06	1.8669E+19	5.1681E+20
Ce-141	1.3270E+02	4.6573E-06	1.9892E+19	1.9580E+19
Ce-143	6.3410E-05	9.5486E-14	4.0212E+11	2.1417E+18
Ce-144	1.9411E+02	6.0858E-05	2.5451E+20	2.0967E+19
Pr-143	2.5218E+01	3.7450E-07	1.5771E+18	6.1798E+18
Nd-147	6.0328E+00	7.4573E-08	3.0550E+17	1.9484E+18
Np-239	4.3677E-01	1.8827E-09	4.7438E+15	4.2224E+19
Pu-238	1.1657E+00	6.8092E-05	1.7229E+20	1.2105E+17
Pu-239	6.9693E-02	1.1213E-03	2.8252E+21	7.2343E+15
Pu-240	6.9452E-02	3.0479E-04	7.6479E+20	7.2202E+15
Pu-241	4.1233E+01	4.0028E-04	1.0002E+21	4.2956E+18
Am-241	3.4734E-02	1.0120E-05	2.5288E+19	3.3170E+15
Cm-242	5.0684E+00	1.5293E-06	3.8056E+18	5.6351E+17
Cm-244	7.3777E-01	9.1192E-06	2.2507E+19	7.6827E+16

## Sprayed Drywell Transport Group Inventory:

Time (h) = 720.0000	Atmosphere	Sump	
Noble gases (atoms)	1.3312E+25	0.0000E+00	
Elemental I (atoms)	3.1415E+19	5.5506E+22	
Organic I (atoms)	5.4518E+19	0.0000E+00	
Aerosols (kg)	1.5611E-01	5.0845E+01	
Dose Effective (Ci/cc) I-131 (Thyroid)			2.9173E-06
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			2.9178E-06
Total I (Ci)			7.8905E+03

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.2144E+24
Elemental I (atoms)	0.0000E+00	1.5853E+19
Organic I (atoms)	0.0000E+00	2.5539E+19
Aerosols (kg)	0.0000E+00	1.4978E-02

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.2144E+24
Elemental I (atoms)	0.0000E+00	1.5853E+19
Organic I (atoms)	0.0000E+00	2.5539E+19
Aerosols (kg)	0.0000E+00	1.4978E-02

## Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	6.0408E+23
Elemental I (atoms)	0.0000E+00	7.8951E+18
Organic I (atoms)	0.0000E+00	1.2717E+19
Aerosols (kg)	0.0000E+00	7.4526E-03

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.4018E+28

Elemental I (atoms) 0.0000E+00 1.6306E+23  
 Organic I (atoms) 0.0000E+00 2.7616E+23  
 Aerosols (kg) 0.0000E+00 1.6337E+02

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.4007E+28
Elemental I (atoms)	0.0000E+00	1.6265E+23
Organic I (atoms)	0.0000E+00	2.7549E+23
Aerosols (kg)	0.0000E+00	1.6328E+02

930

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

Time (hr)	Sprayed Drywell I-131 (Curies)	MSIV Failed Control V I-131 (Curies)	Intact Control Volume I-131 (Curies)
0.000	4.5258E+03	0.0000E+00	0.0000E+00
0.033	2.6557E+05	0.0000E+00	0.0000E+00
0.167	1.2318E+06	3.7127E+01	3.6830E+01
0.500	5.3661E+05	1.0632E+02	1.0244E+02
0.667	8.5233E+05	1.4334E+02	1.3684E+02
1.000	8.9300E+05	2.2276E+02	2.0897E+02
1.160	8.9973E+05	2.5733E+02	2.3927E+02
1.410	9.0759E+05	3.0672E+02	2.8131E+02
1.660	9.1340E+05	3.5087E+02	3.1756E+02
1.910	9.1791E+05	3.9025E+02	3.4876E+02
2.000	9.1931E+05	4.0336E+02	3.5889E+02
2.200	1.1456E+05	3.9422E+02	3.4607E+02
2.300	7.9948E+04	3.8473E+02	3.3494E+02
2.600	1.6514E+05	3.6051E+02	3.0663E+02
2.900	1.6704E+05	3.4050E+02	2.8353E+02
3.200	1.4895E+05	3.2151E+02	2.6229E+02
3.500	1.2863E+05	3.0288E+02	2.4215E+02
3.800	1.1061E+05	2.8461E+02	2.2300E+02
4.000	1.0030E+05	2.7271E+02	2.1083E+02
4.300	1.0993E+05	2.5618E+02	1.9431E+02
4.600	1.1339E+05	2.4143E+02	1.7997E+02
4.900	1.1459E+05	2.2808E+02	1.6733E+02
5.200	1.1494E+05	2.1591E+02	1.5613E+02
5.500	1.1498E+05	2.0478E+02	1.4617E+02
5.800	1.1492E+05	1.9461E+02	1.3730E+02
6.100	1.1481E+05	1.8529E+02	1.2939E+02
6.400	1.1468E+05	1.7676E+02	1.2235E+02
6.700	1.1455E+05	1.6895E+02	1.1608E+02
7.000	1.1442E+05	1.6180E+02	1.1048E+02
7.300	1.1429E+05	1.5524E+02	1.0549E+02
7.600	1.1416E+05	1.4924E+02	1.0104E+02
7.900	1.1402E+05	1.4374E+02	9.7069E+01
8.000	1.1398E+05	1.4201E+02	9.5843E+01
8.300	1.1385E+05	1.3712E+02	9.2432E+01
8.600	1.1372E+05	1.3263E+02	8.9387E+01
8.900	1.1358E+05	1.2852E+02	8.6669E+01

9.200	1.1345E+05	1.2475E+02	8.4240E+01
9.500	1.1332E+05	1.2129E+02	8.2070E+01
9.800	1.1319E+05	1.1812E+02	8.0130E+01
10.100	1.1306E+05	1.1521E+02	7.8395E+01
10.400	1.1293E+05	1.1254E+02	7.6842E+01
24.000	1.0712E+05	8.1067E+01	6.1587E+01
48.000	9.7953E+04	7.3976E+01	5.6478E+01
72.000	8.9544E+04	6.7622E+01	5.1631E+01
96.000	8.1844E+04	6.1807E+01	4.7191E+01
240.000	4.7659E+04	3.5991E+01	2.7480E+01
720.000	7.8476E+03	5.9263E+00	4.5249E+00

Time (hr)	Intact Control Volume		
	I-131 (Curies)	I-131 (Curies)	I-131 (Curies)
0.000	0.0000E+00	0.0000E+00	0.0000E+00
0.033	0.0000E+00	0.0000E+00	0.0000E+00
0.167	3.1823E-01	1.8721E+01	4.4152E-02
0.500	3.5420E+00	5.5646E+01	5.7314E-01
0.667	5.5175E+00	7.5944E+01	9.5764E-01
1.000	1.0475E+01	1.2082E+02	2.0293E+00
1.160	1.3072E+01	1.4125E+02	2.6588E+00
1.410	1.7118E+01	1.7155E+02	3.7474E+00
1.660	2.0980E+01	1.9991E+02	4.9258E+00
1.910	2.4556E+01	2.2639E+02	6.1593E+00
2.000	2.5765E+01	2.3548E+02	6.6116E+00
2.200	2.7073E+01	2.3422E+02	7.1763E+00
2.300	2.7490E+01	2.3101E+02	7.4291E+00
2.600	2.7966E+01	2.2304E+02	8.0731E+00
2.900	2.7699E+01	2.1661E+02	8.5819E+00
3.200	2.6997E+01	2.1017E+02	8.9833E+00
3.500	2.6027E+01	2.0343E+02	9.2943E+00
3.800	2.4896E+01	1.9643E+02	9.5280E+00
4.000	2.4089E+01	1.9167E+02	9.6464E+00
4.300	2.2849E+01	1.8486E+02	9.7760E+00
4.600	2.1630E+01	1.7862E+02	9.8589E+00
4.900	2.0469E+01	1.7277E+02	9.9046E+00
5.200	1.9384E+01	1.6726E+02	9.9208E+00
5.500	1.8384E+01	1.6205E+02	9.9135E+00
5.800	1.7468E+01	1.5712E+02	9.8875E+00
6.100	1.6635E+01	1.5244E+02	9.8471E+00
6.400	1.5881E+01	1.4801E+02	9.7955E+00
6.700	1.5201E+01	1.4382E+02	9.7354E+00
7.000	1.4589E+01	1.3984E+02	9.6691E+00
7.300	1.4038E+01	1.3607E+02	9.5983E+00
7.600	1.3545E+01	1.3250E+02	9.5246E+00
7.900	1.3102E+01	1.2911E+02	9.4491E+00
8.000	1.2965E+01	1.2802E+02	9.4237E+00
8.300	1.2572E+01	1.2487E+02	9.3405E+00
8.600	1.2223E+01	1.2188E+02	9.2587E+00
8.900	1.1911E+01	1.1905E+02	9.1785E+00
9.200	1.1633E+01	1.1636E+02	9.1004E+00
9.500	1.1385E+01	1.1381E+02	9.0244E+00
9.800	1.1164E+01	1.1139E+02	8.9507E+00
10.100	1.0965E+01	1.0910E+02	8.8794E+00
10.400	1.0788E+01	1.0693E+02	8.8105E+00
24.000	8.9618E+00	6.9295E+01	7.3664E+00
48.000	8.1384E+00	6.0450E+01	6.5216E+00

72.000	7.2495E+00	5.4951E+01	5.7353E+00
96.000	6.3668E+00	5.0192E+01	4.9603E+00
240.000	3.5382E+00	2.9226E+01	2.7124E+00
720.000	5.2094E-01	4.8123E+00	3.9027E-01

Time (hr)	Environment I-131 (Curies)	Control Room I-131 (Curies)	Unsprayed Drywell I-131 (Curies)
0.000	0.0000E+00	0.0000E+00	1.6670E+00
0.033	0.0000E+00	0.0000E+00	5.7769E+03
0.167	1.6809E-01	4.6521E-04	1.2580E+05
0.500	2.7069E+00	6.0558E-03	2.6802E+05
0.667	4.9414E+00	1.0036E-02	3.3556E+05
1.000	1.1967E+01	9.1620E-03	4.5652E+05
1.160	1.6599E+01	9.0456E-03	4.9411E+05
1.410	2.5444E+01	9.1877E-03	5.3527E+05
1.660	3.6179E+01	9.6541E-03	5.6195E+05
1.910	4.8706E+01	1.0373E-02	5.7944E+05
2.000	5.3633E+01	1.0682E-02	5.8417E+05
2.200	6.0280E+01	1.0253E-02	4.5921E+05
2.300	6.3610E+01	1.0061E-02	3.8706E+05
2.600	7.3528E+01	9.5523E-03	2.5369E+05
2.900	8.3318E+01	9.1236E-03	1.8971E+05
3.200	9.2943E+01	8.7542E-03	1.5116E+05
3.500	1.0237E+02	8.4274E-03	1.2404E+05
3.800	1.1157E+02	8.1316E-03	1.0344E+05
4.000	1.1758E+02	7.9475E-03	9.2236E+04
4.300	1.2638E+02	7.6874E-03	8.2382E+04
4.600	1.3497E+02	7.4448E-03	7.8697E+04
4.900	1.4334E+02	7.2186E-03	7.7285E+04
5.200	1.5151E+02	7.0076E-03	7.6708E+04
5.500	1.5950E+02	6.8111E-03	7.6440E+04
5.800	1.6732E+02	6.6283E-03	7.6285E+04
6.100	1.7499E+02	6.4585E-03	7.6172E+04
6.400	1.8252E+02	6.3011E-03	7.6075E+04
6.700	1.8992E+02	6.1554E-03	7.5983E+04
7.000	1.9719E+02	6.0207E-03	7.5894E+04
7.300	2.0437E+02	5.8965E-03	7.5805E+04
7.600	2.1144E+02	5.7820E-03	7.5717E+04
7.900	2.1842E+02	5.6766E-03	7.5629E+04
8.000	2.2073E+02	5.6434E-03	7.5600E+04
8.300	2.2751E+02	4.9731E-03	7.5512E+04
8.600	2.3422E+02	4.4285E-03	7.5424E+04
8.900	2.4087E+02	3.9855E-03	7.5337E+04
9.200	2.4745E+02	3.6248E-03	7.5249E+04
9.500	2.5397E+02	3.3307E-03	7.5162E+04
9.800	2.6045E+02	3.0906E-03	7.5074E+04
10.100	2.6687E+02	2.8943E-03	7.4987E+04
10.400	2.7326E+02	2.7334E-03	7.4900E+04
24.000	5.4344E+02	1.8747E-03	7.1049E+04
48.000	7.5527E+02	5.3931E-04	6.4964E+04
72.000	9.3386E+02	4.5417E-04	5.9387E+04
96.000	1.0840E+03	3.8204E-04	5.4280E+04
240.000	1.7133E+03	1.2525E-04	3.1608E+04
720.000	2.4079E+03	1.9564E-05	5.2046E+03

#####

Cumulative Dose Summary

#####

Time (hr)	Exclusion Area Bounda		Low Population Zone		Control Room	
	Thyroid (rem)	TEDE (rem)	Thyroid (rem)	TEDE (rem)	Thyroid (rem)	TEDE (rem)
0.000	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.033	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.167	1.2262E-01	6.2282E-03	9.1962E-02	4.6712E-03	7.8822E-03	3.2776E-04
0.500	1.9686E+00	1.0657E-01	1.4764E+00	7.9926E-02	3.7342E-01	1.5455E-02
0.667	3.5923E+00	2.0755E-01	2.6942E+00	1.5566E-01	8.6393E-01	3.5884E-02
1.000	8.7249E+00	6.3273E-01	6.5436E+00	4.7455E-01	2.0320E+00	8.5860E-02
1.160	1.2112E+01	9.7698E-01	9.0836E+00	7.3273E-01	2.5656E+00	1.0965E-01
1.410	1.8576E+01	1.7352E+00	1.3932E+01	1.3014E+00	3.3985E+00	1.4892E-01
1.660	2.6413E+01	2.7873E+00	1.9809E+01	2.0905E+00	4.2595E+00	1.9296E-01
1.910	3.5539E+01	4.1495E+00	2.6654E+01	3.1121E+00	5.1752E+00	2.4389E-01
2.000	3.9124E+01	4.7171E+00	2.9343E+01	3.5378E+00	5.5222E+00	2.6425E-01
2.200	4.3955E+01	5.5144E+00	3.2267E+01	4.0203E+00	6.2885E+00	3.1049E-01
2.300	4.6371E+01	5.9272E+00	3.3729E+01	4.2701E+00	6.6601E+00	3.3333E-01
2.600	5.3546E+01	7.2080E+00	3.8071E+01	5.0452E+00	7.7340E+00	4.0098E-01
2.900	6.0600E+01	8.5357E+00	4.2339E+01	5.8486E+00	8.7543E+00	4.6766E-01
3.200	6.7508E+01	9.8911E+00	4.6519E+01	6.6688E+00	9.7285E+00	5.3360E-01
3.500	7.4246E+01	1.1258E+01	5.0597E+01	7.4961E+00	1.0662E+01	5.9885E-01
3.800	8.0799E+01	1.2624E+01	5.4563E+01	8.3225E+00	1.1560E+01	6.6336E-01
4.000	8.5060E+01	1.3528E+01	5.7141E+01	8.8698E+00	1.2139E+01	7.0589E-01
4.300	9.1290E+01	1.4870E+01	6.0911E+01	9.6818E+00	1.2982E+01	7.6890E-01
4.600	9.7337E+01	1.6189E+01	6.4570E+01	1.0480E+01	1.3796E+01	8.3082E-01
4.900	1.0321E+02	1.7480E+01	6.8126E+01	1.1261E+01	1.4581E+01	8.9155E-01
5.200	1.0893E+02	1.8741E+01	7.1584E+01	1.2024E+01	1.5341E+01	9.5100E-01
5.500	1.1450E+02	1.9969E+01	7.4954E+01	1.2768E+01	1.6076E+01	1.0091E+00
5.800	1.1993E+02	2.1164E+01	7.8240E+01	1.3490E+01	1.6789E+01	1.0658E+00
6.100	1.2523E+02	2.2323E+01	8.1450E+01	1.4192E+01	1.7481E+01	1.1210E+00
6.400	1.3042E+02	2.3447E+01	8.4591E+01	1.4872E+01	1.8153E+01	1.1748E+00
6.700	1.3550E+02	2.4536E+01	8.7666E+01	1.5531E+01	1.8807E+01	1.2271E+00
7.000	1.4049E+02	2.5590E+01	9.0683E+01	1.6169E+01	1.9445E+01	1.2780E+00
7.300	1.4538E+02	2.6611E+01	9.3645E+01	1.6787E+01	2.0067E+01	1.3275E+00
7.600	1.5020E+02	2.7599E+01	9.6557E+01	1.7385E+01	2.0674E+01	1.3756E+00
7.900	1.5493E+02	2.8554E+01	9.9424E+01	1.7963E+01	2.1268E+01	1.4224E+00
8.000	1.5649E+02	2.8866E+01	1.0037E+02	1.8152E+01	2.1463E+01	1.4377E+00
8.300	1.6108E+02	2.9779E+01	1.0099E+02	1.8366E+01	2.2010E+01	1.4802E+00
8.600	1.6560E+02	3.0662E+01	1.0159E+02	1.8573E+01	2.2494E+01	1.5173E+00
8.900	1.7007E+02	3.1517E+01	1.0219E+02	1.8774E+01	2.2925E+01	1.5500E+00
9.200	1.7448E+02	3.2346E+01	1.0278E+02	1.8968E+01	2.3314E+01	1.5793E+00
9.500	1.7884E+02	3.3148E+01	1.0337E+02	1.9155E+01	2.3669E+01	1.6056E+00
9.800	1.8315E+02	3.3925E+01	1.0395E+02	1.9336E+01	2.3996E+01	1.6297E+00
10.100	1.8743E+02	3.4679E+01	1.0452E+02	1.9512E+01	2.4300E+01	1.6518E+00
10.400	1.9166E+02	3.5411E+01	1.0509E+02	1.9682E+01	2.4584E+01	1.6723E+00
24.000	3.6356E+02	5.6731E+01	1.2817E+02	2.4420E+01	3.3469E+01	2.2133E+00
48.000	4.8772E+02	6.7202E+01	1.3652E+02	2.5324E+01	3.6228E+01	2.3536E+00
72.000	5.8650E+02	7.5047E+01	1.4316E+02	2.5988E+01	3.8159E+01	2.4513E+00
96.000	6.6720E+02	8.1667E+01	1.4859E+02	2.6546E+01	3.9737E+01	2.5346E+00
240.000	9.9726E+02	1.0942E+02	1.5739E+02	2.7455E+01	4.2309E+01	2.6813E+00
720.000	1.3615E+03	1.4661E+02	1.6711E+02	2.8574E+01	4.5119E+01	2.9165E+00

#####

Worst Two-Hour Doses

#####

## Exclusion Area Boundary

Time (hr)	Whole Body (rem)	Thyroid (rem)	TEDE (rem)
1.6	6.6464E+00	5.1899E+01	9.1784E+00



**Attachment A4.6 - RADTRAD Nuclide Inventory File "DQ39GWD\_DEF.nif"**

Nuclide Inventory Name: Dresden/Quad NIF File - 39 GWD/MTU Burnup

Normalized MACCS Sample 3578 MWth BWR Core Inventory

Power Level:

0.1000E+01

Nuclides:

60

Nuclide 001:

Co-58

7

0.6117120000E+07

0.5800E+02

0.1529E+03

none 0.0000E+00

none 0.0000E+00

none 0.0000E+00

Nuclide 002:

Co-60

7

0.1663401096E+09

0.6000E+02

0.1830E+03

none 0.0000E+00

none 0.0000E+00

none 0.0000E+00

Nuclide 003:

Kr-85

1

0.3382974720E+09

0.8500E+02

0.4609E+03

none 0.0000E+00

none 0.0000E+00

none 0.0000E+00

Nuclide 004:

Kr-85m

1

0.1612800000E+05

0.8500E+02

0.7427E+04

Kr-85 0.2100E+00

none 0.0000E+00

none 0.0000E+00

Nuclide 005:

Kr-87

1

0.4578000000E+04

0.8700E+02

0.1436E+05

Rb-87 0.1000E+01

none 0.0000E+00

none 0.0000E+00

Nuclide 006:

Kr-88  
1  
0.1022400000E+05  
0.8800E+02  
0.2022E+05  
Rb-88 0.1000E+01  
none 0.0000E+00  
none 0.0000E+00  
Nuclide 007:  
Rb-86  
3  
0.1612224000E+07  
0.8600E+02  
0.6465E+02  
none 0.0000E+00  
none 0.0000E+00  
none 0.0000E+00  
Nuclide 008:  
Sr-89  
5  
0.4363200000E+07  
0.8900E+02  
0.2715E+05  
none 0.0000E+00  
none 0.0000E+00  
none 0.0000E+00  
Nuclide 009:  
Sr-90  
5  
0.9189573120E+09  
0.9000E+02  
0.3747E+04  
Y-90 0.1000E+01  
none 0.0000E+00  
none 0.0000E+00  
Nuclide 010:  
Sr-91  
5  
0.3420000000E+05  
0.9100E+02  
0.3382E+05  
Y-91m 0.5800E+00  
Y-91 0.4200E+00  
none 0.0000E+00  
Nuclide 011:  
Sr-92  
5  
0.9756000000E+04  
0.9200E+02  
0.3647E+05  
Y-92 0.1000E+01  
none 0.0000E+00  
none 0.0000E+00  
Nuclide 012:

Y-90  
9  
0.2304000000E+06  
0.9000E+02  
0.3846E+04  
none 0.0000E+00  
none 0.0000E+00  
none 0.0000E+00  
Nuclide 013:  
Y-91  
9  
0.5055264000E+07  
0.9100E+02  
0.3481E+05  
none 0.0000E+00  
none 0.0000E+00  
none 0.0000E+00  
Nuclide 014:  
Y-92  
9  
0.1274400000E+05  
0.9200E+02  
0.3647E+05  
none 0.0000E+00  
none 0.0000E+00  
none 0.0000E+00  
Nuclide 015:  
Y-93  
9  
0.3636000000E+05  
0.9300E+02  
0.4178E+05  
Zr-93 0.1000E+01  
none 0.0000E+00  
none 0.0000E+00  
Nuclide 016:  
Zr-95  
9  
0.5527872000E+07  
0.9500E+02  
0.4609E+05  
Nb-95m 0.7000E-02  
Nb-95 0.9900E+00  
none 0.0000E+00  
Nuclide 017:  
Zr-97  
9  
0.6084000000E+05  
0.9700E+02  
0.4575E+05  
Nb-97m 0.9500E+00  
Nb-97 0.5300E-01  
none 0.0000E+00  
Nuclide 018:

Nb-95  
9  
0.3036960000E+07  
0.9500E+02  
0.4642E+05  
none 0.0000E+00  
none 0.0000E+00  
none 0.0000E+00  
Nuclide 019:  
Mo-99  
7  
0.2376000000E+06  
0.9900E+02  
0.5106E+05  
Tc-99m 0.8800E+00  
Tc-99 0.1200E+00  
none 0.0000E+00  
Nuclide 020:  
Tc-99m  
7  
0.2167200000E+05  
0.9900E+02  
0.4476E+05  
Tc-99 0.1000E+01  
none 0.0000E+00  
none 0.0000E+00  
Nuclide 021:  
Ru-103  
7  
0.3393792000E+07  
0.1030E+03  
0.4310E+05  
Rh-103m 0.1000E+01  
none 0.0000E+00  
none 0.0000E+00  
Nuclide 022:  
Ru-105  
7  
0.1598400000E+05  
0.1050E+03  
0.3077E+05  
Rh-105 0.1000E+01  
none 0.0000E+00  
none 0.0000E+00  
Nuclide 023:  
Ru-106  
7  
0.3181248000E+08  
0.1060E+03  
0.1890E+05  
Rh-106 0.1000E+01  
none 0.0000E+00  
none 0.0000E+00  
Nuclide 024:

Rh-105  
7  
0.1272960000E+06  
0.1050E+03  
0.2901E+05  
none 0.0000E+00  
none 0.0000E+00  
none 0.0000E+00  
Nuclide 025:  
Sb-127  
4  
0.3326400000E+06  
0.1270E+03  
0.2974E+04  
Te-127m 0.1800E+00  
Te-127 0.8200E+00  
none 0.0000E+00  
Nuclide 026:  
Sb-129  
4  
0.1555200000E+05  
0.1290E+03  
0.8819E+04  
Te-129m 0.2200E+00  
Te-129 0.7700E+00  
none 0.0000E+00  
Nuclide 027:  
Te-127  
4  
0.3366000000E+05  
0.1270E+03  
0.2957E+04  
none 0.0000E+00  
none 0.0000E+00  
none 0.0000E+00  
Nuclide 028:  
Te-127m  
4  
0.9417600000E+07  
0.1270E+03  
0.3979E+03  
Te-127 0.9800E+00  
none 0.0000E+00  
none 0.0000E+00  
Nuclide 029:  
Te-129  
4  
0.4176000000E+04  
0.1290E+03  
0.8687E+04  
I-129 0.1000E+01  
none 0.0000E+00  
none 0.0000E+00  
Nuclide 030:

Te-129m  
4  
0.2903040000E+07  
0.1290E+03  
0.1290E+04  
Te-129 0.6500E+00  
I-129 0.3500E+00  
none 0.0000E+00  
Nuclide 031:  
Te-131m  
4  
0.1080000000E+06  
0.1310E+03  
0.3945E+04  
Te-131 0.2200E+00  
I-131 0.7800E+00  
none 0.0000E+00  
Nuclide 032:  
Te-132  
4  
0.2815200000E+06  
0.1320E+03  
0.3846E+05  
I-132 0.1000E+01  
none 0.0000E+00  
none 0.0000E+00  
Nuclide 033:  
I-131  
2  
0.6946560000E+06  
0.1310E+03  
0.2702E+05  
Xe-131m 0.1100E-01  
none 0.0000E+00  
none 0.0000E+00  
Nuclide 034:  
I-132  
2  
0.8280000000E+04  
0.1320E+03  
0.3912E+05  
none 0.0000E+00  
none 0.0000E+00  
none 0.0000E+00  
Nuclide 035:  
I-133  
2  
0.7488000000E+05  
0.1330E+03  
0.5537E+05  
Xe-133m 0.2900E-01  
Xe-133 0.9700E+00  
none 0.0000E+00  
Nuclide 036:

I-134  
2  
0.3156000000E+04  
0.1340E+03  
0.6101E+05  
none 0.0000E+00  
none 0.0000E+00  
none 0.0000E+00  
Nuclide 037:  
I-135  
2  
0.2379600000E+05  
0.1350E+03  
0.5172E+05  
Xe-135m 0.1500E+00  
Xe-135 0.8500E+00  
none 0.0000E+00  
Nuclide 038:  
Xe-133  
1  
0.4531680000E+06  
0.1330E+03  
0.5305E+05  
none 0.0000E+00  
none 0.0000E+00  
none 0.0000E+00  
Nuclide 039:  
Xe-135  
1  
0.3272400000E+05  
0.1350E+03  
0.2195E+05  
Cs-135 0.1000E+01  
none 0.0000E+00  
none 0.0000E+00  
Nuclide 040:  
Cs-134  
3  
0.6507177120E+08  
0.1340E+03  
0.7990E+04  
none 0.0000E+00  
none 0.0000E+00  
none 0.0000E+00  
Nuclide 041:  
Cs-136  
3  
0.1131840000E+07  
0.1360E+03  
0.1953E+04  
none 0.0000E+00  
none 0.0000E+00  
none 0.0000E+00  
Nuclide 042:

Cs-137  
3  
0.9467280000E+09  
0.1370E+03  
0.5073E+04  
Ba-137m 0.9500E+00  
none 0.0000E+00  
none 0.0000E+00  
Nuclide 043:  
Ba-139  
6  
0.4962000000E+04  
0.1390E+03  
0.4973E+05  
none 0.0000E+00  
none 0.0000E+00  
none 0.0000E+00  
Nuclide 044:  
Ba-140  
6  
0.1100736000E+07  
0.1400E+03  
0.4807E+05  
La-140 0.1000E+01  
none 0.0000E+00  
none 0.0000E+00  
Nuclide 045:  
La-140  
9  
0.1449792000E+06  
0.1400E+03  
0.5172E+05  
none 0.0000E+00  
none 0.0000E+00  
none 0.0000E+00  
Nuclide 046:  
La-141  
9  
0.1414800000E+05  
0.1410E+03  
0.4542E+05  
Ce-141 0.1000E+01  
none 0.0000E+00  
none 0.0000E+00  
Nuclide 047:  
La-142  
9  
0.5550000000E+04  
0.1420E+03  
0.4376E+05  
none 0.0000E+00  
none 0.0000E+00  
none 0.0000E+00  
Nuclide 048:



Ce-141  
8  
0.2808086400E+07  
0.1410E+03  
0.4542E+05  
none 0.0000E+00  
none 0.0000E+00  
none 0.0000E+00  
Nuclide 049:  
Ce-143  
8  
0.1188000000E+06  
0.1430E+03  
0.4244E+05  
Pr-143 0.1000E+01  
none 0.0000E+00  
none 0.0000E+00  
Nuclide 050:  
Ce-144  
8  
0.2456352000E+08  
0.1440E+03  
0.3780E+05  
Pr-144m 0.1800E-01  
Pr-144 0.9800E+00  
none 0.0000E+00  
Nuclide 051:  
Pr-143  
9  
0.1171584000E+07  
0.1430E+03  
0.4111E+05  
none 0.0000E+00  
none 0.0000E+00  
none 0.0000E+00  
Nuclide 052:  
Nd-147  
9  
0.9486720000E+06  
0.1470E+03  
0.1814E+05  
Pm-147 0.1000E+01  
none 0.0000E+00  
none 0.0000E+00  
Nuclide 053:  
Np-239  
8  
0.2034720000E+06  
0.2390E+03  
0.5404E+06  
Pu-239 0.1000E+01  
none 0.0000E+00  
none 0.0000E+00  
Nuclide 054:

Pu-238  
8  
0.2768863824E+10  
0.2380E+03  
0.2105E+03  
U-234 0.1000E+01  
none 0.0000E+00  
none 0.0000E+00  
Nuclide 055:  
Pu-239  
8  
0.7594336440E+12  
0.2390E+03  
0.1247E+02  
U-235 0.1000E+01  
none 0.0000E+00  
none 0.0000E+00  
Nuclide 056:  
Pu-240  
8  
0.2062920312E+12  
0.2400E+03  
0.1257E+02  
U-236 0.1000E+01  
none 0.0000E+00  
none 0.0000E+00  
Nuclide 057:  
Pu-241  
8  
0.4544294400E+09  
0.2410E+03  
0.7493E+04  
U-237 0.2400E-04  
Am-241 0.1000E+01  
none 0.0000E+00  
Nuclide 058:  
Am-241  
9  
0.1363919472E+11  
0.2410E+03  
0.1326E+02  
Np-237 0.1000E+01  
none 0.0000E+00  
none 0.0000E+00  
Nuclide 059:  
Cm-242  
9  
0.1406592000E+08  
0.2420E+03  
0.2606E+04  
Pu-238 0.1000E+01  
none 0.0000E+00  
none 0.0000E+00  
Nuclide 060:

Cm-244

9

0.5715081360E+09

0.2440E+03

0.3349E+03

Pu-240 0.1000E+01

none 0.0000E+00

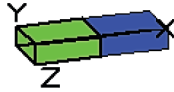
none 0.0000E+00

End of Nuclear Inventory File

**Attachment A4.7 – MicroShield Output Files “QA[667, 2, 4, 8, 16, & 24].MSD”**

Case Summary of Case 1

MicroShield 10.04				
Date		By	Checked	
File Name	Run Date	Run Time	Duration	
QA667.msdx	February 2, 2020	6:23:24 PM	00:00:02	
Project Info				
Case Title	Case 1			
Description	Containment Shine CR Dose Rate @ T=0.667 hrs			
Geometry	13 - Rectangular Volume			
Source Dimensions				
Length	4.5e+3 cm (147 ft .0 in)			
Width	3.6e+3 cm (117 ft 6.0 in)			
Height	1.3e+3 cm (44 ft)			
Dose Points				
A	X	Y	Z	
#1	9.1e+3 cm (299 ft .0 in)	670.56 cm (22 ft)	1.8e+3 cm (58 ft 9.0 in)	
Shield				
Shield N	Dimension	Material	Density (g/cm <sup>3</sup> )	
Source	2.15e+10 cm <sup>3</sup>	Air	0.00122	
Shield 1	4526.28 cm	Air	0.00122	
Shield 2	76.2 cm	Concrete	2.3	
Air Gap		Air	0.00122	



Source Input: Grouping Method - Standard Indices				
Number of Groups: 25				
Lower Energy Cutoff: 0.015				
Photons < 0.015: Included				
Library: Grove				
Nuclide	Ci	Bq	μCi/cm <sup>3</sup>	Bq/cm <sup>3</sup>
Am-241	4.8100e-005	1.7797e+006	2.2351e-009	8.2698e-005
Ba-139	1.2900e+001	4.7730e+011	5.9943e-004	2.2179e+001
Ba-140	1.7400e+001	6.4380e+011	8.0853e-004	2.9916e+001
Ce-141	4.1200e-001	1.5244e+010	1.9145e-005	7.0835e-001
Ce-143	3.8000e-001	1.4060e+010	1.7658e-005	6.5333e-001
Ce-144	3.4300e-001	1.2691e+010	1.5938e-005	5.8972e-001
Cm-242	9.4600e-003	3.5002e+008	4.3958e-007	1.6264e-002
Cm-244	1.2200e-003	4.5140e+007	5.6690e-008	2.0975e-003
Co-58	6.9300e-003	2.5641e+008	3.2202e-007	1.1915e-002
Co-60	8.3000e-003	3.0710e+008	3.8568e-007	1.4270e-002
Cs-134	1.9900e+002	7.3630e+012	9.2470e-003	3.4214e+002
Cs-136	4.8500e+001	1.7945e+012	2.2537e-003	8.3386e+001
Cs-137	1.2600e+002	4.6620e+012	5.8549e-003	2.1663e+002
I-131	7.2300e+002	2.6751e+013	3.3596e-002	1.2430e+003
I-132	9.2700e+002	3.4299e+013	4.3075e-002	1.5938e+003
I-133	1.4500e+003	5.3650e+013	6.7378e-002	2.4930e+003
I-134	9.6600e+002	3.5742e+013	4.4887e-002	1.6608e+003
I-135	1.2900e+003	4.7730e+013	5.9943e-002	2.2179e+003
Kr-85	5.0400e+001	1.8648e+012	2.3420e-003	8.6652e+001
Kr-85m	7.3200e+002	2.7084e+013	3.4014e-002	1.2585e+003
Kr-87	1.0900e+003	4.0330e+013	5.0649e-002	1.8740e+003
Kr-88	1.8800e+003	6.9560e+013	8.7358e-002	3.2323e+003
La-140	2.1900e-001	8.1030e+009	1.0176e-005	3.7652e-001

Case Summary of Case 1

La-141	1.4700e-001	5.4390e+009	6.8307e-006	2.5274e-001
La-142	1.1800e-001	4.3660e+009	5.4831e-006	2.0288e-001
Mo-99	2.3000e+000	8.5100e+010	1.0687e-004	3.9544e+000
Nb-95	1.6800e-001	6.2160e+009	7.8065e-006	2.8884e-001
Nd-147	6.5700e-002	2.4309e+009	3.0529e-006	1.1296e-001
Np-239	4.8600e+000	1.7982e+011	2.2583e-004	8.3557e+000
Pr-143	1.4900e-001	5.5130e+009	6.9236e-006	2.5617e-001
Pu-238	1.9100e-003	7.0670e+007	8.8753e-008	3.2838e-003
Pu-239	1.1300e-004	4.1810e+006	5.2508e-009	1.9428e-004
Pu-240	1.1400e-004	4.2180e+006	5.2973e-009	1.9600e-004
Pu-241	6.8000e-002	2.5160e+009	3.1598e-006	1.1691e-001
Rb-86	1.6000e+000	5.9200e+010	7.4348e-005	2.7509e+000
Rh-105	1.3200e+000	4.8840e+010	6.1337e-005	2.2695e+000
Ru-103	1.9500e+000	7.2150e+010	9.0611e-005	3.3526e+000
Ru-105	1.2600e+000	4.6620e+010	5.8549e-005	2.1663e+000
Ru-106	8.5700e-001	3.1709e+010	3.9822e-005	1.4734e+000
Sb-127	2.6800e+000	9.9160e+010	1.2453e-004	4.6077e+000
Sb-129	7.1900e+000	2.6603e+011	3.3410e-004	1.2362e+001
Sr-89	9.8500e+000	3.6445e+011	4.5770e-004	1.6935e+001
Sr-90	1.3600e+000	5.0320e+010	6.3195e-005	2.3382e+000
Sr-91	1.1700e+001	4.3290e+011	5.4367e-004	2.0116e+001
Sr-92	1.1200e+001	4.1440e+011	5.2043e-004	1.9256e+001
Tc-99m	2.0300e+000	7.5110e+010	9.4329e-005	3.4902e+000
Te-127	2.6800e+000	9.9160e+010	1.2453e-004	4.6077e+000
Te-127m	3.6100e-001	1.3357e+010	1.6775e-005	6.2066e-001
Te-129	7.4600e+000	2.7602e+011	3.4665e-004	1.2826e+001
Te-129m	1.1700e+000	4.3290e+010	5.4367e-005	2.0116e+000
Te-131m	3.5200e+000	1.3024e+011	1.6356e-004	6.0519e+000
Te-132	3.4700e+001	1.2839e+012	1.6124e-003	5.9659e+001
Xe-133	5.7900e+003	2.1423e+014	2.6905e-001	9.9547e+003
Xe-135	2.4400e+003	9.0280e+013	1.1338e-001	4.1951e+003
Y-90	1.5500e-002	5.7350e+008	7.2024e-007	2.6649e-002
Y-91	1.2700e-001	4.6990e+009	5.9013e-006	2.1835e-001
Y-92	3.6400e-001	1.3468e+010	1.6914e-005	6.2582e-001
Y-93	1.4500e-001	5.3650e+009	6.7378e-006	2.4930e-001
Zr-95	1.6700e-001	6.1790e+009	7.7600e-006	2.8712e-001
Zr-97	1.6200e-001	5.9940e+009	7.5277e-006	2.7852e-001

**Buildup: The material reference is Shield 2.  
 Integration Parameters**

X Direction	20
Y Direction	20
Z Direction	20

**Results**

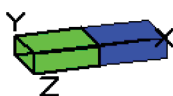
Energy (MeV)	Activity (Photons/sec)	Fluence Rate MeV/cm <sup>2</sup> /sec No Buildup	Fluence Rate MeV/cm <sup>2</sup> /sec With Buildup	Exposure Rate mR/hr No Buildup	Exposure Rate mR/hr With Buildup	Absorbed Dose Rate mrad/hr No Buildup	Absorbed Dose Rate mrad/hr With Buildup	Absorbed Dose Rate mGy/hr No Buildup	Absorbed Dose Rate mGy/hr With Buildup
0.015	2.195e+13	0.000e+00	5.841e-24	0.000e+00	5.010e-25	0.000e+00	4.374e-25	0.000e+00	4.374e-27
0.02	9.260e+09	9.607e-272	3.878e-27	3.328e-273	1.343e-28	2.905e-273	1.173e-28	2.905e-275	1.173e-30
0.03	1.125e+14	1.383e-85	1.042e-22	1.370e-87	1.033e-24	1.196e-87	9.016e-25	1.196e-89	9.016e-27

Case Summary of Case 1

0.04	8.991e+10	2.265e-44	2.208e-25	1.002e-46	9.764e-28	8.746e-47	8.524e-28	8.746e-49	8.524e-30
0.05	1.688e+11	2.715e-28	1.355e-24	7.233e-31	3.610e-27	6.315e-31	3.151e-27	6.315e-33	3.151e-29
0.06	2.288e+11	4.333e-21	1.707e-19	8.606e-24	3.390e-22	7.513e-24	2.959e-22	7.513e-26	2.959e-24
0.08	7.944e+13	1.229e-12	8.676e-11	1.945e-15	1.373e-13	1.698e-15	1.199e-13	1.698e-17	1.199e-15
0.1	3.357e+11	1.409e-12	1.983e-10	2.155e-15	3.034e-13	1.881e-15	2.649e-13	1.881e-17	2.649e-15
0.15	2.513e+13	4.020e-08	1.031e-05	6.619e-11	1.698e-08	5.779e-11	1.482e-08	5.779e-13	1.482e-10
0.2	1.031e+14	3.322e-06	9.200e-04	5.863e-09	1.624e-06	5.119e-09	1.417e-06	5.119e-11	1.417e-08
0.3	1.006e+13	1.274e-05	2.483e-03	2.417e-08	4.709e-06	2.110e-08	4.111e-06	2.110e-10	4.111e-08
0.4	5.244e+13	7.405e-04	9.385e-02	1.443e-06	1.829e-04	1.260e-06	1.596e-04	1.260e-08	1.596e-06
0.5	6.513e+13	5.488e-03	4.782e-01	1.077e-05	9.386e-04	9.404e-06	8.194e-04	9.404e-08	8.194e-06
0.6	7.176e+13	2.456e-02	1.555e+00	4.794e-05	3.035e-03	4.186e-05	2.649e-03	4.186e-07	2.649e-05
0.8	1.263e+14	3.577e-01	1.371e+01	6.805e-04	2.607e-02	5.940e-04	2.276e-02	5.940e-06	2.276e-04
1.0	5.323e+13	7.125e-01	1.871e+01	1.313e-03	3.448e-02	1.147e-03	3.010e-02	1.147e-05	3.010e-04
1.5	5.182e+13	9.307e+00	1.298e+02	1.566e-02	2.183e-01	1.367e-02	1.906e-01	1.367e-04	1.906e-03
2.0	5.286e+13	4.776e+01	4.559e+02	7.385e-02	7.051e-01	6.447e-02	6.155e-01	6.447e-04	6.155e-03
3.0	6.178e+12	3.892e+01	2.339e+02	5.280e-02	3.173e-01	4.610e-02	2.770e-01	4.610e-04	2.770e-03
4.0	1.146e+08	2.285e-03	1.037e-02	2.827e-06	1.283e-05	2.468e-06	1.120e-05	2.468e-08	1.120e-07
<b>Total</b>	<b>8.328e+14</b>	<b>9.709e+01</b>	<b>8.541e+02</b>	<b>1.444e-01</b>	<b>1.305e+00</b>	<b>1.260e-01</b>	<b>1.140e+00</b>	<b>1.260e-03</b>	<b>1.140e-02</b>

Case Summary of Case 2

MicroShield 10.04				
Date	By	Checked		
File Name	Run Date	Run Time	Duration	
QA2.msdc	February 2, 2020	6:31:51 PM	00:00:02	
Project Info				
Case Title	Case 2			
Description	Containment Shine CR Dose Rate @ T= 2 hrs			
Geometry	13 - Rectangular Volume			
Source Dimensions				
Length	4.5e+3 cm (147 ft .0 in)			
Width	3.6e+3 cm (117 ft 6.0 in)			
Height	1.3e+3 cm (44 ft)			
Dose Points				
A	X	Y	Z	
#1	9.1e+3 cm (299 ft .0 in)	670.56 cm (22 ft)	1.8e+3 cm (58 ft 9.0 in)	
Shield				
Shield N	Dimension	Material	Density (g/cm <sup>3</sup> )	
Source	2.15e+10 cm <sup>3</sup>	Air	0.00122	
Shield 1	4526.28 cm	Air	0.00122	
Shield 2	76.2 cm	Concrete	2.3	
Air Gap		Air	0.00122	



Source Input: Grouping Method - Standard Indices				
Number of Groups: 25				
Lower Energy Cutoff: 0.015				
Photons < 0.015: Included				
Library: Grove				
Nuclide	Ci	Bq	µCi/cm <sup>3</sup>	Bq/cm <sup>3</sup>
Am-241	8.2900e-004	3.0673e+007	3.8521e-008	1.4253e-003
Ba-139	1.1400e+002	4.2180e+012	5.2973e-003	1.9600e+002
Ba-140	2.9900e+002	1.1063e+013	1.3894e-002	5.1407e+002
Ce-141	7.1000e+000	2.6270e+011	3.2992e-004	1.2207e+001
Ce-143	6.3600e+000	2.3532e+011	2.9553e-004	1.0935e+001
Ce-144	5.9100e+000	2.1867e+011	2.7462e-004	1.0161e+001
Cm-242	1.6300e-001	6.0310e+009	7.5742e-006	2.8024e-001
Cm-244	2.0900e-002	7.7330e+008	9.7117e-007	3.5933e-002
Co-58	1.1900e-001	4.4030e+009	5.5296e-006	2.0460e-001
Co-60	1.4300e-001	5.2910e+009	6.6448e-006	2.4586e-001
Cs-134	6.9000e+002	2.5530e+013	3.2062e-002	1.1863e+003
Cs-136	1.6800e+002	6.2160e+012	7.8065e-003	2.8884e+002
Cs-137	4.3800e+002	1.6206e+013	2.0353e-002	7.5305e+002
I-131	3.0800e+003	1.1396e+014	1.4312e-001	5.2954e+003
I-132	3.4000e+003	1.2580e+014	1.5799e-001	5.8456e+003
I-133	5.9400e+003	2.1978e+014	2.7602e-001	1.0213e+004
I-134	1.4400e+003	5.3280e+013	6.6913e-002	2.4758e+003
I-135	4.8100e+003	1.7797e+014	2.2351e-001	8.2698e+003
Kr-85	1.3100e+003	4.8470e+013	6.0872e-002	2.2523e+003
Kr-85m	1.5500e+004	5.7350e+014	7.2024e-001	2.6649e+004
Kr-87	1.3700e+004	5.0690e+014	6.3660e-001	2.3554e+004
Kr-88	3.5200e+004	1.3024e+015	1.6356e+000	6.0519e+004
La-140	7.3900e+000	2.7343e+011	3.4339e-004	1.2706e+001



Case Summary of Case 2


La-141	2.0000e+000	7.4000e+010	9.2935e-005	3.4386e+000					
La-142	1.1100e+000	4.1070e+010	5.1579e-005	1.9084e+000					
Mo-99	3.9100e+001	1.4467e+012	1.8169e-003	6.7224e+001					
Nb-95	2.9000e+000	1.0730e+011	1.3476e-004	4.9859e+000					
Nd-147	1.1300e+000	4.1810e+010	5.2508e-005	1.9428e+000					
Np-239	8.2400e+001	3.0488e+012	3.8289e-003	1.4167e+002					
Pr-143	2.5800e+000	9.5460e+010	1.1989e-004	4.4358e+000					
Pu-238	3.2900e-002	1.2173e+009	1.5288e-006	5.6565e-002					
Pu-239	1.9500e-003	7.2150e+007	9.0611e-008	3.3526e-003					
Pu-240	1.9600e-003	7.2520e+007	9.1076e-008	3.3698e-003					
Pu-241	1.1700e+000	4.3290e+010	5.4367e-005	2.0116e+000					
Rb-86	5.5700e+000	2.0609e+011	2.5882e-004	9.5764e+000					
Rh-105	2.2600e+001	8.3620e+011	1.0502e-003	3.8856e+001					
Ru-103	3.3600e+001	1.2432e+012	1.5613e-003	5.7768e+001					
Ru-105	1.7600e+001	6.5120e+011	8.1782e-004	3.0259e+001					
Ru-106	1.4800e+001	5.4760e+011	6.8772e-004	2.5445e+001					
Sb-127	4.5800e+001	1.6946e+012	2.1282e-003	7.8743e+001					
Sb-129	1.0000e+002	3.7000e+012	4.6467e-003	1.7193e+002					
Sr-89	1.7000e+002	6.2900e+012	7.8994e-003	2.9228e+002					
Sr-90	2.3400e+001	8.6580e+011	1.0873e-003	4.0231e+001					
Sr-91	1.8300e+002	6.7710e+012	8.5035e-003	3.1463e+002					
Sr-92	1.3700e+002	5.0690e+012	6.3660e-003	2.3554e+002					
Tc-99m	3.4900e+001	1.2913e+012	1.6217e-003	6.0003e+001					
Te-127	4.5900e+001	1.6983e+012	2.1328e-003	7.8915e+001					
Te-127m	6.2200e+000	2.3014e+011	2.8903e-004	1.0694e+001					
Te-129	1.1200e+002	4.1440e+012	5.2043e-003	1.9256e+002					
Te-129m	2.0200e+001	7.4740e+011	9.3864e-004	3.4730e+001					
Te-131m	5.8900e+001	2.1793e+012	2.7369e-003	1.0127e+002					
Te-132	5.9100e+002	2.1867e+013	2.7462e-002	1.0161e+003					
Xe-133	1.5000e+005	5.5500e+015	6.9701e+000	2.5789e+005					
Xe-135	6.1500e+004	2.2755e+015	2.8577e+000	1.0574e+005					
Y-90	4.4600e-001	1.6502e+010	2.0724e-005	7.6680e-001					
Y-91	2.2100e+000	8.1770e+010	1.0269e-004	3.7996e+000					
Y-92	2.4600e+001	9.1020e+011	1.1431e-003	4.2295e+001					
Y-93	2.2800e+000	8.4360e+010	1.0595e-004	3.9200e+000					
Zr-95	2.8800e+000	1.0656e+011	1.3383e-004	4.9516e+000					
Zr-97	2.6400e+000	9.7680e+010	1.2267e-004	4.5389e+000					
<b>Buildup: The material reference is Shield 2.</b>									
<b>Integration Parameters</b>									
X Direction				20					
Y Direction				20					
Z Direction				20					
<b>Results</b>									
Energy (MeV)	Activity (Photons/sec)	Fluence Rate MeV/cm <sup>2</sup> /sec No Buildup	Fluence Rate MeV/cm <sup>2</sup> /sec With Buildup	Exposure Rate mR/hr No Buildup	Exposure Rate mR/hr With Buildup	Absorbed Dose Rate mrad/hr No Buildup	Absorbed Dose Rate mrad/hr With Buildup	Absorbed Dose Rate mGy/hr No Buildup	Absorbed Dose Rate mGy/hr With Buildup
0.015	5.075e+14	0.000e+00	1.351e-22	0.000e+00	1.158e-23	0.000e+00	1.011e-23	0.000e+00	1.011e-25
0.02	1.578e+11	1.637e-270	6.609e-26	5.672e-272	2.289e-27	4.952e-272	1.999e-27	4.952e-274	1.999e-29
0.03	2.832e+15	3.480e-84	2.622e-21	3.449e-86	2.599e-23	3.011e-86	2.269e-23	3.011e-88	2.269e-25
0.04	5.535e+11	1.395e-43	1.359e-24	6.168e-46	6.011e-27	5.384e-46	5.248e-27	5.384e-48	5.248e-29

Case Summary of Case 2

0.05	2.875e+12	4.625e-27	2.308e-23	1.232e-29	6.148e-26	1.076e-29	5.367e-26	1.076e-31	5.367e-28
0.06	8.615e+11	1.631e-20	6.427e-19	3.241e-23	1.276e-21	2.829e-23	1.114e-21	2.829e-25	1.114e-23
0.08	2.040e+15	3.157e-11	2.228e-09	4.996e-14	3.526e-12	4.362e-14	3.078e-12	4.362e-16	3.078e-14
0.1	5.834e+12	2.448e-11	3.447e-09	3.745e-14	5.273e-12	3.270e-14	4.604e-12	3.270e-16	4.604e-14
0.15	4.871e+14	7.790e-07	1.998e-04	1.283e-09	3.290e-07	1.120e-09	2.872e-07	1.120e-11	2.872e-09
0.2	2.418e+15	7.789e-05	2.157e-02	1.375e-07	3.807e-05	1.200e-07	3.324e-05	1.200e-09	3.324e-07
0.3	1.082e+14	1.371e-04	2.671e-02	2.600e-07	5.066e-05	2.270e-07	4.423e-05	2.270e-09	4.423e-07
0.4	4.172e+14	5.891e-03	7.466e-01	1.148e-05	1.455e-03	1.002e-05	1.270e-03	1.002e-07	1.270e-05
0.5	2.617e+14	2.205e-02	1.921e+00	4.328e-05	3.771e-03	3.779e-05	3.292e-03	3.779e-07	3.292e-05
0.6	3.084e+14	1.056e-01	6.682e+00	2.060e-04	1.304e-02	1.799e-04	1.139e-02	1.799e-06	1.139e-04
0.8	5.133e+14	1.454e+00	5.570e+01	2.766e-03	1.060e-01	2.414e-03	9.250e-02	2.414e-05	9.250e-04
1.0	2.578e+14	3.450e+00	9.059e+01	6.360e-03	1.670e-01	5.552e-03	1.458e-01	5.552e-05	1.458e-03
1.5	3.842e+14	6.900e+01	9.622e+02	1.161e-01	1.619e+00	1.014e-01	1.413e+00	1.014e-03	1.413e-02
2.0	8.365e+14	7.558e+02	7.215e+03	1.169e+00	1.116e+01	1.020e+00	9.741e+00	1.020e-02	9.741e-02
3.0	8.095e+13	5.100e+02	3.064e+03	6.919e-01	4.158e+00	6.040e-01	3.630e+00	6.040e-03	3.630e-02
4.0	1.078e+09	2.149e-02	9.753e-02	2.659e-05	1.207e-04	2.321e-05	1.053e-04	2.321e-07	1.053e-06
<b>Total</b>	<b>1.146e+16</b>	<b>1.340e+03</b>	<b>1.140e+04</b>	<b>1.986e+00</b>	<b>1.723e+01</b>	<b>1.734e+00</b>	<b>1.504e+01</b>	<b>1.734e-02</b>	<b>1.504e-01</b>

Case Summary of Case 3

MicroShield 10.04				
Date	By	Checked		
File Name	Run Date	Run Time	Duration	
QA4.msdl	February 2, 2020	6:34:52 PM	00:00:02	
Project Info				
Case Title	Case 3			
Description	Containment Shine CR Dose Rate @ T= 4 hrs			
Geometry	13 - Rectangular Volume			
Source Dimensions				
Length	4.5e+3 cm (147 ft .0 in)			
Width	3.6e+3 cm (117 ft 6.0 in)			
Height	1.3e+3 cm (44 ft)			
Dose Points				
A	X	Y	Z	
#1	9.1e+3 cm (299 ft .0 in)	670.56 cm (22 ft)	1.8e+3 cm (58 ft 9.0 in)	
Shield				
Shield N	Dimension	Material	Density (g/cm <sup>3</sup> )	
Source	2.15e+10 cm <sup>3</sup>	Air	0.00122	
Shield 1	4526.28 cm	Air	0.00122	
Shield 2	76.2 cm	Concrete	2.3	
Air Gap		Air	0.00122	



Source Input: Grouping Method - Standard Indices				
Number of Groups: 25				
Lower Energy Cutoff: 0.015				
Photons < 0.015: Included				
Library: Grove				
Nuclide	Ci	Bq	µCi/cm <sup>3</sup>	Bq/cm <sup>3</sup>
Am-241	9.4700e-004	3.5039e+007	4.4005e-008	1.6282e-003
Ba-139	4.7500e+001	1.7575e+012	2.2072e-003	8.1666e+001
Ba-140	3.4000e+002	1.2580e+013	1.5799e-002	5.8456e+002
Ce-141	8.0900e+000	2.9933e+011	3.7592e-004	1.3909e+001
Ce-143	6.9600e+000	2.5752e+011	3.2341e-004	1.1966e+001
Ce-144	6.7400e+000	2.4938e+011	3.1319e-004	1.1588e+001
Cm-242	1.8600e-001	6.8820e+009	8.6429e-006	3.1979e-001
Cm-244	2.3900e-002	8.8430e+008	1.1106e-006	4.1091e-002
Co-58	1.3600e-001	5.0320e+009	6.3195e-006	2.3382e-001
Co-60	1.6300e-001	6.0310e+009	7.5742e-006	2.8024e-001
Cs-134	7.2900e+002	2.6973e+013	3.3875e-002	1.2534e+003
Cs-136	1.7700e+002	6.5490e+012	8.2247e-003	3.0431e+002
Cs-137	4.6300e+002	1.7131e+013	2.1514e-002	7.9603e+002
I-131	3.9000e+003	1.4430e+014	1.8122e-001	6.7052e+003
I-132	2.7800e+003	1.0286e+014	1.2918e-001	4.7796e+003
I-133	7.0900e+003	2.6233e+014	3.2945e-001	1.2190e+004
I-134	3.7800e+002	1.3986e+013	1.7565e-002	6.4989e+002
I-135	4.9700e+003	1.8389e+014	2.3094e-001	8.5449e+003
Kr-85	4.1500e+003	1.5355e+014	1.9284e-001	7.1351e+003
Kr-85m	3.6000e+004	1.3320e+015	1.6728e+000	6.1894e+004
Kr-87	1.4600e+004	5.4020e+014	6.7842e-001	2.5102e+004
Kr-88	6.8600e+004	2.5382e+015	3.1877e+000	1.1794e+005
La-140	1.9000e+001	7.0300e+011	8.8288e-004	3.2666e+001

Case Summary of Case 3

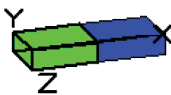
La-141	1.6000e+000	5.9200e+010	7.4348e-005	2.7509e+000					
La-142	5.1700e-001	1.9129e+010	2.4024e-005	8.8887e-001					
Mo-99	4.3700e+001	1.6169e+012	2.0306e-003	7.5133e+001					
Nb-95	3.3100e+000	1.2247e+011	1.5381e-004	5.6908e+000					
Nd-147	1.2800e+000	4.7360e+010	5.9478e-005	2.2007e+000					
Np-239	9.1800e+001	3.3966e+012	4.2657e-003	1.5783e+002					
Pr-143	2.9600e+000	1.0952e+011	1.3754e-004	5.0891e+000					
Pu-238	3.7600e-002	1.3912e+009	1.7472e-006	6.4645e-002					
Pu-239	2.2300e-003	8.2510e+007	1.0362e-007	3.8340e-003					
Pu-240	2.2400e-003	8.2880e+007	1.0409e-007	3.8512e-003					
Pu-241	1.3400e+000	4.9580e+010	6.2266e-005	2.3038e+000					
Rb-86	5.8600e+000	2.1682e+011	2.7230e-004	1.0075e+001					
Rh-105	2.5500e+001	9.4350e+011	1.1849e-003	4.3842e+001					
Ru-103	3.8300e+001	1.4171e+012	1.7797e-003	6.5849e+001					
Ru-105	1.4700e+001	5.4390e+011	6.8307e-004	2.5274e+001					
Ru-106	1.6900e+001	6.2530e+011	7.8530e-004	2.9056e+001					
Sb-127	5.1500e+001	1.9055e+012	2.3931e-003	8.8543e+001					
Sb-129	8.2800e+001	3.0636e+012	3.8475e-003	1.4236e+002					
Sr-89	1.9300e+002	7.1410e+012	8.9682e-003	3.3182e+002					
Sr-90	2.6700e+001	9.8790e+011	1.2407e-003	4.5905e+001					
Sr-91	1.8000e+002	6.6600e+012	8.3641e-003	3.0947e+002					
Sr-92	9.3600e+001	3.4632e+012	4.3493e-003	1.6093e+002					
Tc-99m	3.9700e+001	1.4689e+012	1.8448e-003	6.8256e+001					
Te-127	5.2000e+001	1.9240e+012	2.4163e-003	8.9403e+001					
Te-127m	7.1000e+000	2.6270e+011	3.2992e-004	1.2207e+001					
Te-129	1.0200e+002	3.7740e+012	4.7397e-003	1.7537e+002					
Te-129m	2.3000e+001	8.5100e+011	1.0687e-003	3.9544e+001					
Te-131m	6.4200e+001	2.3754e+012	2.9832e-003	1.1038e+002					
Te-132	6.6200e+002	2.4494e+013	3.0761e-002	1.1382e+003					
Xe-133	4.7000e+005	1.7390e+016	2.1840e+001	8.0807e+005					
Xe-135	1.7200e+005	6.3640e+015	7.9924e+000	2.9572e+005					
Y-90	1.0400e+000	3.8480e+010	4.8326e-005	1.7881e+000					
Y-91	2.5900e+000	9.5830e+010	1.2035e-004	4.4530e+000					
Y-92	5.5800e+001	2.0646e+012	2.5929e-003	9.5936e+001					
Y-93	2.2700e+000	8.3990e+010	1.0548e-004	3.9028e+000					
Zr-95	3.2800e+000	1.2136e+011	1.5241e-004	5.6393e+000					
Zr-97	2.7700e+000	1.0249e+011	1.2871e-004	4.7624e+000					
<b>Buildup: The material reference is Shield 2.</b>									
<b>Integration Parameters</b>									
X Direction				20					
Y Direction				20					
Z Direction				20					
<b>Results</b>									
Energy (MeV)	Activity (Photons/sec)	Fluence Rate MeV/cm <sup>2</sup> /sec No Buildup	Fluence Rate MeV/cm <sup>2</sup> /sec With Buildup	Exposure Rate mR/hr No Buildup	Exposure Rate mR/hr With Buildup	Absorbed Dose Rate mrad/hr No Buildup	Absorbed Dose Rate mrad/hr With Buildup	Absorbed Dose Rate mGy/hr No Buildup	Absorbed Dose Rate mGy/hr With Buildup
0.015	1.412e+15	0.000e+00	3.758e-22	0.000e+00	3.224e-23	0.000e+00	2.814e-23	0.000e+00	2.814e-25
0.02	1.775e+11	1.841e-270	7.433e-26	6.378e-272	2.575e-27	5.568e-272	2.248e-27	5.568e-274	2.248e-29
0.03	8.747e+15	1.075e-83	8.100e-21	1.065e-85	8.027e-23	9.300e-86	7.008e-23	9.300e-88	7.008e-25
0.04	5.848e+11	1.473e-43	1.436e-24	6.517e-46	6.351e-27	5.689e-46	5.544e-27	5.689e-48	5.544e-29

Case Summary of Case 3

0.05	3.220e+12	5.180e-27	2.585e-23	1.380e-29	6.887e-26	1.205e-29	6.012e-26	1.205e-31	6.012e-28
0.06	9.126e+11	1.728e-20	6.808e-19	3.433e-23	1.352e-21	2.997e-23	1.181e-21	2.997e-25	1.181e-23
0.08	6.386e+15	9.883e-11	6.975e-09	1.564e-13	1.104e-11	1.365e-13	9.636e-12	1.365e-15	9.636e-14
0.1	8.641e+12	3.626e-11	5.105e-09	5.547e-14	7.810e-12	4.842e-14	6.818e-12	4.842e-16	6.818e-14
0.15	1.109e+15	1.773e-06	4.547e-04	2.919e-09	7.488e-07	2.549e-09	6.537e-07	2.549e-11	6.537e-09
0.2	6.428e+15	2.070e-04	5.734e-02	3.654e-07	1.012e-04	3.190e-07	8.834e-05	3.190e-09	8.834e-07
0.3	2.195e+14	2.781e-04	5.417e-02	5.275e-07	1.028e-04	4.605e-07	8.971e-05	4.605e-09	8.971e-07
0.4	5.144e+14	7.263e-03	9.205e-01	1.415e-05	1.794e-03	1.235e-05	1.566e-03	1.235e-07	1.566e-05
0.5	2.994e+14	2.523e-02	2.198e+00	4.953e-05	4.315e-03	4.324e-05	3.767e-03	4.324e-07	3.767e-05
0.6	4.010e+14	1.372e-01	8.688e+00	2.679e-04	1.696e-02	2.339e-04	1.480e-02	2.339e-06	1.480e-04
0.8	6.100e+14	1.728e+00	6.620e+01	3.287e-03	1.259e-01	2.869e-03	1.099e-01	2.869e-05	1.099e-03
1.0	3.374e+14	4.515e+00	1.186e+02	8.323e-03	2.185e-01	7.266e-03	1.908e-01	7.266e-05	1.908e-03
1.5	5.958e+14	1.070e+02	1.492e+03	1.800e-01	2.510e+00	1.572e-01	2.191e+00	1.572e-03	2.191e-02
2.0	1.586e+15	1.433e+03	1.368e+04	2.215e+00	2.115e+01	1.934e+00	1.846e+01	1.934e-02	1.846e-01
3.0	9.515e+13	5.995e+02	3.602e+03	8.133e-01	4.887e+00	7.100e-01	4.266e+00	7.100e-03	4.266e-02
4.0	5.021e+08	1.001e-02	4.543e-02	1.239e-05	5.620e-05	1.081e-05	4.906e-05	1.081e-07	4.906e-07
<b>Total</b>	<b>2.875e+16</b>	<b>2.146e+03</b>	<b>1.897e+04</b>	<b>3.221e+00</b>	<b>2.892e+01</b>	<b>2.812e+00</b>	<b>2.524e+01</b>	<b>2.812e-02</b>	<b>2.524e-01</b>

Case Summary of Case 4

MicroShield 10.04				
Date	By	Checked		
File Name	Run Date	Run Time	Duration	
QA8.msdd	February 2, 2020	6:36:58 PM	00:00:02	
Project Info				
Case Title	Case 4			
Description	CR Dose Rate From Containment Shine T= 8 hrs			
Geometry	13 - Rectangular Volume			
Source Dimensions				
Length	4.5e+3 cm (147 ft .0 in)			
Width	3.6e+3 cm (117 ft 6.0 in)			
Height	1.3e+3 cm (44 ft)			
Dose Points				
A	X	Y	Z	
#1	9.1e+3 cm (299 ft .0 in)	670.56 cm (22 ft)	1.8e+3 cm (58 ft 9.0 in)	
Shield				
Shield N	Dimension	Material	Density (g/cm <sup>3</sup> )	
Source	2.15e+10 cm <sup>3</sup>	Air	0.00122	
Shield 1	4526.28 cm	Air	0.00122	
Shield 2	76.2 cm	Concrete	2.3	
Air Gap		Air	0.00122	



Source Input: Grouping Method - Standard Indices				
Number of Groups: 25				
Lower Energy Cutoff: 0.015				
Photons < 0.015: Included				
Library: Grove				
Nuclide	Ci	Bq	µCi/cm <sup>3</sup>	Bq/cm <sup>3</sup>
Am-241	8.2600e-004	3.0562e+007	3.8382e-008	1.4201e-003
Ba-139	5.5300e+000	2.0461e+011	2.5696e-004	9.5077e+000
Ba-140	2.9400e+002	1.0878e+013	1.3661e-002	5.0547e+002
Ce-141	7.0300e+000	2.6011e+011	3.2666e-004	1.2087e+001
Ce-143	5.5800e+000	2.0646e+011	2.5929e-004	9.5936e+000
Ce-144	5.8700e+000	2.1719e+011	2.7276e-004	1.0092e+001
Cm-242	1.6200e-001	5.9940e+009	7.5277e-006	2.7852e-001
Cm-244	2.0800e-002	7.6960e+008	9.6652e-007	3.5761e-002
Co-58	1.1800e-001	4.3660e+009	5.4831e-006	2.0288e-001
Co-60	1.4200e-001	5.2540e+009	6.5984e-006	2.4414e-001
Cs-134	6.0300e+002	2.2311e+013	2.8020e-002	1.0367e+003
Cs-136	1.4500e+002	5.3650e+012	6.7378e-003	2.4930e+002
Cs-137	3.8300e+002	1.4171e+013	1.7797e-002	6.5849e+002
I-131	4.3300e+003	1.6021e+014	2.0120e-001	7.4445e+003
I-132	1.3300e+003	4.9210e+013	6.1801e-002	2.2867e+003
I-133	6.9900e+003	2.5863e+014	3.2481e-001	1.2018e+004
I-134	1.8000e+001	6.6600e+011	8.3641e-004	3.0947e+001
I-135	3.6800e+003	1.3616e+014	1.7100e-001	6.3270e+003
Kr-85	8.2100e+003	3.0377e+014	3.8150e-001	1.4115e+004
Kr-85m	3.8400e+004	1.4208e+015	1.7843e+000	6.6021e+004
Kr-87	3.2700e+003	1.2099e+014	1.5195e-001	5.6221e+003
Kr-88	5.1100e+004	1.8907e+015	2.3745e+000	8.7856e+004
La-140	3.4800e+001	1.2876e+012	1.6171e-003	5.9831e+001

Case Summary of Case 4

La-141	6.8900e-001	2.5493e+010	3.2016e-005	1.1846e+000					
La-142	7.4600e-002	2.7602e+009	3.4665e-006	1.2826e-001					
Mo-99	3.6500e+001	1.3505e+012	1.6961e-003	6.2754e+001					
Nb-95	2.8900e+000	1.0693e+011	1.3429e-004	4.9687e+000					
Nd-147	1.1000e+000	4.0700e+010	5.1114e-005	1.8912e+000					
Np-239	7.6200e+001	2.8194e+012	3.5408e-003	1.3101e+002					
Pr-143	2.6000e+000	9.6200e+010	1.2081e-004	4.4702e+000					
Pu-238	3.2700e-002	1.2099e+009	1.5195e-006	5.6221e-002					
Pu-239	1.9400e-003	7.1780e+007	9.0147e-008	3.3354e-003					
Pu-240	1.9500e-003	7.2150e+007	9.0611e-008	3.3526e-003					
Pu-241	1.1600e+000	4.2920e+010	5.3902e-005	1.9944e+000					
Rb-86	4.8200e+000	1.7834e+011	2.2397e-004	8.2870e+000					
Rh-105	2.1200e+001	7.8440e+011	9.8511e-004	3.6449e+001					
Ru-103	3.3300e+001	1.2321e+012	1.5474e-003	5.7252e+001					
Ru-105	6.8600e+000	2.5382e+011	3.1877e-004	1.1794e+001					
Ru-106	1.4700e+001	5.4390e+011	6.8307e-004	2.5274e+001					
Sb-127	4.3500e+001	1.6095e+012	2.0213e-003	7.4789e+001					
Sb-129	3.8000e+001	1.4060e+012	1.7658e-003	6.5333e+001					
Sr-89	1.6800e+002	6.2160e+012	7.8065e-003	2.8884e+002					
Sr-90	2.3300e+001	8.6210e+011	1.0827e-003	4.0059e+001					
Sr-91	1.1700e+002	4.3290e+012	5.4367e-003	2.0116e+002					
Sr-92	2.9300e+001	1.0841e+012	1.3615e-003	5.0375e+001					
Tc-99m	3.4000e+001	1.2580e+012	1.5799e-003	5.8456e+001					
Te-127	4.4600e+001	1.6502e+012	2.0724e-003	7.6680e+001					
Te-127m	6.1900e+000	2.2903e+011	2.8763e-004	1.0642e+001					
Te-129	5.4300e+001	2.0091e+012	2.5232e-003	9.3357e+001					
Te-129m	2.0000e+001	7.4000e+011	9.2935e-004	3.4386e+001					
Te-131m	5.1000e+001	1.8870e+012	2.3698e-003	8.7684e+001					
Te-132	5.5700e+002	2.0609e+013	2.5882e-002	9.5764e+002					
Xe-133	9.1100e+005	3.3707e+016	4.2332e+001	1.5663e+006					
Xe-135	2.5300e+005	9.3610e+015	1.1756e+001	4.3498e+005					
Y-90	1.8400e+000	6.8080e+010	8.5500e-005	3.1635e+000					
Y-91	2.3600e+000	8.7320e+010	1.0966e-004	4.0575e+000					
Y-92	4.7800e+001	1.7686e+012	2.2211e-003	8.2182e+001					
Y-93	1.5000e+000	5.5500e+010	6.9701e-005	2.5789e+000					
Zr-95	2.8600e+000	1.0582e+011	1.3290e-004	4.9172e+000					
Zr-97	2.0500e+000	7.5850e+010	9.5258e-005	3.5245e+000					
<b>Buildup: The material reference is Shield 2.</b>									
<b>Integration Parameters</b>									
X Direction				20					
Y Direction				20					
Z Direction				20					
<b>Results</b>									
Energy (MeV)	Activity (Photons/sec)	Fluence Rate MeV/cm <sup>2</sup> /sec No Buildup	Fluence Rate MeV/cm <sup>2</sup> /sec With Buildup	Exposure Rate mR/hr No Buildup	Exposure Rate mR/hr With Buildup	Absorbed Dose Rate mrad/hr No Buildup	Absorbed Dose Rate mrad/hr With Buildup	Absorbed Dose Rate mGy/hr No Buildup	Absorbed Dose Rate mGy/hr With Buildup
0.015	2.384e+15	0.000e+00	6.343e-22	0.000e+00	5.441e-23	0.000e+00	4.750e-23	0.000e+00	4.750e-25
0.02	1.498e+11	1.554e-270	6.272e-26	5.383e-272	2.173e-27	4.699e-272	1.897e-27	4.699e-274	1.897e-29
0.03	1.671e+16	2.053e-83	1.547e-20	2.035e-85	1.533e-22	1.777e-85	1.339e-22	1.777e-87	1.339e-24
0.04	4.779e+11	1.204e-43	1.174e-24	5.326e-46	5.190e-27	4.649e-46	4.531e-27	4.649e-48	4.531e-29


Case Summary of Case 4

0.05	2.710e+12	4.359e-27	2.175e-23	1.161e-29	5.795e-26	1.014e-29	5.059e-26	1.014e-31	5.059e-28
0.06	7.482e+11	1.417e-20	5.582e-19	2.815e-23	1.109e-21	2.457e-23	9.679e-22	2.457e-25	9.679e-24
0.08	1.237e+16	1.915e-10	1.352e-08	3.030e-13	2.139e-11	2.646e-13	1.867e-11	2.646e-15	1.867e-13
0.1	6.747e+12	2.831e-11	3.986e-09	4.331e-14	6.099e-12	3.781e-14	5.324e-12	3.781e-16	5.324e-14
0.15	1.163e+15	1.859e-06	4.769e-04	3.062e-09	7.853e-07	2.673e-09	6.856e-07	2.673e-11	6.856e-09
0.2	8.959e+15	2.886e-04	7.991e-02	5.093e-07	1.410e-04	4.446e-07	1.231e-04	4.446e-09	1.231e-06
0.3	2.271e+14	2.877e-04	5.604e-02	5.457e-07	1.063e-04	4.764e-07	9.280e-05	4.764e-09	9.280e-07
0.4	3.118e+14	4.403e-03	5.580e-01	8.580e-06	1.087e-03	7.490e-06	9.492e-04	7.490e-08	9.492e-06
0.5	2.730e+14	2.300e-02	2.004e+00	4.515e-05	3.934e-03	3.942e-05	3.434e-03	3.942e-07	3.434e-05
0.6	4.058e+14	1.389e-01	8.791e+00	2.711e-04	1.716e-02	2.367e-04	1.498e-02	2.367e-06	1.498e-04
0.8	3.963e+14	1.123e+00	4.301e+01	2.135e-03	8.180e-02	1.864e-03	7.141e-02	1.864e-05	7.141e-04
1.0	2.371e+14	3.173e+00	8.332e+01	5.849e-03	1.536e-01	5.107e-03	1.341e-01	5.107e-05	1.341e-03
1.5	4.265e+14	7.659e+01	1.068e+03	1.289e-01	1.797e+00	1.125e-01	1.569e+00	1.125e-03	1.569e-02
2.0	1.170e+15	1.057e+03	1.009e+04	1.635e+00	1.561e+01	1.427e+00	1.363e+01	1.427e-02	1.363e-01
3.0	3.155e+13	1.988e+02	1.194e+03	2.697e-01	1.621e+00	2.354e-01	1.415e+00	2.354e-03	1.415e-02
4.0	7.246e+07	1.445e-03	6.555e-03	1.787e-06	8.109e-06	1.560e-06	7.079e-06	1.560e-08	7.079e-08
<b>Total</b>	<b>4.508e+16</b>	<b>1.337e+03</b>	<b>1.249e+04</b>	<b>2.042e+00</b>	<b>1.928e+01</b>	<b>1.783e+00</b>	<b>1.684e+01</b>	<b>1.783e-02</b>	<b>1.684e-01</b>



Case Summary of Case 5

MicroShield 10.04				
Date		By		Checked
File Name	Run Date	Run Time	Duration	
QA16.msdd	February 2, 2020	6:38:30 PM	00:00:01	
Project Info				
Case Title	Case 5			
Description	CR Dose Rate From Containment Shine T= 16 hrs			
Geometry	13 - Rectangular Volume			
Source Dimensions				
Length	4.5e+3 cm (147 ft .0 in)			
Width	3.6e+3 cm (117 ft 6.0 in)			
Height	1.3e+3 cm (44 ft)			
Dose Points				
A	X	Y	Z	
#1	9.1e+3 cm (299 ft .0 in)	670.56 cm (22 ft)	1.8e+3 cm (58 ft 9.0 in)	
Shield				
Shield N	Dimension	Material	Density (g/cm <sup>3</sup> )	
Source	2.15e+10 cm <sup>3</sup>	Air	0.00122	
Shield 1	4526.28 cm	Air	0.00122	
Shield 2	76.2 cm	Concrete	2.3	
Air Gap		Air	0.00122	



Source Input: Grouping Method - Standard Indices				
<b>Number of Groups: 25</b>				
<b>Lower Energy Cutoff: 0.015</b>				
<b>Photons &lt; 0.015: Included</b>				
<b>Library: Grove</b>				
Nuclide	Ci	Bq	µCi/cm <sup>3</sup>	Bq/cm <sup>3</sup>
Am-241	6.9700e-004	2.5789e+007	3.2388e-008	1.1983e-003
Ba-139	8.3400e-002	3.0858e+009	3.8754e-006	1.4339e-001
Ba-140	2.4300e+002	8.9910e+012	1.1292e-002	4.1779e+002
Ce-141	5.8800e+000	2.1756e+011	2.7323e-004	1.0109e+001
Ce-143	3.9700e+000	1.4689e+011	1.8448e-004	6.8256e+000
Ce-144	4.9400e+000	1.8278e+011	2.2955e-004	8.4933e+000
Cm-242	1.3600e-001	5.0320e+009	6.3195e-006	2.3382e-001
Cm-244	1.7500e-002	6.4750e+008	8.1318e-007	3.0088e-002
Co-58	9.9400e-002	3.6778e+009	4.6188e-006	1.7090e-001
Co-60	1.2000e-001	4.4400e+009	5.5761e-006	2.0631e-001
Cs-134	4.7000e+002	1.7390e+013	2.1840e-002	8.0807e+002
Cs-136	1.1100e+002	4.1070e+012	5.1579e-003	1.9084e+002
Cs-137	2.9900e+002	1.1063e+013	1.3894e-002	5.1407e+002
I-131	4.6900e+003	1.7353e+014	2.1793e-001	8.0635e+003
I-132	5.7400e+002	2.1238e+013	2.6672e-002	9.8687e+002
I-133	5.9700e+003	2.2089e+014	2.7741e-001	1.0264e+004
I-134	3.5900e-002	1.3283e+009	1.6682e-006	6.1722e-002
I-135	1.7800e+003	6.5860e+013	8.2712e-002	3.0603e+003
Kr-85	1.2400e+004	4.5880e+014	5.7619e-001	2.1319e+004
Kr-85m	1.6800e+004	6.2160e+014	7.8065e-001	2.8884e+004
Kr-87	6.2900e+001	2.3273e+012	2.9228e-003	1.0814e+002
Kr-88	1.0900e+004	4.0330e+014	5.0649e-001	1.8740e+004
La-140	5.6800e+001	2.1016e+012	2.6393e-003	9.7656e+001

Case Summary of Case 5

La-141	1.4100e-001	5.2170e+009	6.5519e-006	2.4242e-001
La-142	1.7200e-003	6.3640e+007	7.9924e-008	2.9572e-003
Mo-99	2.8200e+001	1.0434e+012	1.3104e-003	4.8484e+001
Nb-95	2.4300e+000	8.9910e+010	1.1292e-004	4.1779e+000
Nd-147	9.1000e-001	3.3670e+010	4.2285e-005	1.5646e+000
Np-239	5.8100e+001	2.1497e+012	2.6997e-003	9.9891e+001
Pr-143	2.2300e+000	8.2510e+010	1.0362e-004	3.8340e+000
Pu-238	2.7500e-002	1.0175e+009	1.2779e-006	4.7280e-002
Pu-239	1.6400e-003	6.0680e+007	7.6206e-008	2.8196e-003
Pu-240	1.6400e-003	6.0680e+007	7.6206e-008	2.8196e-003
Pu-241	9.8000e-001	3.6260e+010	4.5538e-005	1.6849e+000
Rb-86	3.7100e+000	1.3727e+011	1.7239e-004	6.3786e+000
Rh-105	1.5700e+001	5.8090e+011	7.2954e-004	2.6993e+001
Ru-103	2.7900e+001	1.0323e+012	1.2964e-003	4.7968e+001
Ru-105	1.6600e+000	6.1420e+010	7.7136e-005	2.8540e+000
Ru-106	1.2400e+001	4.5880e+011	5.7619e-004	2.1319e+001
Sb-127	3.4500e+001	1.2765e+012	1.6031e-003	5.9315e+001
Sb-129	8.8600e+000	3.2782e+011	4.1170e-004	1.5233e+001
Sr-89	1.4100e+002	5.2170e+012	6.5519e-003	2.4242e+002
Sr-90	1.9600e+001	7.2520e+011	9.1076e-004	3.3698e+001
Sr-91	5.5100e+001	2.0387e+012	2.5603e-003	9.4733e+001
Sr-92	3.1900e+000	1.1803e+011	1.4823e-004	5.4845e+000
Tc-99m	2.7400e+001	1.0138e+012	1.2732e-003	4.7109e+001
Te-127	3.6300e+001	1.3431e+012	1.6868e-003	6.2410e+001
Te-127m	5.2100e+000	1.9277e+011	2.4209e-004	8.9575e+000
Te-129	2.5700e+001	9.5090e+011	1.1942e-003	4.4186e+001
Te-129m	1.6800e+001	6.2160e+011	7.8065e-004	2.8884e+001
Te-131m	3.5700e+001	1.3209e+012	1.6589e-003	6.1379e+001
Te-132	4.3700e+002	1.6169e+013	2.0306e-002	7.5133e+002
Xe-133	1.3100e+006	4.8470e+016	6.0872e+001	2.2523e+006
Xe-135	2.0800e+005	7.6960e+015	9.6652e+000	3.5761e+005
Y-90	3.0300e+000	1.1211e+011	1.4080e-004	5.2094e+000
Y-91	2.1000e+000	7.7700e+010	9.7581e-005	3.6105e+000
Y-92	1.4900e+001	5.5130e+011	6.9236e-004	2.5617e+001
Y-93	7.2900e-001	2.6973e+010	3.3875e-005	1.2534e+000
Zr-95	2.4000e+000	8.8800e+010	1.1152e-004	4.1263e+000
Zr-97	1.2400e+000	4.5880e+010	5.7619e-005	2.1319e+000

<b>Buildup: The material reference is Shield 2.</b>	
<b>Integration Parameters</b>	
X Direction	20
Y Direction	20
Z Direction	20

<b>Results</b>									
Energy (MeV)	Activity (Photons/sec)	Fluence Rate MeV/cm <sup>2</sup> /sec No Buildup	Fluence Rate MeV/cm <sup>2</sup> /sec With Buildup	Exposure Rate mR/hr No Buildup	Exposure Rate mR/hr With Buildup	Absorbed Dose Rate mrad/hr No Buildup	Absorbed Dose Rate mrad/hr With Buildup	Absorbed Dose Rate mGy/hr No Buildup	Absorbed Dose Rate mGy/hr With Buildup
0.015	3.105e+15	0.000e+00	8.262e-22	0.000e+00	7.087e-23	0.000e+00	6.187e-23	0.000e+00	6.187e-25
0.02	1.186e+11	1.231e-270	4.968e-26	4.263e-272	1.721e-27	3.722e-272	1.502e-27	3.722e-274	1.502e-29
0.03	2.367e+16	2.909e-83	2.192e-20	2.883e-85	2.172e-22	2.517e-85	1.897e-22	2.517e-87	1.897e-24

Case Summary of Case 5

0.04	3.703e+11	9.329e-44	9.092e-25	4.126e-46	4.021e-27	3.602e-46	3.510e-27	3.602e-48	3.510e-29
0.05	2.126e+12	3.420e-27	1.707e-23	9.111e-30	4.547e-26	7.954e-30	3.969e-26	7.954e-32	3.969e-28
0.06	5.721e+11	1.083e-20	4.268e-19	2.152e-23	8.477e-22	1.879e-23	7.401e-22	1.879e-25	7.401e-24
0.08	1.779e+16	2.753e-10	1.943e-08	4.357e-13	3.075e-11	3.804e-13	2.685e-11	3.804e-15	2.685e-13
0.1	3.105e+12	1.303e-11	1.835e-09	1.993e-14	2.807e-12	1.740e-14	2.450e-12	1.740e-16	2.450e-14
0.15	5.069e+14	8.107e-07	2.079e-04	1.335e-09	3.424e-07	1.165e-09	2.989e-07	1.165e-11	2.989e-09
0.2	7.076e+15	2.279e-04	6.312e-02	4.023e-07	1.114e-04	3.512e-07	9.726e-05	3.512e-09	9.726e-07
0.3	1.079e+14	1.366e-04	2.661e-02	2.591e-07	5.048e-05	2.262e-07	4.407e-05	2.262e-09	4.407e-07
0.4	2.046e+14	2.888e-03	3.660e-01	5.628e-06	7.132e-04	4.913e-06	6.226e-04	4.913e-08	6.226e-06
0.5	2.166e+14	1.825e-02	1.590e+00	3.582e-05	3.121e-03	3.127e-05	2.725e-03	3.127e-07	2.725e-05
0.6	3.055e+14	1.046e-01	6.619e+00	2.041e-04	1.292e-02	1.782e-04	1.128e-02	1.782e-06	1.128e-04
0.8	1.279e+14	3.622e-01	1.388e+01	6.890e-04	2.639e-02	6.015e-04	2.304e-02	6.015e-06	2.304e-04
1.0	7.684e+13	1.029e+00	2.700e+01	1.896e-03	4.978e-02	1.655e-03	4.346e-02	1.655e-05	4.346e-04
1.5	1.177e+14	2.114e+01	2.948e+02	3.557e-02	4.960e-01	3.105e-02	4.330e-01	3.105e-04	4.330e-03
2.0	2.533e+14	2.289e+02	2.185e+03	3.539e-01	3.379e+00	3.090e-01	2.950e+00	3.090e-03	2.950e-02
3.0	3.512e+12	2.213e+01	1.329e+02	3.002e-02	1.804e-01	2.621e-02	1.575e-01	2.621e-04	1.575e-03
4.0	1.671e+06	3.331e-05	1.511e-04	4.120e-08	1.870e-07	3.597e-08	1.632e-07	3.597e-10	1.632e-09
<b>Total</b>	<b>5.357e+16</b>	<b>2.736e+02</b>	<b>2.662e+03</b>	<b>4.223e-01</b>	<b>4.148e+00</b>	<b>3.687e-01</b>	<b>3.621e+00</b>	<b>3.687e-03</b>	<b>3.621e-02</b>

Case Summary of Case 6

MicroShield 10.04				
Date	By		Checked	
File Name	Run Date	Run Time	Duration	
QA24.msdl	February 2, 2020	6:40:26 PM	00:00:03	
Project Info				
Case Title	Case 6			
Description	CR Dose Rate From Containment Shine T= 24 hrs			
Geometry	13 - Rectangular Volume			
Source Dimensions				
Length	4.5e+3 cm (147 ft .0 in)			
Width	3.6e+3 cm (117 ft 6.0 in)			
Height	1.3e+3 cm (44 ft)			
Dose Points				
A	X	Y	Z	
#1	9.1e+3 cm (299 ft .0 in)	670.56 cm (22 ft)	1.8e+3 cm (58 ft 9.0 in)	
Shield				
Shield N	Dimension	Material	Density (g/cm <sup>3</sup> )	
Source	2.15e+10 cm <sup>3</sup>	Air	0.00122	
Shield 1	4526.28 cm	Air	0.00122	
Shield 2	76.2 cm	Concrete	2.3	
Air Gap		Air	0.00122	

Source Input: Grouping Method - Standard Indices				
Number of Groups: 25				
Lower Energy Cutoff: 0.015				
Photons < 0.015: Included				
Library: Grove				
Nuclide	Ci	Bq	µCi/cm <sup>3</sup>	Bq/cm <sup>3</sup>
Am-241	6.4100e-004	2.3717e+007	2.9786e-008	1.1021e-003
Ba-139	1.3700e-003	5.0690e+007	6.3660e-008	2.3554e-003
Ba-140	2.1900e+002	8.1030e+012	1.0176e-002	3.7652e+002
Ce-141	5.3600e+000	1.9832e+011	2.4906e-004	9.2154e+000
Ce-143	3.0800e+000	1.1396e+011	1.4312e-004	5.2954e+000
Ce-144	4.5300e+000	1.6761e+011	2.1050e-004	7.7884e+000
Cm-242	1.2500e-001	4.6250e+009	5.8084e-006	2.1491e-001
Cm-244	1.6100e-002	5.9570e+008	7.4812e-007	2.7681e-002
Co-58	9.1000e-002	3.3670e+009	4.2285e-006	1.5646e-001
Co-60	1.1000e-001	4.0700e+009	5.1114e-006	1.8912e-001
Cs-134	4.1400e+002	1.5318e+013	1.9237e-002	7.1179e+002
Cs-136	9.6000e+001	3.5520e+012	4.4609e-003	1.6505e+002
Cs-137	2.6300e+002	9.7310e+012	1.2221e-002	4.5217e+002
I-131	4.7400e+003	1.7538e+014	2.2025e-001	8.1494e+003
I-132	4.5100e+002	1.6687e+013	2.0957e-002	7.7540e+002
I-133	4.7500e+003	1.7575e+014	2.2072e-001	8.1666e+003
I-134	6.6900e-005	2.4753e+006	3.1087e-009	1.1502e-004
I-135	7.9700e+002	2.9489e+013	3.7034e-002	1.3703e+003
Kr-85	1.4000e+004	5.1800e+014	6.5054e-001	2.4070e+004
Kr-85m	5.5000e+003	2.0350e+014	2.5557e-001	9.4561e+003
Kr-87	9.0800e-001	3.3596e+010	4.2192e-005	1.5611e+000

Case Summary of Case 6

Kr-88	1.7500e+003	6.4750e+013	8.1318e-002	3.0088e+003					
La-140	7.4000e+001	2.7380e+012	3.4386e-003	1.2723e+002					
La-141	3.1700e-002	1.1729e+009	1.4730e-006	5.4501e-002					
La-142	4.3300e-005	1.6021e+006	2.0120e-009	7.4445e-005					
Mo-99	2.3800e+001	8.8060e+011	1.1059e-003	4.0919e+001					
Nb-95	2.2300e+000	8.2510e+010	1.0362e-004	3.8340e+000					
Nd-147	8.1900e-001	3.0303e+010	3.8057e-005	1.4081e+000					
Np-239	4.8400e+001	1.7908e+012	2.2490e-003	8.3214e+001					
Pr-143	2.0700e+000	7.6590e+010	9.6187e-005	3.5589e+000					
Pu-238	2.5300e-002	9.3610e+008	1.1756e-006	4.3498e-002					
Pu-239	1.5000e-003	5.5500e+007	6.9701e-008	2.5789e-003					
Pu-240	1.5100e-003	5.5870e+007	7.0166e-008	2.5961e-003					
Pu-241	9.0000e-001	3.3300e+010	4.1821e-005	1.5474e+000					
Rb-86	3.2300e+000	1.1951e+011	1.5009e-004	5.5533e+000					
Rh-105	1.2500e+001	4.6250e+011	5.8084e-004	2.1491e+001					
Ru-103	2.5400e+001	9.3980e+011	1.1803e-003	4.3670e+001					
Ru-105	4.3600e-001	1.6132e+010	2.0260e-005	7.4961e-001					
Ru-106	1.1300e+001	4.1810e+011	5.2508e-004	1.9428e+001					
Sb-127	2.9900e+001	1.1063e+012	1.3894e-003	5.1407e+001					
Sb-129	2.2500e+000	8.3250e+010	1.0455e-004	3.8684e+000					
Sr-89	1.2900e+002	4.7730e+012	5.9943e-003	2.2179e+002					
Sr-90	1.8000e+001	6.6600e+011	8.3641e-004	3.0947e+001					
Sr-91	2.8200e+001	1.0434e+012	1.3104e-003	4.8484e+001					
Sr-92	3.7800e-001	1.3986e+010	1.7565e-005	6.4989e-001					
Tc-99m	2.3900e+001	8.8430e+011	1.1106e-003	4.1091e+001					
Te-127	3.2300e+001	1.1951e+012	1.5009e-003	5.5533e+001					
Te-127m	4.7900e+000	1.7723e+011	2.2258e-004	8.2354e+000					
Te-129	1.6400e+001	6.0680e+011	7.6206e-004	2.8196e+001					
Te-129m	1.5300e+001	5.6610e+011	7.1095e-004	2.6305e+001					
Te-131m	2.7200e+001	1.0064e+012	1.2639e-003	4.6765e+001					
Te-132	3.7400e+002	1.3838e+013	1.7379e-002	6.4301e+002					
Xe-133	1.4200e+006	5.2540e+016	6.5984e+001	2.4414e+006					
Xe-135	1.2800e+005	4.7360e+015	5.9478e+000	2.2007e+005					
Y-90	4.0500e+000	1.4985e+011	1.8819e-004	6.9631e+000					
Y-91	1.9900e+000	7.3630e+010	9.2470e-005	3.4214e+000					
Y-92	3.6900e+000	1.3653e+011	1.7146e-004	6.3442e+000					
Y-93	3.8700e-001	1.4319e+010	1.7983e-005	6.6536e-001					
Zr-95	2.1900e+000	8.1030e+010	1.0176e-004	3.7652e+000					
Zr-97	8.2200e-001	3.0414e+010	3.8196e-005	1.4133e+000					
<b>Buildup: The material reference is Shield 2.</b>									
<b>Integration Parameters</b>									
X Direction				20					
Y Direction				20					
Z Direction				20					
<b>Results</b>									
Energy (MeV)	Activity (Photons/sec)	Fluence Rate MeV/cm <sup>2</sup> /sec No Buildup	Fluence Rate MeV/cm <sup>2</sup> /sec With Buildup	Exposure Rate mR/hr No Buildup	Exposure Rate mR/hr With Buildup	Absorbed Dose Rate mrad/hr No Buildup	Absorbed Dose Rate mrad/hr With Buildup	Absorbed Dose Rate mGy/hr No Buildup	Absorbed Dose Rate mGy/hr With Buildup

Case Summary of Case 6

0.015	3.281e+15	0.000e+00	8.730e-22	0.000e+00	7.488e-23	0.000e+00	6.537e-23	0.000e+00	6.537e-25
0.02	1.025e+11	1.064e-270	4.293e-26	3.684e-272	1.487e-27	3.216e-272	1.298e-27	3.216e-274	1.298e-29
0.03	2.547e+16	3.129e-83	2.358e-20	3.101e-85	2.337e-22	2.707e-85	2.040e-22	2.707e-87	2.040e-24
0.04	3.196e+11	8.051e-44	7.847e-25	3.561e-46	3.470e-27	3.109e-46	3.030e-27	3.109e-48	3.030e-29
0.05	1.820e+12	2.927e-27	1.461e-23	7.798e-30	3.891e-26	6.808e-30	3.397e-26	6.808e-32	3.397e-28
0.06	4.926e+11	9.329e-21	3.675e-19	1.853e-23	7.299e-22	1.618e-23	6.372e-22	1.618e-25	6.372e-24
0.08	1.929e+16	2.985e-10	2.106e-08	4.723e-13	3.333e-11	4.123e-13	2.910e-11	4.123e-15	2.910e-13
0.1	2.061e+12	8.649e-12	1.218e-09	1.323e-14	1.863e-12	1.155e-14	1.626e-12	1.155e-16	1.626e-14
0.15	1.716e+14	2.744e-07	7.037e-05	4.518e-10	1.159e-07	3.944e-10	1.012e-07	3.944e-12	1.012e-09
0.2	4.326e+15	1.394e-04	3.859e-02	2.459e-07	6.811e-05	2.147e-07	5.946e-05	2.147e-09	5.946e-07
0.3	4.650e+13	5.890e-05	1.147e-02	1.117e-07	2.177e-05	9.754e-08	1.900e-05	9.754e-10	1.900e-07
0.4	1.753e+14	2.475e-03	3.137e-01	4.822e-06	6.111e-04	4.210e-06	5.335e-04	4.210e-08	5.335e-06
0.5	1.703e+14	1.435e-02	1.250e+00	2.817e-05	2.455e-03	2.459e-05	2.143e-03	2.459e-07	2.143e-05
0.6	2.034e+14	6.962e-02	4.407e+00	1.359e-04	8.601e-03	1.186e-04	7.509e-03	1.186e-06	7.509e-05
0.8	6.500e+13	1.841e-01	7.054e+00	3.502e-04	1.342e-02	3.058e-04	1.171e-02	3.058e-06	1.171e-04
1.0	3.147e+13	4.212e-01	1.106e+01	7.764e-04	2.039e-02	6.778e-04	1.780e-02	6.778e-06	1.780e-04
1.5	3.737e+13	6.712e+00	9.358e+01	1.129e-02	1.575e-01	9.858e-03	1.375e-01	9.858e-05	1.375e-03
2.0	4.323e+13	3.906e+01	3.729e+02	6.040e-02	5.766e-01	5.273e-02	5.034e-01	5.273e-04	5.034e-03
3.0	6.018e+11	3.791e+00	2.278e+01	5.143e-03	3.091e-02	4.490e-03	2.698e-02	4.490e-05	2.698e-04
4.0	4.206e+04	8.385e-07	3.805e-06	1.037e-09	4.707e-09	9.056e-10	4.109e-09	9.056e-12	4.109e-11
<b>Total</b>	<b>5.331e+16</b>	<b>5.025e+01</b>	<b>5.134e+02</b>	<b>7.813e-02</b>	<b>8.106e-01</b>	<b>6.821e-02</b>	<b>7.076e-01</b>	<b>6.821e-04</b>	<b>7.076e-03</b>

## Appendix B – Evaluation of 350 scfh MSIV leakage for Unit 2

### B1.0 PURPOSE

The purpose of this appendix is to evaluate increased MSIV leakage for Unit 2 by utilizing the lower atmospheric dispersion factors from the Unit 2 ground level release to the control room. The methodology, inputs, and assumptions used to calculate the doses in this appendix are equivalent to the main body of this calculation with the exception of increasing the MSIV leakage from 250 scfh (100, 100, 50, and 0 in each steam line) to 350 scfh (125, 125, 100, and 0 in each steam line) and decreasing the control room  $\chi/Q_s$ . Both the Westinghouse SVEA-96 Optima 2 fuel and the Framatome ATRIUM 10XM fuel are evaluated.

### B2.0 CALCULATIONS

The revised  $\chi/Q_s$  for the Unit 2 MSIVs are provided in Table B2-1. The revised MSIV pathway flow rates calculated using the same process as Section 7.2 of the main body of this calculation are provided in Table B2-2. The revised aerosol removal efficiencies calculated using the same process as Section 7.4 of the main body of this calculation are provided in Table B2-3.

**Table B2-1**  
**CR  $\chi/Q_s$  For MSIV Leakage Release Via Unit 2 MSIV**

Time	X/Q (sec/m <sup>3</sup> )	REFERENCE
0 - 2 hr	3.88E-04	9.14, Table 4-1
2 - 8 hr	3.00E-04	
8 - 24 hr	1.24E-04	
24 - 96 hr	7.99E-05	
96 - 720 hr	4.87E-05	

**Table B2-2**  
**MSIV Leak Rate In Different Control Volumes (350 scfh)**

Post-LOCA Time Interval (hr)	MSIV Leak Rate From Drywell To Main Steam Various Control Volumes (cfh)/(cfm)							
	Drywell To MSIV Failed Volume V <sub>1</sub>	Volume V <sub>1</sub> To Atmosphere	Drywell To Intact Line 1 Volume V <sub>2</sub>	Intact Line 1 Volume V <sub>2</sub> To Volume V <sub>3</sub>	Volume V <sub>3</sub> To Atmosphere	Drywell To Intact Line 2 Volume V <sub>4</sub>	Intact Line 2 Volume V <sub>4</sub> To Volume V <sub>5</sub>	Volume V <sub>5</sub> To Atmosphere
0-2	44.6	125	44.6	125	125	35.68	100	100
	0.743	2.083	0.743	2.083	2.083	0.595	1.667	1.667
2-24	26.20	73.42	26.20	73.42	73.42	20.96	58.74	58.74
	0.437	1.224	0.437	1.224	1.224	0.349	0.979	0.979
24-720	13.1	36.71	13.1	36.71	36.71	10.48	29.37	29.37
	0.218	0.612	0.218	0.612	0.612	0.175	0.489	0.489

**Table B2-3**  
**Aerosol Removal Efficiency Due To Gravitational Deposition On Horizontal Pipe Surface**

Post-LOCA Time Interval (hr)	Volume V <sub>1</sub> = 200.24 ft <sup>3</sup>			Aerosol Removal Efficiency (%)	Post-LOCA Time Interval (hr)	Volume V <sub>4</sub> = 163.75 ft <sup>3</sup>			Aerosol Removal Efficiency (%)
	Settling Rate Constant $\lambda_s$ (hr <sup>-1</sup> )	Horizontal Pipe Volume (ft <sup>3</sup> )	Volumetric Flow Rate (ft <sup>3</sup> /hr)			Settling Rate Constant $\lambda_s$ (hr <sup>-1</sup> )	Horizontal Pipe Volume (ft <sup>3</sup> )	Volumetric Flow Rate (ft <sup>3</sup> /hr)	
	0-720	8.259	87.28			125	85.22	0-720	
Post-LOCA Time Interval (hr)	Volume V <sub>2</sub> = 152.93 ft <sup>3</sup>			Aerosol Removal Efficiency (%)	Post-LOCA Time Interval (hr)	Volume V <sub>5</sub> = 49.11 ft <sup>3</sup>			Aerosol Removal Efficiency (%)
	Settling Rate Constant $\lambda_s$ (hr <sup>-1</sup> )	Horizontal Pipe Volume (ft <sup>3</sup> )	Volumetric Flow Rate (ft <sup>3</sup> /hr)			Settling Rate Constant $\lambda_s$ (hr <sup>-1</sup> )	Horizontal Pipe Volume (ft <sup>3</sup> )	Volumetric Flow Rate (ft <sup>3</sup> /hr)	
	0-720	8.260	39.97			125	72.54	0-720	
Post-LOCA Time Interval (hr)	Volume V <sub>3</sub> = 49.11 ft <sup>3</sup>			Aerosol Removal Efficiency (%)					
	Settling Rate Constant $\lambda_s$ (hr <sup>-1</sup> )	Horizontal Pipe Volume (ft <sup>3</sup> )	Volumetric Flow Rate (ft <sup>3</sup> /hr)						
	0-720	8.260	49.11						



**B3.0 RESULTS SUMMARY & CONCLUSIONS****B3.1 Results Summary**

The results of Unit 2 LOCA analysis with total MSIV leakage increased to 350 scfh are summarized in Table B3-1 for the Framatome ATRIUM 10XM fuel and in Table B3-2 for the Westinghouse SVEA-96 Optima 2 fuel:

**Table B3-1 LOCA doses using Framatome ATRIUM 10XM fuel and 350 scfh leakage for Unit 2**

Post-LOCA Activity Release Path	Post-LOCA TEDE Dose (Rem) Receptor Location		
	Control Room	EAB	LPZ
Containment Leakage	2.27E-01	3.20E-01	6.40E-01
ESF Leakage	8.84E-03	5.31E-03	9.78E-02
MSIV Leakage	1.67E+00	1.55E+01	2.75E+00
Reactor Building Shine	1.35E-01	0.00E+00	0.00E+00
External Cloud Shine	2.10E-01	0.00E+00	0.00E+00
CR Filter Shine	negligible	0.00E+00	0.00E+00
<b>Total</b>	<b>2.25E+00</b>	<b>1.58E+01</b>	<b>3.49E+00</b>
<b>Allowable TEDE Limit</b>	<b>5.00E+00</b>	<b>2.50E+01</b>	<b>2.50E+01</b>
	<b>RADTRAD Computer Run No.</b>		
Containment Leakage	QDC39CL02		
ESF Leakage	QDC39ESF02		
MSIV Leakage	QDC39MS03_350 and QDC39MS33_350		

**Table B3-2 LOCA doses using Westinghouse SVEA-96 Optima 2 fuel and 350 scfh leakage for Unit 2**

Post-LOCA Activity Release Path	Post-LOCA TEDE Dose (Rem)		
	Receptor Location		
	Control Room	EAB	LPZ
Containment Leakage	2.36E-01	3.31E-01	6.86E-01
ESF Leakage	8.95E-03	5.37E-03	9.90E-02
MSIV Leakage	1.75E+00	1.66E+01	2.94E+00
Reactor Building Shine	1.43E-01	0.00E+00	0.00E+00
External Cloud Shine	2.26E-01	0.00E+00	0.00E+00
CR Filter Shine	negligible	0.00E+00	0.00E+00
<b>Total</b>	<b>2.36E+00</b>	<b>1.69E+01</b>	<b>3.72E+00</b>
<b>Allowable TEDE Limit</b>	<b>5.00E+00</b>	<b>2.50E+01</b>	<b>2.50E+01</b>
	<b>RADTRAD Computer Run No.</b>		
Containment Leakage	QDC39CL01		
ESF Leakage	QDC39ESF01		
MSIV Leakage	QDC39MS00_350 and QDC39MS02_350		

### B3.2 Conclusions

The Section B3.1 results of this analysis, using a value of 350 scfh for MSIV leakage, indicate that the total post-LOCA EAB, LPZ, and CR doses are within their allowable TEDE limits for both fuel types.

### B3.3 RADTRAD Outputs

The following RADTRAD outputs are contained in the following pages:

- QDC39MS03\_350
- QDC39MS33\_350
- QDC39MS00\_350
- QDC39MS02\_350

#####  
 RADTRAD Version 3.03 (Spring 2001) run on 1/28/2020 at 9:24:53  
 #####

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

Plant file = D:\Projects\RabaioliBrosius\Exelon\_RAIs\QDC-0000-N-1481\Framatome\QDC39MS03\_350.psf  
 Inventory file = D:\Projects\RabaioliBrosius\Exelon\_RAIs\QDC-0000-N-1481\Framatome\DQLOCA\_ATRIUM\_DEF.nif  
 Release file = c:\program files (x86)\radtrad3.03\defaults\bwr\_dba.rft  
 Dose Conversion file = c:\program files (x86)\radtrad3.03\defaults\fgr11&12.inp

```

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

Radtrad 3.03 4/15/2001  
 Quad Cities MSIV Leakeg - Optima Fuel With 39 GWD/MTU, MSIV Leakage = 125/125/100/0 scfh, 40% Aerosol Settling Velocity, CREV Initiated @ 40 Minutes, CR Unfiltered Inleakage = 4,000 cfm for <0.6667 hrs and 400 cfm >0.6667 hrs

Nuclide Inventory File:  
 D:\Projects\RabaioliBrosius\Exelon\_RAIs\QDC-0000-N-1481\Framatome\DQLOCA\_ATRIUM\_DEF.nif

Plant Power Level:  
 3.0161E+03  
 Compartments:  
 9  
 Compartment 1:  
 Sprayed Drywell  
 3  
 9.5000E+04  
 1  
 0  
 0  
 0  
 0  
 Compartment 2:  
 MSIV Failed Control Vol 1  
 3  
 2.0024E+02  
 0  
 0  
 0  
 0  
 0  
 Compartment 3:  
 Intact Control Volume 2  
 3

1.5293E+02

0

0

0

0

0

Compartment 4:

Intact Control Volume 3

3

4.9110E+01

0

0

0

0

0

Compartment 5:

Intact Control Volume 4

3

1.6375E+02

0

0

0

0

0

Compartment 6:

Intact Control Volume 5

3

4.9110E+01

0

0

0

0

0

Compartment 7:

Environment

2

0.0000E+00

0

0

0

0

0

Compartment 8:

Control Room

1

1.8400E+05

0

0

0

0

0

Compartment 9:

Unsprayed Drywell

3

6.3000E+04

0

0

0

0

0

Pathways:

13

Pathway 1:

Drywell to MSIV Failed Control Vol 1

1  
2  
2

Pathway 2:

MSIV Failed Control Vol 1 to Environment

2  
7  
2

Pathway 3:

Drywell to Intact Control Volume 2

1  
3  
2

Pathway 4:

Intact Control Volume 2 to Intact Control Volume 3

3  
4  
2

Pathway 5:

Intact Control Volume 3 to Environment

4  
7  
2

Pathway 6:

Drywell to Intact Control Volume 4

1  
5  
2

Pathway 7:

Intact Control Volume 4 to Intact Control Volume 5

5  
6  
2

Pathway 8:

Intact Control Volume 5 to Environment

6  
7  
2

Pathway 9:

Filtered Intake to Control Room

7  
8  
2

Pathway 10:

Unfiltered Inleakage to Control Room

7  
8  
2

Pathway 11:

Control Room Exhaust to Environment

8  
7  
2

Pathway 12:

Sprayed Drywell to Unsprayed Drywell

1  
9  
2

Pathway 13:

Unsprayed Drywell to Sprayed Drywell

9  
1

```
2
End of Plant Model File
Scenario Description Name:

Plant Model Filename:

Source Term:
1
1 1.0000E+00
c:\program files (x86)\radtrad3.03\defaults\fgr11&12.inp
c:\program files (x86)\radtrad3.03\defaults\bwr_dba.rft
0.0000E+00
1
9.5000E-01 4.8500E-02 1.5000E-03 1.0000E+00
Overlying Pool:
0
0.0000E+00
0
0
0
0
Compartments:
9
Compartment 1:
1
1
1
0.0000E+00
6
0.0000E+00 0.0000E+00
1.6670E-01 1.5000E+01
2.2000E+00 1.5000E+00
2.3000E+00 1.5000E+00
4.0000E+00 0.0000E+00
7.2000E+02 0.0000E+00
1
0.0000E+00
6
0.0000E+00 0.0000E+00
1.6670E-01 1.5000E+01
2.2000E+00 1.5000E+01
2.3000E+00 0.0000E+00
4.0000E+00 0.0000E+00
7.2000E+02 0.0000E+00
1
0.0000E+00
0
0
0
0
0
0
0
0
Compartment 2:
0
1
0
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

Compartment 5:

0  
1  
0  
0  
0  
0  
0  
0  
0

Compartment 6:

0  
1  
0  
0  
0  
0  
0  
0  
0

Compartment 7:

0  
1  
0  
0  
0  
0  
0  
0  
0

Compartment 8:

0  
1  
0  
0  
0  
0  
0  
0  
0

Compartment 9:

0  
1  
0  
0

```

0
0
0
0
0
Pathways:
13
Pathway 1:
0
0
0
0
0
1
5
0.0000E+00  0.0000E+00  0.0000E+00  0.0000E+00  0.0000E+00
3.3300E-02  7.4300E-01  0.0000E+00  0.0000E+00  0.0000E+00
2.0000E+00  4.3700E-01  0.0000E+00  0.0000E+00  0.0000E+00
2.4000E+01  2.1800E-01  0.0000E+00  0.0000E+00  0.0000E+00
7.2000E+02  0.0000E+00  0.0000E+00  0.0000E+00  0.0000E+00
0
0
0
0
0
Pathway 2:
0
0
0
0
0
1
10
0.0000E+00  0.0000E+00  0.0000E+00  0.0000E+00  0.0000E+00
3.3300E-02  2.0830E+00  8.5220E+01  6.8400E+00  0.0000E+00
2.0000E+00  1.2240E+00  8.5220E+01  6.8400E+00  0.0000E+00
8.0000E+00  1.2240E+00  8.5220E+01  9.1100E+00  0.0000E+00
2.4000E+01  6.1200E-01  8.5220E+01  1.5690E+01  0.0000E+00
4.8000E+01  6.1200E-01  8.5220E+01  3.1540E+01  0.0000E+00
7.2000E+01  6.1200E-01  8.5220E+01  5.2530E+01  0.0000E+00
9.6000E+01  6.1200E-01  8.5220E+01  7.2070E+01  0.0000E+00
2.4000E+02  6.1200E-01  8.5220E+01  9.7260E+01  0.0000E+00
7.2000E+02  0.0000E+00  0.0000E+00  0.0000E+00  0.0000E+00
0
0
0
0
0
0
Pathway 3:
0
0
0
0
0
1
5
0.0000E+00  0.0000E+00  0.0000E+00  0.0000E+00  0.0000E+00
3.3300E-02  7.4300E-01  0.0000E+00  0.0000E+00  0.0000E+00
2.0000E+00  4.3700E-01  0.0000E+00  0.0000E+00  0.0000E+00
2.4000E+01  2.1800E-01  0.0000E+00  0.0000E+00  0.0000E+00
7.2000E+02  0.0000E+00  0.0000E+00  0.0000E+00  0.0000E+00

```



0				
0				
0				
0				
0				
0				
Pathway 4:				
0				
0				
0				
0				
0				
1				
10				
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	2.0830E+00	7.2540E+01	4.1600E+00	0.0000E+00
2.0000E+00	1.2240E+00	7.2540E+01	4.1600E+00	0.0000E+00
8.0000E+00	1.2240E+00	7.2540E+01	5.5700E+00	0.0000E+00
2.4000E+01	6.1200E-01	7.2540E+01	9.7400E+00	0.0000E+00
4.8000E+01	6.1200E-01	7.2540E+01	2.0390E+01	0.0000E+00
7.2000E+01	6.1200E-01	7.2540E+01	3.6240E+01	0.0000E+00
9.6000E+01	6.1200E-01	7.2540E+01	5.4010E+01	0.0000E+00
2.4000E+02	6.1200E-01	7.2540E+01	9.3310E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0				
0				
0				
0				
0				
Pathway 5:				
0				
0				
0				
0				
0				
1				
10				
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	2.0830E+00	7.6440E+01	1.4970E+01	0.0000E+00
2.0000E+00	1.2240E+00	7.6440E+01	1.4970E+01	0.0000E+00
8.0000E+00	1.2240E+00	7.6440E+01	1.9630E+01	0.0000E+00
2.4000E+01	6.1200E-01	7.6440E+01	3.2260E+01	0.0000E+00
4.8000E+01	6.1200E-01	7.6440E+01	5.7570E+01	0.0000E+00
7.2000E+01	6.1200E-01	7.6440E+01	8.0730E+01	0.0000E+00
9.6000E+01	6.1200E-01	7.6440E+01	9.2810E+01	0.0000E+00
2.4000E+02	6.1200E-01	7.6440E+01	9.7840E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0				
0				
0				
0				
0				
0				
Pathway 6:				
0				
0				
0				
0				
0				
1				
5				
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

3.3300E-02	5.9500E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	3.4900E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	1.7500E-01	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

0  
0  
0  
0  
0  
0

Pathway 7:

0  
0  
0  
0  
0  
1  
10

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	1.6670E+00	8.0190E+01	4.7500E+00	0.0000E+00
2.0000E+00	9.7900E-01	8.0190E+01	4.7500E+00	0.0000E+00
8.0000E+00	9.7900E-01	8.0190E+01	6.3500E+00	0.0000E+00
2.4000E+01	4.8900E-01	8.0190E+01	1.1060E+01	0.0000E+00
4.8000E+01	4.8900E-01	8.0190E+01	2.2950E+01	0.0000E+00
7.2000E+01	4.8900E-01	8.0190E+01	4.0200E+01	0.0000E+00
9.6000E+01	4.8900E-01	8.0190E+01	5.8780E+01	0.0000E+00
2.4000E+02	4.8900E-01	8.0190E+01	9.4930E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

0  
0  
0  
0  
0  
0

Pathway 8:

0  
0  
0  
0  
0  
1  
10

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	1.6670E+00	8.0220E+01	1.4970E+01	0.0000E+00
2.0000E+00	9.7900E-01	8.0220E+01	1.4970E+01	0.0000E+00
8.0000E+00	9.7900E-01	8.0220E+01	1.9630E+01	0.0000E+00
2.4000E+01	4.8900E-01	8.0220E+01	3.2260E+01	0.0000E+00
4.8000E+01	4.8900E-01	8.0220E+01	5.7570E+01	0.0000E+00
7.2000E+01	4.8900E-01	8.0220E+01	8.0730E+01	0.0000E+00
9.6000E+01	4.8900E-01	8.0220E+01	9.2810E+01	0.0000E+00
2.4000E+02	4.8900E-01	8.0220E+01	9.7840E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

0  
0  
0  
0  
0  
0

Pathway 9:

0  
0  
0  
0

0  
 1  
 8  
 0.0000E+00 0.0000E+00 0.0000E+00 0.0000E+00 0.0000E+00  
 3.3300E-02 2.2000E+03 0.0000E+00 0.0000E+00 0.0000E+00  
 6.6670E-01 1.8000E+03 9.9000E+01 9.9000E+01 9.9000E+01  
 2.0000E+00 1.8000E+03 9.9000E+01 9.9000E+01 9.9000E+01  
 8.0000E+00 1.8000E+03 9.9000E+01 9.9000E+01 9.9000E+01  
 2.4000E+01 1.8000E+03 9.9000E+01 9.9000E+01 9.9000E+01  
 9.6000E+01 1.8000E+03 9.9000E+01 9.9000E+01 9.9000E+01  
 7.2000E+02 0.0000E+00 0.0000E+00 0.0000E+00 0.0000E+00

0  
 0  
 0  
 0  
 0

Pathway 10:

0  
 0  
 0  
 0  
 0  
 1  
 8  
 0.0000E+00 0.0000E+00 0.0000E+00 0.0000E+00 0.0000E+00  
 3.3300E-02 4.0000E+03 0.0000E+00 0.0000E+00 0.0000E+00  
 6.6670E-01 4.0000E+02 0.0000E+00 0.0000E+00 0.0000E+00  
 2.0000E+00 4.0000E+02 0.0000E+00 0.0000E+00 0.0000E+00  
 8.0000E+00 4.0000E+02 0.0000E+00 0.0000E+00 0.0000E+00  
 2.4000E+01 4.0000E+02 0.0000E+00 0.0000E+00 0.0000E+00  
 9.6000E+01 4.0000E+02 0.0000E+00 0.0000E+00 0.0000E+00  
 7.2000E+02 0.0000E+00 0.0000E+00 0.0000E+00 0.0000E+00

0  
 0  
 0  
 0  
 0

Pathway 11:

0  
 0  
 0  
 0  
 0  
 1  
 8  
 0.0000E+00 0.0000E+00 0.0000E+00 0.0000E+00 0.0000E+00  
 3.3300E-02 6.2000E+03 0.0000E+00 0.0000E+00 0.0000E+00  
 6.6670E-01 2.2000E+03 0.0000E+00 0.0000E+00 0.0000E+00  
 2.0000E+00 2.2000E+03 0.0000E+00 0.0000E+00 0.0000E+00  
 8.0000E+00 2.2000E+03 0.0000E+00 0.0000E+00 0.0000E+00  
 2.4000E+01 2.2000E+03 0.0000E+00 0.0000E+00 0.0000E+00  
 9.6000E+01 2.2000E+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

Pathway 12:

0

0  
 0  
 0  
 0  
 1  
 2  
 0.0000E+00 2.1000E+03 0.0000E+00 0.0000E+00 0.0000E+00  
 7.2000E+02 0.0000E+00 0.0000E+00 0.0000E+00 0.0000E+00

Pathway 13:

0  
 0  
 0  
 0  
 0  
 1  
 2  
 0.0000E+00 2.1000E+03 0.0000E+00 0.0000E+00 0.0000E+00  
 7.2000E+02 0.0000E+00 0.0000E+00 0.0000E+00 0.0000E+00

Dose Locations:

3  
 Location 1:  
 Exclusion Area Boundary

7  
 1  
 2  
 0.0000E+00 1.3600E-03  
 7.2000E+02 0.0000E+00  
 1  
 2  
 0.0000E+00 3.5000E-04  
 7.2000E+02 0.0000E+00  
 0

Location 2:  
 Low Population Zone

7  
 1  
 6  
 0.0000E+00 1.0400E-04  
 2.0000E+00 4.1400E-05  
 8.0000E+00 2.6200E-05  
 2.4000E+01 9.9600E-06  
 9.6000E+01 2.5200E-06  
 7.2000E+02 0.0000E+00  
 1  
 4  
 0.0000E+00 3.5000E-04  
 8.0000E+00 1.8000E-04  
 2.4000E+01 2.3000E-04  
 7.2000E+02 0.0000E+00  
 0

Location 3:

```

Control Room
  8
  0
  1
  2
  0.0000E+00   3.5000E-04
  7.2000E+02   0.0000E+00
  1
  4
  0.0000E+00   1.0000E+00
  2.4000E+01   6.0000E-01
  9.6000E+01   4.0000E-01
  7.2000E+02   0.0000E+00
Effective Volume Location:
  1
  6
  0.0000E+00   3.8800E-04
  2.0000E+00   3.0000E-04
  8.0000E+00   1.2400E-04
  2.4000E+01   7.9900E-05
  9.6000E+01   4.8700E-05
  7.2000E+02   0.0000E+00
Simulation Parameters:
  7
  0.0000E+00   1.0000E-01
  1.0000E+00   1.0000E-02
  2.0000E+00   5.0000E-01
  8.0000E+00   1.0000E+00
  2.4000E+01   2.0000E+00
  9.6000E+01   5.0000E+00
  7.2000E+02   0.0000E+00
Output Filename:
D:\Projects\RabaioliBrosius\Exelon_RAIs\QDC-0000-N-
1481\Framatome\QDC39MS03_350.o0
  1
  1
  1
  0
  0
End of Scenario File

#####
RADTRAD Version 3.03 (Spring 2001) run on 1/28/2020 at 9:24:53
#####

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

Number of Nuclides = 60

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

Number of compartments = 9

Compartment information

Compartment number 1 (Source term fraction = 1.0000E+00
)
Name: Sprayed Drywell
Compartment volume = 9.5000E+04 (Cubic feet)
Compartment type is Normal

```

Removal devices within compartment:

Spray(s)

Pathways into and out of compartment 1

Inlet Pathway Number 13: Unsprayed Drywell to Sprayed Drywell  
Exit Pathway Number 1: Drywell to MSIV Failed Control Vol 1  
Exit Pathway Number 3: Drywell to Intact Control Volume 2  
Exit Pathway Number 6: Drywell to Intact Control Volume 4  
Exit Pathway Number 12: Sprayed Drywell to Unsprayed Drywell

Compartment number 2

Name: MSIV Failed Control Vol 1

Compartment volume = 2.0024E+02 (Cubic feet)

Compartment type is Normal

Pathways into and out of compartment 2

Inlet Pathway Number 1: Drywell to MSIV Failed Control Vol 1  
Exit Pathway Number 2: MSIV Failed Control Vol 1 to Environment

Compartment number 3

Name: Intact Control Volume 2

Compartment volume = 1.5293E+02 (Cubic feet)

Compartment type is Normal

Pathways into and out of compartment 3

Inlet Pathway Number 3: Drywell to Intact Control Volume 2  
Exit Pathway Number 4: Intact Control Volume 2 to Intact Control Volume

3

Compartment number 4

Name: Intact Control Volume 3

Compartment volume = 4.9110E+01 (Cubic feet)

Compartment type is Normal

Pathways into and out of compartment 4

Inlet Pathway Number 4: Intact Control Volume 2 to Intact Control Volume  
Exit Pathway Number 5: Intact Control Volume 3 to Environment

3

Compartment number 5

Name: Intact Control Volume 4

Compartment volume = 1.6375E+02 (Cubic feet)

Compartment type is Normal

Pathways into and out of compartment 5

Inlet Pathway Number 6: Drywell to Intact Control Volume 4  
Exit Pathway Number 7: Intact Control Volume 4 to Intact Control Volume

5

Compartment number 6

Name: Intact Control Volume 5

Compartment volume = 4.9110E+01 (Cubic feet)

Compartment type is Normal

Pathways into and out of compartment 6

Inlet Pathway Number 7: Intact Control Volume 4 to Intact Control Volume  
Exit Pathway Number 8: Intact Control Volume 5 to Environment

5

Compartment number 7

Name: Environment

Compartment type is Environment

Pathways into and out of compartment 7

Inlet Pathway Number 2: MSIV Failed Control Vol 1 to Environment  
Inlet Pathway Number 5: Intact Control Volume 3 to Environment  
Inlet Pathway Number 8: Intact Control Volume 5 to Environment  
Inlet Pathway Number 11: Control Room Exhaust to Environment  
Exit Pathway Number 9: Filtered Intake to Control Room  
Exit Pathway Number 10: Unfiltered Inleakage to Control Room

Compartment number 8  
Name: Control Room  
Compartment volume = 1.8400E+05 (Cubic feet)  
Compartment type is Control Room  
Pathways into and out of compartment 8  
    Inlet Pathway Number 9: Filtered Intake to Control Room  
    Inlet Pathway Number 10: Unfiltered Inleakage to Control Room  
    Exit Pathway Number 11: Control Room Exhaust to Environment

Compartment number 9  
Name: Unsprayed Drywell  
Compartment volume = 6.3000E+04 (Cubic feet)  
Compartment type is Normal  
Pathways into and out of compartment 9  
    Inlet Pathway Number 12: Sprayed Drywell to Unsprayed Drywell  
    Exit Pathway Number 13: Unsprayed Drywell to Sprayed Drywell

Total number of pathways = 13

```
#####
RADTRAD Version 3.03 (Spring 2001) run on 1/28/2020 at 9:24:53
#####

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

Radioactive Decay is enabled  
 Calculation of Daughters is enabled

Release Fractions and Timings

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

Inventory Power = 3016. Mwt

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



I-132	2	3.879E+04	8.280E+03	1.120E-13	1.740E-09	1.030E-10
I-133	2	5.504E+04	7.488E+04	2.940E-14	4.860E-08	1.580E-09
I-134	2	6.100E+04	3.156E+03	1.300E-13	2.880E-10	3.550E-11
I-135	2	5.238E+04	2.380E+04	8.294E-14	8.460E-09	3.320E-10
Xe-133	1	5.272E+04	4.532E+05	1.560E-15	0.000E+00	0.000E+00
Xe-135	1	1.787E+04	3.272E+04	1.190E-14	0.000E+00	0.000E+00
Cs-134	3	6.730E+03	6.507E+07	7.570E-14	1.110E-08	1.250E-08
Cs-136	3	1.837E+03	1.132E+06	1.060E-13	1.730E-09	1.980E-09
Cs-137	3	5.338E+03	9.467E+08	2.725E-14	7.930E-09	8.630E-09
Ba-139	6	4.841E+04	4.962E+03	2.170E-15	2.400E-12	4.640E-11
Ba-140	6	4.874E+04	1.101E+06	8.580E-15	2.560E-10	1.010E-09
La-140	9	5.205E+04	1.450E+05	1.170E-13	6.870E-11	1.310E-09
La-141	9	4.443E+04	1.415E+04	2.390E-15	9.400E-12	1.570E-10
La-142	9	4.343E+04	5.550E+03	1.440E-13	8.740E-12	6.840E-11
Ce-141	8	4.476E+04	2.808E+06	3.430E-15	2.550E-11	2.420E-09
Ce-143	8	4.178E+04	1.188E+05	1.290E-14	6.230E-12	9.160E-10
Ce-144	8	3.846E+04	2.456E+07	2.773E-15	2.920E-10	1.010E-07
Pr-143	9	4.045E+04	1.172E+06	2.100E-17	1.680E-18	2.190E-09
Nd-147	9	1.800E+04	9.487E+05	6.190E-15	1.820E-11	1.850E-09
Np-239	8	5.272E+05	2.035E+05	7.690E-15	7.620E-12	6.780E-10
Pu-238	8	1.379E+02	2.769E+09	4.880E-18	3.860E-10	7.790E-05
Pu-239	8	1.303E+01	7.594E+11	4.240E-18	3.750E-10	8.330E-05
Pu-240	8	2.387E+01	2.063E+11	4.750E-18	3.760E-10	8.330E-05
Pu-241	8	5.272E+03	4.544E+08	7.250E-20	9.150E-12	1.340E-06
Am-241	9	8.653E+00	1.364E+10	8.180E-16	1.600E-09	1.200E-04
Cm-242	9	2.202E+03	1.407E+07	5.690E-18	9.410E-10	4.670E-06
Cm-244	9	1.280E+02	5.715E+08	4.910E-18	1.010E-09	6.700E-05

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

Pu-240	U-236	1.00	none	0.00	none	0.00
Pu-241	U-237	0.00	Am-241	1.00	none	0.00
Am-241	Np-237	1.00	none	0.00	none	0.00
Cm-242	Pu-238	1.00	none	0.00	none	0.00
Cm-244	Pu-240	1.00	none	0.00	none	0.00

Iodine fractions  
 Aerosol = 9.5000E-01  
 Elemental = 4.8500E-02  
 Organic = 1.5000E-03

COMPARTMENT DATA

Compartment number 1: Sprayed Drywell

Sprays: Aerosal Removal Data

Time (hr)	Removal Coef. (hr <sup>-1</sup> )
0.0000E+00	0.0000E+00
1.6670E-01	1.5000E+01
2.2000E+00	1.5000E+00
2.3000E+00	1.5000E+00
4.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00

Sprays: Elemental Removal Data

Time (hr)	Removal Coef. (hr <sup>-1</sup> )
0.0000E+00	0.0000E+00
1.6670E-01	1.5000E+01
2.2000E+00	1.5000E+01
2.3000E+00	0.0000E+00
4.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00

- Compartment number 2: MSIV Failed Control Vol 1
- Compartment number 3: Intact Control Volume 2
- Compartment number 4: Intact Control Volume 3
- Compartment number 5: Intact Control Volume 4
- Compartment number 6: Intact Control Volume 5
- Compartment number 7: Environment
- Compartment number 8: Control Room
- Compartment number 9: Unsprayed Drywell

PATHWAY DATA

Pathway number 1: Drywell to MSIV Failed Control Vol 1

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	7.4300E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	4.3700E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	2.1800E-01	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 2: MSIV Failed Control Vol 1 to Environment

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	2.0830E+00	8.5220E+01	6.8400E+00	0.0000E+00
2.0000E+00	1.2240E+00	8.5220E+01	6.8400E+00	0.0000E+00
8.0000E+00	1.2240E+00	8.5220E+01	9.1100E+00	0.0000E+00
2.4000E+01	6.1200E-01	8.5220E+01	1.5690E+01	0.0000E+00
4.8000E+01	6.1200E-01	8.5220E+01	3.1540E+01	0.0000E+00
7.2000E+01	6.1200E-01	8.5220E+01	5.2530E+01	0.0000E+00
9.6000E+01	6.1200E-01	8.5220E+01	7.2070E+01	0.0000E+00
2.4000E+02	6.1200E-01	8.5220E+01	9.7260E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 3: Drywell to Intact Control Volume 2

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	7.4300E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	4.3700E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	2.1800E-01	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 4: Intact Control Volume 2 to Intact Control Volume 3

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	2.0830E+00	7.2540E+01	4.1600E+00	0.0000E+00
2.0000E+00	1.2240E+00	7.2540E+01	4.1600E+00	0.0000E+00
8.0000E+00	1.2240E+00	7.2540E+01	5.5700E+00	0.0000E+00
2.4000E+01	6.1200E-01	7.2540E+01	9.7400E+00	0.0000E+00
4.8000E+01	6.1200E-01	7.2540E+01	2.0390E+01	0.0000E+00
7.2000E+01	6.1200E-01	7.2540E+01	3.6240E+01	0.0000E+00
9.6000E+01	6.1200E-01	7.2540E+01	5.4010E+01	0.0000E+00
2.4000E+02	6.1200E-01	7.2540E+01	9.3310E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 5: Intact Control Volume 3 to Environment

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	2.0830E+00	7.6440E+01	1.4970E+01	0.0000E+00
2.0000E+00	1.2240E+00	7.6440E+01	1.4970E+01	0.0000E+00
8.0000E+00	1.2240E+00	7.6440E+01	1.9630E+01	0.0000E+00
2.4000E+01	6.1200E-01	7.6440E+01	3.2260E+01	0.0000E+00
4.8000E+01	6.1200E-01	7.6440E+01	5.7570E+01	0.0000E+00
7.2000E+01	6.1200E-01	7.6440E+01	8.0730E+01	0.0000E+00
9.6000E+01	6.1200E-01	7.6440E+01	9.2810E+01	0.0000E+00
2.4000E+02	6.1200E-01	7.6440E+01	9.7840E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 6: Drywell to Intact Control Volume 4

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	5.9500E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	3.4900E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	1.7500E-01	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 7: Intact Control Volume 4 to Intact Control Volume 5

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	1.6670E+00	8.0190E+01	4.7500E+00	0.0000E+00
2.0000E+00	9.7900E-01	8.0190E+01	4.7500E+00	0.0000E+00
8.0000E+00	9.7900E-01	8.0190E+01	6.3500E+00	0.0000E+00
2.4000E+01	4.8900E-01	8.0190E+01	1.1060E+01	0.0000E+00
4.8000E+01	4.8900E-01	8.0190E+01	2.2950E+01	0.0000E+00
7.2000E+01	4.8900E-01	8.0190E+01	4.0200E+01	0.0000E+00
9.6000E+01	4.8900E-01	8.0190E+01	5.8780E+01	0.0000E+00
2.4000E+02	4.8900E-01	8.0190E+01	9.4930E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 8: Intact Control Volume 5 to Environment

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	1.6670E+00	8.0220E+01	1.4970E+01	0.0000E+00
2.0000E+00	9.7900E-01	8.0220E+01	1.4970E+01	0.0000E+00
8.0000E+00	9.7900E-01	8.0220E+01	1.9630E+01	0.0000E+00
2.4000E+01	4.8900E-01	8.0220E+01	3.2260E+01	0.0000E+00
4.8000E+01	4.8900E-01	8.0220E+01	5.7570E+01	0.0000E+00
7.2000E+01	4.8900E-01	8.0220E+01	8.0730E+01	0.0000E+00
9.6000E+01	4.8900E-01	8.0220E+01	9.2810E+01	0.0000E+00
2.4000E+02	4.8900E-01	8.0220E+01	9.7840E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 9: Filtered Intake to Control Room

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
2.0000E+00	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
8.0000E+00	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
2.4000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
9.6000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 10: Unfiltered Inleakage to Control Room

## Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	4.0000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
8.0000E+00	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
9.6000E+01	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

## Pathway number 11: Control Room Exhaust to Environment

## Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	6.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
8.0000E+00	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
9.6000E+01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

## Pathway number 12: Sprayed Drywell to Unsprayed Drywell

## Pathway Filter: Removal Data

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

## Pathway number 13: Unsprayed Drywell to Sprayed Drywell

## Pathway Filter: Removal Data

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

## LOCATION DATA

Location Exclusion Area Boundary is in compartment 7

## Location X/Q Data

Time (hr)	X/Q (s * m <sup>-3</sup> )
0.0000E+00	1.3600E-03
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 Low Population Zone is in compartment 7

## Location X/Q Data

Time (hr)	X/Q (s * m <sup>-3</sup> )
0.0000E+00	1.0400E-04

2.0000E+00	4.1400E-05
8.0000E+00	2.6200E-05
2.4000E+01	9.9600E-06
9.6000E+01	2.5200E-06
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
8.0000E+00	1.8000E-04
2.4000E+01	2.3000E-04
7.2000E+02	0.0000E+00

Location Control Room is in compartment 8

## Location X/Q Data

Time (hr)	X/Q (s * m <sup>-3</sup> )
0.0000E+00	3.8800E-04
2.0000E+00	3.0000E-04
8.0000E+00	1.2400E-04
2.4000E+01	7.9900E-05
9.6000E+01	4.8700E-05
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 Occupancy Factor Data

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

## USER SPECIFIED TIME STEP DATA - SUPPLEMENTAL TIME STEPS

Time	Time step
0.0000E+00	1.0000E-01
1.0000E+00	1.0000E-02
2.0000E+00	5.0000E-01
8.0000E+00	1.0000E+00
2.4000E+01	2.0000E+00
9.6000E+01	5.0000E+00
7.2000E+02	0.0000E+00

#####  
 RADTRAD Version 3.03 (Spring 2001) run on 1/28/2020 at 9:24:53  
 #####

```

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

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

Exclusion Area Boundary Doses:

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

Low Population Zone Doses:

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

Control Room Doses:

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

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =	0.0333	Ci	kg	Atoms	Decay
------------	--------	----	----	-------	-------

Sprayed Drywell Transport Group Inventory:

Time (h) =	0.0333	Atmosphere	Sump	
Noble gases (atoms)	9.3660E+22	0.0000E+00		
Elemental I (atoms)	6.2043E+20	0.0000E+00		
Organic I (atoms)	1.9188E+19	0.0000E+00		
Aerosols (kg)	6.5728E-01	0.0000E+00		
Dose Effective (Ci/cc)	I-131 (Thyroid)			1.3741E-04
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)			1.7573E-04
Total I (Ci)				2.2772E+06

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

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

## Drywell to Intact Control Volume 2 Transport Group Inventory:

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

## Drywell to Intact Control Volume 4 Transport Group Inventory:

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

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 0.0333	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.0833E+21
Elemental I (atoms)	0.0000E+00	1.3811E+19
Organic I (atoms)	0.0000E+00	4.2713E+17
Aerosols (kg)	0.0000E+00	1.4620E-02

## Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 0.0333	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.5284E+19
Elemental I (atoms)	0.0000E+00	3.0020E+17
Organic I (atoms)	0.0000E+00	9.2845E+15
Aerosols (kg)	0.0000E+00	3.1779E-04

## Exclusion Area Boundary Doses:

Time (h) = 0.1667	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.0067E-03	2.2423E-01	1.1137E-02
Accumulated dose (rem)	2.0067E-03	2.2423E-01	1.1137E-02

## Low Population Zone Doses:

Time (h) = 0.1667	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.5345E-04	1.7147E-02	8.5163E-04
Accumulated dose (rem)	1.5345E-04	1.7147E-02	8.5163E-04

## Control Room Doses:

Time (h) = 0.1667	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.4986E-06	5.4671E-03	2.2521E-04
Accumulated dose (rem)	2.4986E-06	5.4671E-03	2.2521E-04

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 0.1667	Ci	kg	Atoms	Decay
Kr-85	2.0719E+04	5.2810E-02	3.7415E+23	3.1770E+17
Kr-85m	3.0067E+05	3.6535E-05	2.5885E+20	4.6565E+18
Kr-87	5.6481E+05	1.9940E-05	1.3802E+20	8.9724E+18
Kr-88	8.2477E+05	6.5775E-05	4.5012E+20	1.2848E+19
Rb-86	2.3285E+03	2.8617E-05	2.0039E+20	3.5707E+16
I-131	1.2153E+06	9.8025E-03	4.5063E+22	1.8639E+19



I-132	1.7110E+06	1.6576E-04	7.5623E+20	2.6630E+19
I-133	2.4966E+06	2.2039E-03	9.9791E+21	3.8364E+19
I-134	2.4391E+06	9.1432E-05	4.1091E+20	3.9376E+19
I-135	2.3481E+06	6.6863E-04	2.9827E+21	3.6250E+19
Xe-133	2.4047E+06	1.2847E-02	5.8169E+22	3.6865E+19
Xe-135	8.3038E+05	3.2516E-04	1.4505E+21	1.2567E+19
Cs-134	3.0701E+05	2.3729E-01	1.0664E+24	4.7076E+18
Cs-136	8.3755E+04	1.1428E-03	5.0602E+21	1.2844E+18
Cs-137	2.4349E+05	2.7993E+00	1.2305E+25	3.7335E+18

## Sprayed Drywell Transport Group Inventory:

Time (h) =	0.1667	Atmosphere	Sump	
Noble gases (atoms)	4.3462E+23	0.0000E+00		
Elemental I (atoms)	2.8708E+21	0.0000E+00		
Organic I (atoms)	8.8787E+19	0.0000E+00		
Aerosols (kg)	3.0500E+00	0.0000E+00		
Dose Effective (Ci/cc)	I-131 (Thyroid)			6.3620E-04
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)			8.1085E-04
Total I (Ci)				1.0210E+07

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

		Pathway	
Time (h) =	0.1667	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.6793E+19	
Elemental I (atoms)	0.0000E+00	1.1114E+17	
Organic I (atoms)	0.0000E+00	3.4374E+15	
Aerosols (kg)	0.0000E+00	1.1785E-04	

## Drywell to Intact Control Volume 2 Transport Group Inventory:

		Pathway	
Time (h) =	0.1667	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.6793E+19	
Elemental I (atoms)	0.0000E+00	1.1114E+17	
Organic I (atoms)	0.0000E+00	3.4374E+15	
Aerosols (kg)	0.0000E+00	1.1785E-04	

## Drywell to Intact Control Volume 4 Transport Group Inventory:

		Pathway	
Time (h) =	0.1667	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.3448E+19	
Elemental I (atoms)	0.0000E+00	8.9003E+16	
Organic I (atoms)	0.0000E+00	2.7527E+15	
Aerosols (kg)	0.0000E+00	9.4373E-05	

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

		Pathway	
Time (h) =	0.1667	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.9546E+22	
Elemental I (atoms)	0.0000E+00	3.2794E+20	
Organic I (atoms)	0.0000E+00	1.0142E+19	
Aerosols (kg)	0.0000E+00	3.4770E-01	

## Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

		Pathway	
Time (h) =	0.1667	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.1415E+21	
Elemental I (atoms)	0.0000E+00	3.4021E+19	
Organic I (atoms)	0.0000E+00	1.0522E+18	

Aerosols (kg) 0.0000E+00 3.6082E-02

Exclusion Area Boundary Doses:

Time (h) =	0.5000	Whole Body	Thyroid	TEDE
Delta dose (rem)	4.3643E-02	3.5385E+00	1.8616E-01	
Accumulated dose (rem)	4.5650E-02	3.7627E+00	1.9730E-01	

Low Population Zone Doses:

Time (h) =	0.5000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.3374E-03	2.7059E-01	1.4236E-02	
Accumulated dose (rem)	3.4909E-03	2.8773E-01	1.5087E-02	

Control Room Doses:

Time (h) =	0.5000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.4655E-04	2.6346E-01	1.0790E-02	
Accumulated dose (rem)	1.4905E-04	2.6893E-01	1.1015E-02	

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =	Ci	kg	Atoms	Decay
Kr-85	5.4480E+04	1.3886E-01	9.8381E+23	2.2187E+18
Kr-85m	7.5084E+05	9.1237E-05	6.4640E+20	3.1456E+19
Kr-87	1.2384E+06	4.3721E-05	3.0263E+20	5.5822E+19
Kr-88	1.9992E+06	1.5944E-04	1.0911E+21	8.5155E+19
Rb-86	1.0072E+03	1.2379E-05	8.6681E+19	8.5794E+16
I-131	5.2942E+05	4.2704E-03	1.9631E+22	4.4902E+19
I-132	7.3929E+05	7.1621E-05	3.2675E+20	6.3828E+19
I-133	1.0767E+06	9.5048E-04	4.3037E+21	9.2068E+19
I-134	8.1725E+05	3.0635E-05	1.3768E+20	8.6211E+19
I-135	9.8882E+05	2.8157E-04	1.2560E+21	8.6209E+19
Xe-133	6.3164E+06	3.3745E-02	1.5279E+23	2.5736E+20
Xe-135	2.1862E+06	8.5609E-04	3.8189E+21	8.8786E+19
Cs-134	1.3287E+05	1.0270E-01	4.6153E+23	1.1313E+19
Cs-136	3.6222E+04	4.9422E-04	2.1884E+21	3.0859E+18
Cs-137	1.0538E+05	1.2115E+00	5.3255E+24	8.9724E+18

Sprayed Drywell Transport Group Inventory:

Time (h) =	Atmosphere	Sump
Noble gases (atoms)	1.1425E+24	0.0000E+00
Elemental I (atoms)	1.2349E+21	7.5493E+21
Organic I (atoms)	2.3190E+20	0.0000E+00
Aerosols (kg)	1.3200E+00	8.0347E+00
Dose Effective (Ci/cc) I-131 (Thyroid)		2.7601E-04
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)		3.4946E-04
Total I (Ci)		4.1515E+06

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway
Time (h) =	Filtered Transported
Noble gases (atoms)	0.0000E+00 1.4203E+20
Elemental I (atoms)	0.0000E+00 3.4732E+17
Organic I (atoms)	0.0000E+00 2.8953E+16
Aerosols (kg)	0.0000E+00 3.6921E-04

Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway
Time (h) =	Filtered Transported
Noble gases (atoms)	0.0000E+00 1.4203E+20

Elemental I (atoms)	0.0000E+00	3.4732E+17
Organic I (atoms)	0.0000E+00	2.8953E+16
Aerosols (kg)	0.0000E+00	3.6921E-04

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 0.5000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.1374E+20
Elemental I (atoms)	0.0000E+00	2.7813E+17
Organic I (atoms)	0.0000E+00	2.3186E+16
Aerosols (kg)	0.0000E+00	2.9566E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 0.5000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.0350E+23
Elemental I (atoms)	0.0000E+00	9.9546E+20
Organic I (atoms)	0.0000E+00	8.2260E+19
Aerosols (kg)	0.0000E+00	1.0581E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 0.5000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.0977E+23
Elemental I (atoms)	0.0000E+00	3.7777E+20
Organic I (atoms)	0.0000E+00	2.2358E+19
Aerosols (kg)	0.0000E+00	4.0231E-01

Exclusion Area Boundary Doses:

Time (h) = 0.6667	Whole Body	Thyroid	TEDE
Delta dose (rem)	5.7093E-02	3.1612E+00	1.8728E-01
Accumulated dose (rem)	1.0274E-01	6.9239E+00	3.8458E-01

Low Population Zone Doses:

Time (h) = 0.6667	Whole Body	Thyroid	TEDE
Delta dose (rem)	4.3659E-03	2.4174E-01	1.4322E-02
Accumulated dose (rem)	7.8568E-03	5.2947E-01	2.9409E-02

Control Room Doses:

Time (h) = 0.6667	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.5318E-04	3.5980E-01	1.4816E-02
Accumulated dose (rem)	4.0223E-04	6.2873E-01	2.5831E-02

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 0.6667	Ci	kg	Atoms	Decay
Co-58	4.4404E+01	1.3965E-06	1.4499E+19	9.0093E+14
Co-60	5.3160E+01	4.7028E-05	4.7202E+20	1.0785E+15
Kr-85	1.8003E+05	4.5887E-01	3.2510E+24	5.5804E+18
Kr-85m	2.4180E+06	2.9382E-04	2.0817E+21	7.7151E+19
Kr-87	3.7369E+06	1.3193E-04	9.1319E+20	1.2862E+20
Kr-88	6.3431E+06	5.0586E-04	3.4618E+21	2.0586E+20
Rb-86	1.3044E+03	1.6032E-05	1.1226E+20	1.1417E+17
Sr-89	6.0230E+04	2.0732E-03	1.4028E+22	1.2220E+18
Sr-90	9.4773E+03	6.9478E-02	4.6490E+23	1.9228E+17
Sr-91	7.2806E+04	2.0084E-05	1.3291E+20	1.4858E+18
Sr-92	6.8220E+04	5.4274E-06	3.5527E+19	1.4129E+18

Y-90	1.0761E+02	1.9779E-07	1.3235E+18	2.0107E+15
Y-91	7.7951E+02	3.1786E-05	2.1035E+20	1.5790E+16
Y-92	2.0954E+03	2.1777E-07	1.4255E+18	1.9872E+16
Y-93	5.9179E+02	1.7738E-07	1.1486E+18	1.2073E+16
Zr-95	1.1092E+03	5.1631E-05	3.2730E+20	2.2505E+16
Zr-97	1.0496E+03	5.4905E-07	3.4087E+18	2.1365E+16
Nb-95	1.1095E+03	2.8374E-05	1.7987E+20	2.2510E+16
Mo-99	1.4442E+04	3.0111E-05	1.8317E+20	2.9325E+17
Tc-99m	1.2899E+04	2.4532E-06	1.4922E+19	2.6046E+17
Ru-103	1.2514E+04	3.8776E-04	2.2671E+21	2.5392E+17
Ru-105	7.9154E+03	1.1775E-06	6.7536E+18	1.6262E+17
Ru-106	5.4607E+03	1.6322E-03	9.2730E+21	1.1079E+17
Rh-105	8.2266E+03	9.7466E-06	5.5900E+19	1.6678E+17
Sb-127	1.3742E+04	5.1459E-05	2.4401E+20	2.7898E+17
Sb-129	4.5175E+04	8.0334E-06	3.7502E+19	9.2843E+17
Te-127	1.3711E+04	5.1954E-06	2.4636E+19	2.7732E+17
Te-127m	2.3501E+03	2.4914E-04	1.1814E+21	4.7679E+16
Te-129	4.6518E+04	2.2213E-06	1.0370E+19	9.2622E+17
Te-129m	9.6704E+03	3.2101E-04	1.4986E+21	1.9619E+17
Te-131m	3.0918E+04	3.8774E-05	1.7824E+20	6.2845E+17
Te-132	2.2021E+05	7.2536E-04	3.3092E+21	4.4710E+18
I-131	8.4094E+05	6.7831E-03	3.1182E+22	6.2964E+19
I-132	1.1889E+06	1.1518E-04	5.2547E+20	8.9521E+19
I-133	1.7016E+06	1.5021E-03	6.8015E+21	1.2871E+20
I-134	1.1384E+06	4.2673E-05	1.9178E+20	1.1232E+20
I-135	1.5442E+06	4.3971E-04	1.9615E+21	1.1965E+20
Xe-133	2.0874E+07	1.1152E-01	5.0494E+23	6.4723E+20
Xe-135	7.3600E+06	2.8820E-03	1.2856E+22	2.2617E+20
Cs-134	1.7212E+05	1.3303E-01	5.9787E+23	1.5057E+19
Cs-136	4.6906E+04	6.3999E-04	2.8339E+21	4.1064E+18
Cs-137	1.3651E+05	1.5694E+00	6.8988E+24	1.1942E+19
Ba-139	8.0448E+04	4.9183E-06	2.1308E+19	1.6999E+18
Ba-140	1.1309E+05	1.5448E-03	6.6450E+21	2.2949E+18
La-140	1.3943E+03	2.5084E-06	1.0790E+19	2.5016E+16
La-141	9.1794E+02	1.6231E-07	6.9324E+17	1.8890E+16
La-142	7.4794E+02	5.2248E-08	2.2158E+17	1.5735E+16
Ce-141	2.6002E+03	9.1257E-05	3.8976E+20	5.2756E+16
Ce-143	2.3933E+03	3.6040E-06	1.5177E+19	4.8639E+16
Ce-144	2.2343E+03	7.0053E-04	2.9296E+21	4.5332E+16
Pr-143	9.4034E+02	1.3964E-05	5.8808E+19	1.9071E+16
Nd-147	4.1765E+02	5.1626E-06	2.1150E+19	8.4753E+15
Np-239	3.0378E+04	1.3094E-04	3.2994E+20	6.1693E+17
Pu-238	8.0130E+00	4.6806E-04	1.1843E+21	1.6257E+14
Pu-239	7.5709E-01	1.2180E-02	3.0691E+22	1.5360E+13
Pu-240	1.3869E+00	6.0866E-03	1.5273E+22	2.8139E+13
Pu-241	3.0627E+02	2.9731E-03	7.4293E+21	6.2138E+15
Am-241	2.0112E-01	5.8598E-05	1.4643E+20	4.0803E+12
Cm-242	5.1156E+01	1.5435E-05	3.8409E+19	1.0379E+15
Cm-244	2.9742E+00	3.6763E-05	9.0733E+19	6.0342E+13

## Sprayed Drywell Transport Group Inventory:

Time (h) =	0.6667	Atmosphere	Sump	
Noble gases (atoms)	3.7753E+24	0.0000E+00		
Elemental I (atoms)	1.9579E+21	1.1945E+22		
Organic I (atoms)	3.5372E+20	0.0000E+00		
Aerosols (kg)	1.8110E+00	1.2217E+01		
Dose Effective (Ci/cc) I-131 (Thyroid)			4.3757E-04	
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			5.5259E-04	
Total I (Ci)			6.4140E+06	

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

Pathway

Time (h) =	0.6667	Filtered	Transported
Noble gases (atoms)	0.0000E+00		3.3735E+20
Elemental I (atoms)	0.0000E+00		4.8483E+17
Organic I (atoms)	0.0000E+00		5.1978E+16
Aerosols (kg)	0.0000E+00		5.0004E-04

Drywell to Intact Control Volume 2 Transport Group Inventory:

		Pathway	
Time (h) =	0.6667	Filtered	Transported
Noble gases (atoms)	0.0000E+00		3.3735E+20
Elemental I (atoms)	0.0000E+00		4.8483E+17
Organic I (atoms)	0.0000E+00		5.1978E+16
Aerosols (kg)	0.0000E+00		5.0004E-04

Drywell to Intact Control Volume 4 Transport Group Inventory:

		Pathway	
Time (h) =	0.6667	Filtered	Transported
Noble gases (atoms)	0.0000E+00		2.7015E+20
Elemental I (atoms)	0.0000E+00		3.8826E+17
Organic I (atoms)	0.0000E+00		4.1624E+16
Aerosols (kg)	0.0000E+00		4.0044E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

		Pathway	
Time (h) =	0.6667	Filtered	Transported
Noble gases (atoms)	0.0000E+00		9.5556E+23
Elemental I (atoms)	0.0000E+00		1.3841E+21
Organic I (atoms)	0.0000E+00		1.4734E+20
Aerosols (kg)	0.0000E+00		1.4279E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

		Pathway	
Time (h) =	0.6667	Filtered	Transported
Noble gases (atoms)	0.0000E+00		2.6170E+23
Elemental I (atoms)	0.0000E+00		6.0692E+20
Organic I (atoms)	0.0000E+00		4.8323E+19
Aerosols (kg)	0.0000E+00		6.4247E-01

Exclusion Area Boundary Doses:

Time (h) =	2.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		4.6700E+00	6.7752E+01	7.9347E+00
Accumulated dose (rem)		4.7728E+00	7.4676E+01	8.3193E+00

Low Population Zone Doses:

Time (h) =	2.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		3.5712E-01	5.1811E+00	6.0677E-01
Accumulated dose (rem)		3.6498E-01	5.7105E+00	6.3618E-01

Control Room Doses:

Time (h) =	2.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		1.6691E-02	3.4194E+00	1.6368E-01
Accumulated dose (rem)		1.7093E-02	4.0481E+00	1.8952E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =	2.0000	Ci	kg	Atoms	Decay
------------	--------	----	----	-------	-------

Co-58	5.0850E+01	1.5991E-06	1.6604E+19	9.7344E+15
Co-60	6.0908E+01	5.3882E-05	5.4081E+20	1.1657E+16
Kr-85	9.2638E+05	2.3612E+00	1.6729E+25	1.0809E+20
Kr-85m	1.0123E+07	1.2301E-03	8.7149E+21	1.2952E+21
Kr-87	9.2968E+06	3.2821E-04	2.2719E+21	1.5301E+21
Kr-88	2.3573E+07	1.8800E-03	1.2865E+22	3.1871E+21
Rb-86	1.3607E+03	1.6722E-05	1.1710E+20	3.5389E+17
Sr-89	6.8957E+04	2.3736E-03	1.6061E+22	1.3202E+19
Sr-90	1.0859E+04	7.9605E-02	5.3266E+23	2.0781E+18
Sr-91	7.5686E+04	2.0879E-05	1.3817E+20	1.5283E+19
Sr-92	5.5578E+04	4.4217E-06	2.8943E+19	1.2893E+19
Y-90	1.2404E+02	2.2800E-07	1.5256E+18	2.2915E+16
Y-91	8.9275E+02	3.6403E-05	2.4091E+20	1.7079E+17
Y-92	1.9924E+03	2.0706E-07	1.3554E+18	3.3234E+17
Y-93	6.1876E+02	1.8546E-07	1.2010E+18	1.2455E+17
Zr-95	1.2701E+03	5.9122E-05	3.7478E+20	2.4315E+17
Zr-97	1.1386E+03	5.9561E-07	3.6978E+18	2.2455E+17
Nb-95	1.2712E+03	3.2510E-05	2.0608E+20	2.4328E+17
Mo-99	1.6317E+04	3.4021E-05	2.0695E+20	3.1467E+18
Tc-99m	1.4737E+04	2.8027E-06	1.7049E+19	2.8196E+18
Ru-103	1.4325E+04	4.4384E-04	2.5950E+21	2.7429E+18
Ru-105	7.3650E+03	1.0957E-06	6.2840E+18	1.5829E+18
Ru-106	6.2561E+03	1.8699E-03	1.0624E+22	1.1973E+18
Rh-105	9.3939E+03	1.1129E-05	6.3831E+19	1.8012E+18
Sb-127	1.5589E+04	5.8374E-05	2.7680E+20	2.9997E+18
Sb-129	4.1791E+04	7.4317E-06	3.4693E+19	9.0113E+18
Te-127	1.5690E+04	5.9453E-06	2.8192E+19	3.0012E+18
Te-127m	2.6927E+03	2.8546E-04	1.3536E+21	5.1531E+17
Te-129	4.7598E+04	2.2728E-06	1.0610E+19	9.6469E+18
Te-129m	1.1079E+04	3.6777E-04	1.7169E+21	2.1204E+18
Te-131m	3.4351E+04	4.3078E-05	1.9803E+20	6.6859E+18
Te-132	2.4935E+05	8.2133E-04	3.7471E+21	4.8030E+19
I-131	9.0720E+05	7.3176E-03	3.3640E+22	2.2117E+20
I-132	1.2834E+06	1.2433E-04	5.6722E+20	3.1410E+20
I-133	1.7630E+06	1.5563E-03	7.0470E+21	4.4240E+20
I-134	4.2969E+05	1.6107E-05	7.2388E+19	2.4433E+20
I-135	1.4544E+06	4.1413E-04	1.8474E+21	3.9115E+20
Xe-133	1.0707E+08	5.7201E-01	2.5900E+24	1.2512E+22
Xe-135	3.8684E+07	1.5148E-02	6.7573E+22	4.4883E+21
Cs-134	1.7990E+05	1.3905E-01	6.2489E+23	4.6720E+19
Cs-136	4.8884E+04	6.6699E-04	2.9535E+21	1.2722E+19
Cs-137	1.4269E+05	1.6404E+00	7.2110E+24	3.7054E+19
Ba-139	4.7143E+04	2.8822E-06	1.2487E+19	1.3319E+19
Ba-140	1.2919E+05	1.7647E-03	7.5907E+21	2.4765E+19
La-140	1.6097E+03	2.8960E-06	1.2457E+19	2.9263E+17
La-141	8.3135E+02	1.4700E-07	6.2785E+17	1.8144E+17
La-142	4.7056E+02	3.2872E-08	1.3941E+17	1.2729E+17
Ce-141	2.9785E+03	1.0453E-04	4.4647E+20	5.7011E+17
Ce-143	2.6665E+03	4.0153E-06	1.6909E+19	5.1820E+17
Ce-144	2.5597E+03	8.0253E-04	3.3562E+21	4.8990E+17
Pr-143	1.0774E+03	1.6000E-05	6.7382E+19	2.0617E+17
Nd-147	4.7685E+02	5.8944E-06	2.4148E+19	9.1434E+16
Np-239	3.4242E+04	1.4760E-04	3.7191E+20	6.6120E+18
Pu-238	9.1813E+00	5.3630E-04	1.3570E+21	1.7571E+15
Pu-239	8.6761E-01	1.3958E-02	3.5171E+22	1.6602E+14
Pu-240	1.5891E+00	6.9738E-03	1.7499E+22	3.0412E+14
Pu-241	3.5091E+02	3.4065E-03	8.5122E+21	6.7158E+16
Am-241	2.3047E-01	6.7150E-05	1.6780E+20	4.4103E+13
Cm-242	5.8599E+01	1.7681E-05	4.3998E+19	1.1216E+16
Cm-244	3.4077E+00	4.2121E-05	1.0396E+20	6.5216E+14

Sprayed Drywell Transport Group Inventory:

Time (h) = 2.0000 Atmosphere Sump

Noble gases (atoms)	1.9410E+25	0.0000E+00	
Elemental I (atoms)	2.0418E+21	5.2661E+22	
Organic I (atoms)	1.1385E+21	0.0000E+00	
Aerosols (kg)	1.9029E+00	4.9869E+01	
Dose Effective (Ci/cc) I-131 (Thyroid)			4.6498E-04
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			5.7731E-04
Total I (Ci)			5.8376E+06

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 2.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	7.7864E+21
Elemental I (atoms)	0.0000E+00	1.7586E+18
Organic I (atoms)	0.0000E+00	5.2662E+17
Aerosols (kg)	0.0000E+00	1.6779E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 2.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	7.7864E+21
Elemental I (atoms)	0.0000E+00	1.7586E+18
Organic I (atoms)	0.0000E+00	5.2662E+17
Aerosols (kg)	0.0000E+00	1.6779E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 2.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	6.2354E+21
Elemental I (atoms)	0.0000E+00	1.4083E+18
Organic I (atoms)	0.0000E+00	4.2172E+17
Aerosols (kg)	0.0000E+00	1.3437E-03

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 2.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.2009E+25
Elemental I (atoms)	0.0000E+00	4.9843E+21
Organic I (atoms)	0.0000E+00	1.4889E+21
Aerosols (kg)	0.0000E+00	4.7571E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 2.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.2729E+25
Elemental I (atoms)	0.0000E+00	3.6477E+21
Organic I (atoms)	0.0000E+00	9.1382E+20
Aerosols (kg)	0.0000E+00	3.5374E+00

Exclusion Area Boundary Doses:

Time (h) = 2.2000	Whole Body	Thyroid	TEDE
Delta dose (rem)	9.2441E-01	8.9993E+00	1.3696E+00
Accumulated dose (rem)	5.6972E+00	8.3675E+01	9.6888E+00

Low Population Zone Doses:

Time (h) = 2.2000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.8140E-02	2.7395E-01	4.1691E-02

Accumulated dose (rem) 3.9312E-01 5.9845E+00 6.7787E-01

Control Room Doses:

Time (h) =	2.2000	Whole Body	Thyroid	TEDE
Delta dose (rem)		6.7618E-03	5.5574E-01	3.2325E-02
Accumulated dose (rem)		2.3855E-02	4.6039E+00	2.2184E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =	Ci	kg	Atoms	Decay
Co-58	5.1069E+00	1.6061E-07	1.6676E+18	9.9744E+15
Co-60	6.1176E+00	5.4120E-06	5.4319E+19	1.1944E+16
Kr-85	8.7609E+05	2.2330E+00	1.5821E+25	1.3171E+20
Kr-85m	9.2815E+06	1.1278E-03	7.9905E+21	1.5493E+21
Kr-87	7.8839E+06	2.7833E-04	1.9266E+21	1.7548E+21
Kr-88	2.1231E+07	1.6932E-03	1.1587E+22	3.7737E+21
Rb-86	1.3978E+02	1.7179E-06	1.2030E+19	3.6039E+17
Sr-89	6.9253E+03	2.3837E-04	1.6129E+21	1.3528E+19
Sr-90	1.0907E+03	7.9956E-03	5.3501E+22	2.1294E+18
Sr-91	7.4918E+03	2.0667E-06	1.3677E+19	1.5638E+19
Sr-92	5.3039E+03	4.2197E-07	2.7621E+18	1.3150E+19
Y-90	1.7379E+01	3.1942E-08	2.1373E+17	2.3583E+16
Y-91	9.0331E+01	3.6834E-06	2.4376E+19	1.7501E+17
Y-92	6.4162E+02	6.6680E-08	4.3648E+17	3.4942E+17
Y-93	6.1302E+01	1.8374E-08	1.1898E+17	1.2745E+17
Zr-95	1.2756E+02	5.9377E-06	3.7640E+19	2.4915E+17
Zr-97	1.1343E+02	5.9335E-08	3.6837E+17	2.2991E+17
Nb-95	1.2768E+02	3.2653E-06	2.0699E+19	2.4928E+17
Mo-99	1.6354E+03	3.4099E-06	2.0742E+19	3.2237E+18
Tc-99m	1.4795E+03	2.8137E-07	1.7116E+18	2.8888E+18
Ru-103	1.4386E+03	4.4573E-05	2.6061E+20	2.8105E+18
Ru-105	7.1701E+02	1.0667E-07	6.1177E+17	1.6172E+18
Ru-106	6.2835E+02	1.8782E-04	1.0670E+21	1.2269E+18
Rh-105	9.4269E+02	1.1169E-06	6.4056E+18	1.8454E+18
Sb-127	1.5634E+03	5.8543E-06	2.7760E+19	3.0733E+18
Sb-129	4.0650E+03	7.2287E-07	3.3746E+18	9.2061E+18
Te-127	1.5756E+03	5.9703E-07	2.8310E+18	3.0749E+18
Te-127m	2.7045E+02	2.8672E-05	1.3596E+20	5.2802E+17
Te-129	4.6952E+03	2.2420E-07	1.0466E+18	9.8644E+18
Te-129m	1.1128E+03	3.6938E-05	1.7244E+20	2.1727E+18
Te-131m	3.4343E+03	4.3068E-06	1.9799E+19	6.8478E+18
Te-132	2.5000E+04	8.2349E-05	3.7569E+20	4.9206E+19
I-131	1.1304E+05	9.1179E-04	4.1916E+21	2.2599E+20
I-132	1.4514E+05	1.4061E-05	6.4149E+19	3.2059E+20
I-133	2.1839E+05	1.9279E-04	8.7293E+20	4.5175E+20
I-134	4.5746E+04	1.7148E-06	7.7066E+18	2.4648E+20
I-135	1.7760E+05	5.0571E-05	2.2559E+20	3.9882E+20
Xe-133	1.0113E+08	5.4029E-01	2.4464E+24	1.5240E+22
Xe-135	3.5900E+07	1.4058E-02	6.2710E+22	5.4643E+21
Cs-134	1.8487E+04	1.4289E-02	6.4216E+22	4.7580E+19
Cs-136	5.0213E+03	6.8512E-05	3.0337E+20	1.2956E+19
Cs-137	1.4663E+04	1.6858E-01	7.4102E+23	3.7737E+19
Ba-139	4.2820E+03	2.6179E-07	1.1342E+18	1.3533E+19
Ba-140	1.2970E+04	1.7716E-04	7.6207E+20	2.5374E+19
La-140	2.5447E+02	4.5782E-07	1.9693E+18	3.0180E+17
La-141	8.0607E+01	1.4253E-08	6.0876E+16	1.8531E+17
La-142	4.3199E+01	3.0177E-09	1.2798E+16	1.2944E+17
Ce-141	2.9910E+02	1.0497E-05	4.4833E+19	5.8417E+17
Ce-143	2.6670E+02	4.0161E-07	1.6913E+18	5.3076E+17
Ce-144	2.5709E+02	8.0605E-05	3.3710E+20	5.0198E+17
Pr-143	1.0836E+02	1.6092E-06	6.7769E+18	2.1125E+17
Nd-147	4.7870E+01	5.9173E-07	2.4241E+18	9.3684E+16



Np-239	3.4308E+03	1.4789E-05	3.7263E+19	6.7735E+18
Pu-238	9.2217E-01	5.3866E-05	1.3630E+20	1.8004E+15
Pu-239	8.7145E-02	1.4020E-03	3.5327E+21	1.7012E+14
Pu-240	1.5961E-01	7.0046E-04	1.7576E+21	3.1162E+14
Pu-241	3.5246E+01	3.4215E-04	8.5498E+20	6.8814E+16
Am-241	2.3151E-02	6.7452E-06	1.6855E+19	4.5191E+13
Cm-242	5.8855E+00	1.7758E-06	4.4190E+18	1.1493E+16
Cm-244	3.4227E-01	4.2307E-06	1.0442E+19	6.6825E+14

## Sprayed Drywell Transport Group Inventory:

Time (h) =	2.2000	Atmosphere	Sump	
Noble gases (atoms)	1.8351E+25	0.0000E+00		
Elemental I (atoms)	2.0801E+20	5.4668E+22		
Organic I (atoms)	1.0796E+21	0.0000E+00		
Aerosols (kg)	1.9528E-01	5.1741E+01		
Dose Effective (Ci/cc) I-131 (Thyroid)				5.7784E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)				7.1448E-05
Total I (Ci)				6.9991E+05

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
2.2000		
Noble gases (atoms)	0.0000E+00	8.8255E+21
Elemental I (atoms)	0.0000E+00	1.7955E+18
Organic I (atoms)	0.0000E+00	5.8772E+17
Aerosols (kg)	0.0000E+00	1.7124E-03

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
2.2000		
Noble gases (atoms)	0.0000E+00	8.8255E+21
Elemental I (atoms)	0.0000E+00	1.7955E+18
Organic I (atoms)	0.0000E+00	5.8772E+17
Aerosols (kg)	0.0000E+00	1.7124E-03

## Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
2.2000		
Noble gases (atoms)	0.0000E+00	7.0652E+21
Elemental I (atoms)	0.0000E+00	1.4378E+18
Organic I (atoms)	0.0000E+00	4.7052E+17
Aerosols (kg)	0.0000E+00	1.3712E-03

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
2.2000		
Noble gases (atoms)	0.0000E+00	2.7003E+25
Elemental I (atoms)	0.0000E+00	5.1617E+21
Organic I (atoms)	0.0000E+00	1.7825E+21
Aerosols (kg)	0.0000E+00	4.9227E+00

## Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
2.2000		
Noble gases (atoms)	0.0000E+00	1.6671E+25
Elemental I (atoms)	0.0000E+00	4.1225E+21
Organic I (atoms)	0.0000E+00	1.1525E+21
Aerosols (kg)	0.0000E+00	3.9831E+00

## Exclusion Area Boundary Doses:

Time (h) =	2.3000	Whole Body	Thyroid	TEDE
Delta dose (rem)	4.8523E-01	4.4803E+00	7.0612E-01	
Accumulated dose (rem)	6.1824E+00	8.8156E+01	1.0395E+01	

## Low Population Zone Doses:

Time (h) =	2.3000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.4771E-02	1.3639E-01	2.1495E-02	
Accumulated dose (rem)	4.0789E-01	6.1209E+00	6.9937E-01	

## Control Room Doses:

Time (h) =	2.3000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.4535E-03	2.6810E-01	1.5856E-02	
Accumulated dose (rem)	2.7308E-02	4.8720E+00	2.3770E-01	

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =	Ci	kg	Atoms	Decay
Co-58	3.1728E+00	9.9781E-08	1.0360E+18	1.0017E+16
Co-60	3.8009E+00	3.3625E-06	3.3749E+19	1.1995E+16
Kr-85	8.6101E+05	2.1946E+00	1.5548E+25	1.4318E+20
Kr-85m	8.9818E+06	1.0914E-03	7.7325E+21	1.6699E+21
Kr-87	7.3372E+06	2.5903E-04	1.7930E+21	1.8552E+21
Kr-88	2.0363E+07	1.6239E-03	1.1113E+22	4.0483E+21
Rb-86	8.7620E+01	1.0768E-06	7.5405E+18	3.6156E+17
Sr-89	4.3025E+03	1.4809E-04	1.0021E+21	1.3585E+19
Sr-90	6.7763E+02	4.9677E-03	3.3240E+22	2.1384E+18
Sr-91	4.6208E+03	1.2747E-06	8.4357E+18	1.5700E+19
Sr-92	3.2121E+03	2.5555E-07	1.6728E+18	1.3193E+19
Y-90	1.2161E+01	2.2352E-08	1.4957E+17	2.3736E+16
Y-91	5.6305E+01	2.2959E-06	1.5194E+19	1.7576E+17
Y-92	5.1264E+02	5.3276E-08	3.4873E+17	3.5546E+17
Y-93	3.7827E+01	1.1338E-08	7.3417E+16	1.2796E+17
Zr-95	7.9250E+01	3.6890E-06	2.3385E+19	2.5020E+17
Zr-97	7.0185E+01	3.6714E-08	2.2794E+17	2.3085E+17
Nb-95	7.9330E+01	2.0287E-06	1.2860E+19	2.5034E+17
Mo-99	1.0150E+03	2.1164E-06	1.2874E+19	3.2372E+18
Tc-99m	9.1899E+02	1.7477E-07	1.0631E+18	2.9010E+18
Ru-103	8.9372E+02	2.7692E-05	1.6191E+20	2.8224E+18
Ru-105	4.3858E+02	6.5245E-08	3.7420E+17	1.6231E+18
Ru-106	3.9040E+02	1.1669E-04	6.6295E+20	1.2321E+18
Rh-105	5.8541E+02	6.9357E-07	3.9779E+18	1.8532E+18
Sb-127	9.7062E+02	3.6346E-06	1.7235E+19	3.0862E+18
Sb-129	2.4854E+03	4.4197E-07	2.0633E+18	9.2394E+18
Te-127	9.7884E+02	3.7090E-07	1.7587E+18	3.0879E+18
Te-127m	1.6803E+02	1.7814E-05	8.4472E+19	5.3026E+17
Te-129	2.8901E+03	1.3800E-07	6.4424E+17	9.9022E+18
Te-129m	6.9135E+02	2.2949E-05	1.0713E+20	2.1819E+18
Te-131m	2.1288E+03	2.6697E-06	1.2273E+19	6.8762E+18
Te-132	1.5519E+04	5.1118E-05	2.3321E+20	4.9413E+19
I-131	7.8884E+04	6.3629E-04	2.9251E+21	2.2704E+20
I-132	9.6940E+04	9.3915E-06	4.2846E+19	3.2189E+20
I-133	1.5196E+05	1.3414E-04	6.0738E+20	4.5377E+20
I-134	2.9508E+04	1.1061E-06	4.9712E+18	2.4689E+20
I-135	1.2269E+05	3.4936E-05	1.5585E+20	4.0046E+20
Xe-133	9.9333E+07	5.3068E-01	2.4029E+24	1.6563E+22
Xe-135	3.4974E+07	1.3695E-02	6.1093E+22	5.9320E+21
Cs-134	1.1590E+04	8.9579E-03	4.0258E+22	4.7734E+19
Cs-136	3.1473E+03	4.2942E-05	1.9015E+20	1.2998E+19

Cs-137	9.1927E+03	1.0569E-01	4.6456E+23	3.7859E+19
Ba-139	2.5300E+03	1.5467E-07	6.7011E+17	1.3567E+19
Ba-140	8.0564E+03	1.1005E-04	4.7337E+20	2.5482E+19
La-140	1.8378E+02	3.3065E-07	1.4223E+18	3.0407E+17
La-141	4.9206E+01	8.7008E-09	3.7161E+16	1.8597E+17
La-142	2.5660E+01	1.7925E-09	7.6019E+15	1.2979E+17
Ce-141	1.8581E+02	6.5213E-06	2.7852E+19	5.8664E+17
Ce-143	1.6535E+02	2.4900E-07	1.0486E+18	5.3297E+17
Ce-144	1.5973E+02	5.0080E-05	2.0944E+20	5.0411E+17
Pr-143	6.7367E+01	1.0004E-06	4.2130E+18	2.1215E+17
Nd-147	2.9734E+01	3.6755E-07	1.5057E+18	9.4081E+16
Np-239	2.1290E+03	9.1770E-06	2.3123E+19	6.8019E+18
Pu-238	5.7295E-01	3.3467E-05	8.4683E+19	1.8080E+15
Pu-239	5.4144E-02	8.7110E-04	2.1949E+21	1.7084E+14
Pu-240	9.9167E-02	4.3520E-04	1.0920E+21	3.1294E+14
Pu-241	2.1899E+01	2.1258E-04	5.3120E+20	6.9106E+16
Am-241	1.4384E-02	4.1910E-06	1.0473E+19	4.5382E+13
Cm-242	3.6566E+00	1.1033E-06	2.7455E+18	1.1541E+16
Cm-244	2.1266E-01	2.6285E-06	6.4875E+18	6.7108E+14

## Sprayed Drywell Transport Group Inventory:

Time (h) =	2.3000	Atmosphere	Sump	
Noble gases (atoms)	1.8033E+25	0.0000E+00		
Elemental I (atoms)	1.2992E+20	5.4907E+22		
Organic I (atoms)	1.0613E+21	0.0000E+00		
Aerosols (kg)	1.2236E-01	5.1966E+01		
Dose Effective (Ci/cc) I-131 (Thyroid)				4.0272E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)				4.9703E-05
Total I (Ci)				4.7998E+05

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

		Pathway	
Time (h) =	2.3000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	9.3273E+21	
Elemental I (atoms)	0.0000E+00	1.7999E+18	
Organic I (atoms)	0.0000E+00	6.1727E+17	
Aerosols (kg)	0.0000E+00	1.7165E-03	

## Drywell to Intact Control Volume 2 Transport Group Inventory:

		Pathway	
Time (h) =	2.3000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	9.3273E+21	
Elemental I (atoms)	0.0000E+00	1.7999E+18	
Organic I (atoms)	0.0000E+00	6.1727E+17	
Aerosols (kg)	0.0000E+00	1.7165E-03	

## Drywell to Intact Control Volume 4 Transport Group Inventory:

		Pathway	
Time (h) =	2.3000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	7.4660E+21	
Elemental I (atoms)	0.0000E+00	1.4413E+18	
Organic I (atoms)	0.0000E+00	4.9412E+17	
Aerosols (kg)	0.0000E+00	1.3745E-03	

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

		Pathway	
Time (h) =	2.3000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.9414E+25	
Elemental I (atoms)	0.0000E+00	5.1828E+21	

Organic I (atoms)	0.0000E+00	1.9245E+21
Aerosols (kg)	0.0000E+00	4.9426E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
2.3000		
Noble gases (atoms)	0.0000E+00	1.8769E+25
Elemental I (atoms)	0.0000E+00	4.3084E+21
Organic I (atoms)	0.0000E+00	1.2781E+21
Aerosols (kg)	0.0000E+00	4.1580E+00

Exclusion Area Boundary Doses:

Time (h) =	Whole Body	Thyroid	TEDE
4.0000			
Delta dose (rem)	9.2466E+00	6.8351E+01	1.2536E+01
Accumulated dose (rem)	1.5429E+01	1.5651E+02	2.2931E+01

Low Population Zone Doses:

Time (h) =	Whole Body	Thyroid	TEDE
4.0000			
Delta dose (rem)	2.8148E-01	2.0807E+00	3.8162E-01
Accumulated dose (rem)	6.8936E-01	8.2016E+00	1.0810E+00

Control Room Doses:

Time (h) =	Whole Body	Thyroid	TEDE
4.0000			
Delta dose (rem)	6.8284E-02	3.8177E+00	2.4818E-01
Accumulated dose (rem)	9.5592E-02	8.6897E+00	4.8587E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =	Ci	kg	Atoms	Decay
4.0000				
Co-58	3.8626E+00	1.2147E-07	1.2613E+18	1.1426E+16
Co-60	4.6303E+00	4.0962E-06	4.1113E+19	1.3684E+16
Kr-85	8.2240E+05	2.0962E+00	1.4851E+25	3.3073E+20
Kr-85m	6.5948E+06	8.0136E-04	5.6775E+21	3.3912E+21
Kr-87	2.7745E+06	9.7949E-05	6.7800E+20	2.8995E+21
Kr-88	1.2844E+07	1.0243E-03	7.0099E+21	7.6821E+21
Rb-86	1.0685E+02	1.3132E-06	9.1959E+18	4.0059E+17
Sr-89	5.2364E+03	1.8024E-04	1.2196E+21	1.5497E+19
Sr-90	8.2551E+02	6.0518E-03	4.0494E+22	2.4396E+18
Sr-91	4.9726E+03	1.3718E-06	9.0779E+18	1.7644E+19
Sr-92	2.5333E+03	2.0155E-07	1.3193E+18	1.4376E+19
Y-90	2.9930E+01	5.5011E-08	3.6809E+17	3.1514E+16
Y-91	7.0446E+01	2.8725E-06	1.9010E+19	2.0108E+17
Y-92	1.3651E+03	1.4187E-07	9.2863E+17	7.2020E+17
Y-93	4.1007E+01	1.2291E-08	7.9591E+16	1.4392E+17
Zr-95	9.6471E+01	4.4906E-06	2.8466E+19	2.8541E+17
Zr-97	7.9744E+01	4.1714E-08	2.5898E+17	2.6109E+17
Nb-95	9.6642E+01	2.4715E-06	1.5667E+19	2.8560E+17
Mo-99	1.2147E+03	2.5326E-06	1.5406E+19	3.6847E+18
Tc-99m	1.1133E+03	2.1173E-07	1.2879E+18	3.3062E+18
Ru-103	1.0874E+03	3.3693E-05	1.9699E+20	3.2194E+18
Ru-105	4.0975E+02	6.0957E-08	3.4961E+17	1.7966E+18
Ru-106	4.7553E+02	1.4214E-04	8.0752E+20	1.4056E+18
Rh-105	7.0518E+02	8.3547E-07	4.7917E+18	2.1121E+18
Sb-127	1.1675E+03	4.3717E-06	2.0730E+19	3.5151E+18
Sb-129	2.3050E+03	4.0989E-07	1.9135E+18	1.0220E+19
Te-127	1.1896E+03	4.5076E-07	2.1374E+18	3.5210E+18
Te-127m	2.0471E+02	2.1702E-05	1.0291E+20	6.0494E+17
Te-129	2.9453E+03	1.4064E-07	6.5654E+17	1.1064E+19
Te-129m	8.4185E+02	2.7945E-05	1.3046E+20	2.4891E+18

Te-131m	2.4935E+03	3.1270E-06	1.4375E+19	7.8059E+18
Te-132	1.8623E+04	6.1343E-05	2.7986E+20	5.6264E+19
I-131	9.8955E+04	7.9818E-04	3.6693E+21	2.5829E+20
I-132	8.1441E+04	7.8899E-06	3.5996E+19	3.5362E+20
I-133	1.8120E+05	1.5996E-04	7.2428E+20	5.1259E+20
I-134	9.7106E+03	3.6401E-07	1.6359E+18	2.5361E+20
I-135	1.2955E+05	3.6890E-05	1.6456E+20	4.4539E+20
Xe-133	9.3987E+07	5.0211E-01	2.2735E+24	3.8098E+22
Xe-135	2.9280E+07	1.1466E-02	5.1147E+22	1.3064E+22
Cs-134	1.4171E+04	1.0953E-02	4.9222E+22	5.2903E+19
Cs-136	3.8339E+03	5.2311E-05	2.3163E+20	1.4399E+19
Cs-137	1.1240E+04	1.2923E-01	5.6804E+23	4.1959E+19
Ba-139	1.3109E+03	8.0142E-08	3.4721E+17	1.4354E+19
Ba-140	9.7769E+03	1.3355E-04	5.7446E+20	2.9056E+19
La-140	5.0604E+02	9.1043E-07	3.9163E+18	4.3017E+17
La-141	4.4416E+01	7.8537E-09	3.3543E+16	2.0516E+17
La-142	1.4556E+01	1.0168E-09	4.3123E+15	1.3806E+17
Ce-141	2.2610E+02	7.9351E-06	3.3891E+19	6.6918E+17
Ce-143	1.9437E+02	2.9270E-07	1.2326E+18	6.0530E+17
Ce-144	1.9456E+02	6.0999E-05	2.5510E+20	5.7510E+17
Pr-143	8.2497E+01	1.2251E-06	5.1593E+18	2.4216E+17
Nd-147	3.6062E+01	4.4576E-07	1.8262E+18	1.0727E+17
Np-239	2.5401E+03	1.0949E-05	2.7589E+19	7.7393E+18
Pu-238	6.9800E-01	4.0771E-05	1.0316E+20	2.0627E+15
Pu-239	6.5975E-02	1.0614E-03	2.6745E+21	1.9491E+14
Pu-240	1.2081E-01	5.3017E-04	1.3303E+21	3.5702E+14
Pu-241	2.6677E+01	2.5897E-04	6.4712E+20	7.8838E+16
Am-241	1.7532E-02	5.1081E-06	1.2764E+19	5.1777E+13
Cm-242	4.4533E+00	1.3437E-06	3.3437E+18	1.3166E+16
Cm-244	2.5906E-01	3.2022E-06	7.9032E+18	7.6559E+14

## Sprayed Drywell Transport Group Inventory:

Time (h) =	4.0000	Atmosphere	Sump	
Noble gases (atoms)	1.7189E+25	0.0000E+00		
Elemental I (atoms)	5.7104E+20	5.4907E+22		
Organic I (atoms)	9.9352E+20	0.0000E+00		
Aerosols (kg)	1.4956E-01	5.2580E+01		
Dose Effective (Ci/cc)	I-131 (Thyroid)		4.9575E-05	
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		5.9949E-05	
Total I (Ci)			5.0086E+05	

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) =	4.0000	
	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.7469E+22
Elemental I (atoms)	0.0000E+00	2.0346E+18
Organic I (atoms)	0.0000E+00	1.0931E+18
Aerosols (kg)	0.0000E+00	1.8295E-03

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) =	4.0000	
	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.7469E+22
Elemental I (atoms)	0.0000E+00	2.0346E+18
Organic I (atoms)	0.0000E+00	1.0931E+18
Aerosols (kg)	0.0000E+00	1.8295E-03

## Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) =	4.0000	
	Filtered	Transported

Noble gases (atoms)	0.0000E+00	1.3968E+22
Elemental I (atoms)	0.0000E+00	1.6287E+18
Organic I (atoms)	0.0000E+00	8.7416E+17
Aerosols (kg)	0.0000E+00	1.4648E-03

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 4.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	6.8538E+25
Elemental I (atoms)	0.0000E+00	6.3104E+21
Organic I (atoms)	0.0000E+00	4.2113E+21
Aerosols (kg)	0.0000E+00	5.4856E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 4.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.7106E+25
Elemental I (atoms)	0.0000E+00	5.8905E+21
Organic I (atoms)	0.0000E+00	3.5242E+21
Aerosols (kg)	0.0000E+00	5.3424E+00

Exclusion Area Boundary Doses:

Time (h) = 8.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.8112E+01	1.1067E+02	2.2930E+01
Accumulated dose (rem)	3.3541E+01	2.6718E+02	4.5861E+01

Low Population Zone Doses:

Time (h) = 8.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	5.5135E-01	3.3689E+00	6.9801E-01
Accumulated dose (rem)	1.2407E+00	1.1570E+01	1.7790E+00

Control Room Doses:

Time (h) = 8.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.7009E-01	5.6859E+00	4.2991E-01
Accumulated dose (rem)	2.6569E-01	1.4376E+01	9.1578E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 8.0000	Ci	kg	Atoms	Decay
Co-58	4.7469E+00	1.4928E-07	1.5500E+18	1.3929E+16
Co-60	5.6993E+00	5.0419E-06	5.0605E+19	1.6687E+16
Kr-85	8.2075E+05	2.0920E+00	1.4821E+25	7.6842E+20
Kr-85m	3.5444E+06	4.3070E-04	3.0514E+21	6.0085E+21
Kr-87	3.1291E+05	1.1047E-05	7.6466E+19	3.5004E+21
Kr-88	4.8289E+06	3.8510E-04	2.6354E+21	1.2047E+22
Rb-86	1.3072E+02	1.6066E-06	1.1250E+19	4.6968E+17
Sr-89	6.4310E+03	2.2136E-04	1.4978E+21	1.8889E+19
Sr-90	1.0162E+03	7.4494E-03	4.9846E+22	2.9750E+18
Sr-91	4.5717E+03	1.2612E-06	8.3460E+18	2.0437E+19
Sr-92	1.1210E+03	8.9185E-08	5.8378E+17	1.5399E+19
Y-90	7.8385E+01	1.4407E-07	9.6404E+17	6.1769E+16
Y-91	9.0942E+01	3.7083E-06	2.4541E+19	2.4792E+17
Y-92	1.7698E+03	1.8393E-07	1.2040E+18	1.6894E+18
Y-93	3.8360E+01	1.1498E-08	7.4453E+16	1.6715E+17
Zr-95	1.1854E+02	5.5177E-06	3.4977E+19	3.4792E+17
Zr-97	8.3309E+01	4.3579E-08	2.7055E+17	3.0875E+17
Nb-95	1.1896E+02	3.0421E-06	1.9284E+19	3.4827E+17
Mo-99	1.4337E+03	2.9893E-06	1.8184E+19	4.4561E+18

Tc-99m	1.3422E+03	2.5525E-07	1.5527E+18	4.0174E+18
Ru-103	1.3346E+03	4.1353E-05	2.4178E+20	3.9236E+18
Ru-105	2.7012E+02	4.0185E-08	2.3048E+17	1.9936E+18
Ru-106	5.8517E+02	1.7491E-04	9.9371E+20	1.7139E+18
Rh-105	8.3079E+02	9.8428E-07	5.6452E+18	2.5600E+18
Sb-127	1.3946E+03	5.2223E-06	2.4763E+19	4.2610E+18
Sb-129	1.4934E+03	2.6557E-07	1.2398E+18	1.1319E+19
Te-127	1.4510E+03	5.4979E-07	2.6070E+18	4.2865E+18
Te-127m	2.5199E+02	2.6715E-05	1.2668E+20	7.3771E+17
Te-129	2.2994E+03	1.0980E-07	5.1257E+17	1.2556E+19
Te-129m	1.0343E+03	3.4333E-05	1.6028E+20	3.0346E+18
Te-131m	2.7984E+03	3.5094E-06	1.6133E+19	9.3499E+18
Te-132	2.2126E+04	7.2880E-05	3.3250E+20	6.8129E+19
I-131	1.1240E+05	9.0666E-04	4.1680E+21	3.1815E+20
I-132	4.4104E+04	4.2728E-06	1.9493E+19	3.8728E+20
I-133	1.8270E+05	1.6128E-04	7.3025E+20	6.1587E+20
I-134	4.7335E+02	1.7744E-08	7.9743E+16	2.5537E+20
I-135	9.8114E+04	2.7938E-05	1.2463E+20	5.0975E+20
Xe-133	9.1758E+07	4.9021E-01	2.2196E+24	8.7573E+22
Xe-135	2.1567E+07	8.4451E-03	3.7672E+22	2.6503E+22
Cs-134	1.7441E+04	1.3480E-02	6.0581E+22	6.2093E+19
Cs-136	4.6779E+03	6.3827E-05	2.8263E+20	1.6875E+19
Cs-137	1.3836E+04	1.5907E-01	6.9922E+23	4.9249E+19
Ba-139	2.1587E+02	1.3198E-08	5.7179E+16	1.4716E+19
Ba-140	1.1926E+04	1.6291E-04	7.0075E+20	3.5368E+19
La-140	1.3792E+03	2.4813E-06	1.0673E+19	9.5680E+17
La-141	2.7001E+01	4.7745E-09	2.0392E+16	2.2575E+17
La-142	2.9664E+00	2.0722E-10	8.7882E+14	1.4239E+17
Ce-141	2.7747E+02	9.7379E-06	4.1591E+19	8.1560E+17
Ce-143	2.1998E+02	3.3126E-07	1.3950E+18	7.2616E+17
Ce-144	2.3939E+02	7.5056E-05	3.1389E+20	7.0125E+17
Pr-143	1.0264E+02	1.5242E-06	6.4187E+18	2.9595E+17
Nd-147	4.3926E+01	5.4297E-07	2.2244E+18	1.3053E+17
Np-239	2.9770E+03	1.2833E-05	3.2335E+19	9.3466E+18
Pu-238	8.5922E-01	5.0189E-05	1.2699E+20	2.5154E+15
Pu-239	8.1252E-02	1.3072E-03	3.2938E+21	2.3771E+14
Pu-240	1.4871E-01	6.5262E-04	1.6376E+21	4.3537E+14
Pu-241	3.2838E+01	3.1878E-04	7.9656E+20	9.6140E+16
Am-241	2.1605E-02	6.2948E-06	1.5730E+19	6.3154E+13
Cm-242	5.4779E+00	1.6528E-06	4.1130E+18	1.6053E+16
Cm-244	3.1889E-01	3.9416E-06	9.7283E+18	9.3361E+14

## Sprayed Drywell Transport Group Inventory:

Time (h) =	8.0000	Atmosphere	Sump	
Noble gases (atoms)		1.7084E+25	0.0000E+00	
Elemental I (atoms)		5.4434E+20	5.4907E+22	
Organic I (atoms)		9.4434E+20	0.0000E+00	
Aerosols (kg)		1.8405E-01	5.2580E+01	
Dose Effective (Ci/cc)	I-131 (Thyroid)			5.4242E-05
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)			6.3565E-05
Total I (Ci)				4.3779E+05

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway		
Time (h) =	8.0000	Filtered	Transported
Noble gases (atoms)		0.0000E+00	3.6386E+22
Elemental I (atoms)		0.0000E+00	2.6506E+18
Organic I (atoms)		0.0000E+00	2.1622E+18
Aerosols (kg)		0.0000E+00	2.0301E-03

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
	Filtered	Transported
Time (h) = 8.0000		
Noble gases (atoms)	0.0000E+00	3.6386E+22
Elemental I (atoms)	0.0000E+00	2.6506E+18
Organic I (atoms)	0.0000E+00	2.1622E+18
Aerosols (kg)	0.0000E+00	2.0301E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
	Filtered	Transported
Time (h) = 8.0000		
Noble gases (atoms)	0.0000E+00	2.9076E+22
Elemental I (atoms)	0.0000E+00	2.1207E+18
Organic I (atoms)	0.0000E+00	1.7279E+18
Aerosols (kg)	0.0000E+00	1.6249E-03

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
	Filtered	Transported
Time (h) = 8.0000		
Noble gases (atoms)	0.0000E+00	1.5945E+26
Elemental I (atoms)	0.0000E+00	9.2709E+21
Organic I (atoms)	0.0000E+00	9.3485E+21
Aerosols (kg)	0.0000E+00	6.4492E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
	Filtered	Transported
Time (h) = 8.0000		
Noble gases (atoms)	0.0000E+00	1.4803E+26
Elemental I (atoms)	0.0000E+00	8.8533E+21
Organic I (atoms)	0.0000E+00	8.6625E+21
Aerosols (kg)	0.0000E+00	6.3410E+00

Exclusion Area Boundary Doses:

Time (h) = 24.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.6595E+01	2.9779E+02	3.8109E+01
Accumulated dose (rem)	6.0136E+01	5.6497E+02	8.3969E+01

Low Population Zone Doses:

Time (h) = 24.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	5.1234E-01	2.9504E+00	6.2641E-01
Accumulated dose (rem)	1.7530E+00	1.4521E+01	2.4054E+00

Control Room Doses:

Time (h) = 24.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.4563E-01	6.1824E+00	3.9155E-01
Accumulated dose (rem)	4.1131E-01	2.0558E+01	1.3073E+00

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 24.0000	Ci	kg	Atoms	Decay
Co-58	4.6811E+00	1.4721E-07	1.5285E+18	2.3974E+16
Co-60	5.6557E+00	5.0034E-06	5.0218E+19	2.8785E+16
Kr-85	8.1461E+05	2.0763E+00	1.4710E+25	2.5108E+21
Kr-85m	2.9595E+05	3.5962E-05	2.5478E+20	8.7965E+21
Kr-87	5.0659E+01	1.7885E-09	1.2380E+16	3.5768E+21
Kr-88	9.6534E+04	7.6985E-06	5.2684E+19	1.4625E+22
Rb-86	1.2658E+02	1.5557E-06	1.0893E+19	7.4379E+17
Sr-89	6.3252E+03	2.1772E-04	1.4732E+21	3.2479E+19



Sr-90	1.0086E+03	7.3940E-03	4.9475E+22	5.1322E+18
Sr-91	1.4121E+03	3.8953E-07	2.5778E+18	2.6168E+19
Sr-92	1.8581E+01	1.4783E-09	9.6767E+15	1.5972E+19
Y-90	2.2655E+02	4.1640E-07	2.7862E+18	3.8295E+17
Y-91	9.8400E+01	4.0124E-06	2.6553E+19	4.5113E+17
Y-92	1.8077E+02	1.8786E-08	1.2297E+17	3.3393E+18
Y-93	1.2699E+01	3.8064E-09	2.4648E+16	2.1661E+17
Zr-95	1.1681E+02	5.4375E-06	3.4469E+19	5.9867E+17
Zr-97	4.2901E+01	2.2441E-08	1.3933E+17	4.3849E+17
Nb-95	1.1805E+02	3.0189E-06	1.9137E+19	6.0071E+17
Mo-99	1.2030E+03	2.5082E-06	1.5257E+19	7.2581E+18
Tc-99m	1.2056E+03	2.2927E-07	1.3946E+18	6.6302E+18
Ru-103	1.3092E+03	4.0566E-05	2.3718E+20	6.7403E+18
Ru-105	2.2057E+01	3.2813E-09	1.8819E+16	2.2046E+18
Ru-106	5.8011E+02	1.7340E-04	9.8511E+20	2.9554E+18
Rh-105	6.2773E+02	7.4371E-07	4.2654E+18	4.1138E+18
Sb-127	1.2277E+03	4.5973E-06	2.1800E+19	7.0511E+18
Sb-129	1.1377E+02	2.0231E-08	9.4446E+16	1.2461E+19
Te-127	1.3723E+03	5.2000E-07	2.4657E+18	7.2210E+18
Te-127m	2.5006E+02	2.6510E-05	1.2571E+20	1.2726E+18
Te-129	1.0368E+03	4.9505E-08	2.3111E+17	1.5134E+19
Te-129m	1.0142E+03	3.3667E-05	1.5717E+20	5.2177E+18
Te-131m	1.9193E+03	2.4069E-06	1.1065E+19	1.4318E+19
Te-132	1.9058E+04	6.2776E-05	2.8640E+20	1.1193E+20
I-131	1.0544E+05	8.5050E-04	3.9098E+21	5.5016E+20
I-132	2.2807E+04	2.2095E-06	1.0080E+19	4.4040E+20
I-133	1.0640E+05	9.3926E-05	4.2529E+20	9.1660E+20
I-134	1.5062E-03	5.6459E-14	2.5374E+11	2.5545E+20
I-135	1.8190E+04	5.1796E-06	2.3106E+19	6.1081E+20
Xe-133	8.3409E+07	4.4560E-01	2.0177E+24	2.7406E+23
Xe-135	6.3441E+06	2.4843E-03	1.1082E+22	5.3015E+22
Cs-134	1.7301E+04	1.3372E-02	6.0095E+22	9.9108E+19
Cs-136	4.4824E+03	6.1159E-05	2.7081E+20	2.6633E+19
Cs-137	1.3733E+04	1.5788E-01	6.9402E+23	7.8622E+19
Ba-139	6.8636E-02	4.1961E-12	1.8180E+13	1.4773E+19
Ba-140	1.1416E+04	1.5594E-04	6.7079E+20	6.0234E+19
La-140	3.8538E+03	6.9334E-06	2.9824E+19	6.5206E+18
La-141	1.5944E+00	2.8192E-10	1.2041E+15	2.4488E+17
La-142	2.2121E-03	1.5453E-13	6.5534E+11	1.4327E+17
Ce-141	2.7165E+02	9.5338E-06	4.0719E+19	1.4007E+18
Ce-143	1.5603E+02	2.3496E-07	9.8947E+17	1.1229E+18
Ce-144	2.3723E+02	7.4380E-05	3.1106E+20	1.2091E+18
Pr-143	1.0467E+02	1.5545E-06	6.5462E+18	5.1693E+17
Nd-147	4.1804E+01	5.1674E-07	2.1169E+18	2.2185E+17
Np-239	2.4285E+03	1.0468E-05	2.6377E+19	1.5086E+19
Pu-238	8.5292E-01	4.9821E-05	1.2606E+20	4.3395E+15
Pu-239	8.0792E-02	1.2998E-03	3.2752E+21	4.1035E+14
Pu-240	1.4761E-01	6.4779E-04	1.6254E+21	7.5107E+14
Pu-241	3.2592E+01	3.1639E-04	7.9059E+20	1.6585E+17
Am-241	2.1540E-02	6.2760E-06	1.5683E+19	1.0912E+14
Cm-242	5.4219E+00	1.6359E-06	4.0710E+18	2.7666E+16
Cm-244	3.1651E-01	3.9122E-06	9.6556E+18	1.6106E+15

## Sprayed Drywell Transport Group Inventory:

Time (h) = 24.0000	Atmosphere	Sump	
Noble gases (atoms)	1.6739E+25	0.0000E+00	
Elemental I (atoms)	4.7156E+20	5.4907E+22	
Organic I (atoms)	8.1809E+20	0.0000E+00	
Aerosols (kg)	1.8255E-01	5.2580E+01	
Dose Effective (Ci/cc) I-131 (Thyroid)			4.6025E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			5.0637E-05
Total I (Ci)			2.5284E+05

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

Time (h) = 24.0000	Pathway	
	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.1107E+23
Elemental I (atoms)	0.0000E+00	4.8852E+18
Organic I (atoms)	0.0000E+00	6.0388E+18
Aerosols (kg)	0.0000E+00	2.8395E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

Time (h) = 24.0000	Pathway	
	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.1107E+23
Elemental I (atoms)	0.0000E+00	4.8852E+18
Organic I (atoms)	0.0000E+00	6.0388E+18
Aerosols (kg)	0.0000E+00	2.8395E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

Time (h) = 24.0000	Pathway	
	Filtered	Transported
Noble gases (atoms)	0.0000E+00	8.8718E+22
Elemental I (atoms)	0.0000E+00	3.9053E+18
Organic I (atoms)	0.0000E+00	4.8239E+18
Aerosols (kg)	0.0000E+00	2.2714E-03

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

Time (h) = 24.0000	Pathway	
	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.1832E+26
Elemental I (atoms)	0.0000E+00	2.0009E+22
Organic I (atoms)	0.0000E+00	2.7977E+22
Aerosols (kg)	0.0000E+00	1.0339E+01

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

Time (h) = 24.0000	Pathway	
	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.0699E+26
Elemental I (atoms)	0.0000E+00	1.9594E+22
Organic I (atoms)	0.0000E+00	2.7296E+22
Aerosols (kg)	0.0000E+00	1.0232E+01

Exclusion Area Boundary Doses:

Time (h) = 48.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	7.6033E+00	1.7741E+02	1.4592E+01
Accumulated dose (rem)	6.7739E+01	7.4238E+02	9.8562E+01

Low Population Zone Doses:

Time (h) = 48.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	5.5683E-02	8.5382E-01	8.9318E-02
Accumulated dose (rem)	1.8087E+00	1.5375E+01	2.4947E+00

Control Room Doses:

Time (h) = 48.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.5854E-02	1.3618E+00	6.9332E-02
Accumulated dose (rem)	4.2717E-01	2.1920E+01	1.3767E+00

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 48.0000	Ci	kg	Atoms	Decay
Co-58	4.6100E+00	1.4498E-07	1.5053E+18	3.8823E+16
Co-60	5.6226E+00	4.9740E-06	4.9924E+19	4.6810E+16
Kr-85	8.0998E+05	2.0645E+00	1.4627E+25	5.1073E+21
Kr-85m	7.1805E+03	8.7253E-07	6.1818E+18	9.0447E+21
Kr-87	1.0494E-04	3.7049E-15	2.5645E+10	3.5768E+21
Kr-88	2.7439E+02	2.1882E-08	1.4975E+17	1.4677E+22
Rb-86	1.2129E+02	1.4907E-06	1.0438E+19	1.1399E+18
Sr-89	6.2047E+03	2.1357E-04	1.4451E+21	5.2505E+19
Sr-90	1.0030E+03	7.3528E-03	4.9199E+22	8.3472E+18
Sr-91	2.4376E+02	6.7244E-08	4.4500E+17	2.8294E+19
Sr-92	3.9878E-02	3.1726E-12	2.0767E+13	1.5982E+19
Y-90	4.0456E+02	7.4358E-07	4.9755E+18	1.3871E+18
Y-91	9.9979E+01	4.0768E-06	2.6979E+19	7.6945E+17
Y-92	2.0994E+00	2.1818E-10	1.4282E+15	3.4703E+18
Y-93	2.4325E+00	7.2911E-10	4.7213E+15	2.3647E+17
Zr-95	1.1492E+02	5.3493E-06	3.3909E+19	9.6902E+17
Zr-97	1.5943E+01	8.3398E-09	5.1777E+16	5.2554E+17
Nb-95	1.1734E+02	3.0008E-06	1.9023E+19	9.7678E+17
Mo-99	9.2980E+02	1.9386E-06	1.1793E+19	1.0648E+19
Tc-99m	9.5153E+02	1.8096E-07	1.1008E+18	9.9003E+18
Ru-103	1.2793E+03	3.9637E-05	2.3175E+20	1.0877E+19
Ru-105	5.1756E-01	7.6994E-11	4.4159E+14	2.2230E+18
Ru-106	5.7583E+02	1.7212E-04	9.7785E+20	4.8029E+18
Rh-105	3.9190E+02	4.6431E-07	2.6630E+18	5.7156E+18
Sb-127	1.0198E+03	3.8187E-06	1.8108E+19	1.0633E+19
Sb-129	2.4057E+00	4.2780E-10	1.9971E+15	1.2553E+19
Te-127	1.2106E+03	4.5872E-07	2.1752E+18	1.1216E+19
Te-127m	2.4838E+02	2.6332E-05	1.2486E+20	2.0692E+18
Te-129	8.5787E+02	4.0964E-08	1.9123E+17	1.7324E+19
Te-129m	9.8817E+02	3.2802E-05	1.5313E+20	8.4180E+18
Te-131m	1.0963E+03	1.3748E-06	6.3200E+18	1.9015E+19
Te-132	1.5321E+04	5.0467E-05	2.3024E+20	1.6666E+20
I-131	9.6292E+04	7.7671E-04	3.5706E+21	8.7237E+20
I-132	1.8288E+04	1.7717E-06	8.0828E+18	4.9708E+20
I-133	4.7555E+04	4.1980E-05	1.9008E+20	1.1502E+21
I-135	1.4603E+03	4.1582E-07	1.8549E+18	6.3201E+20
Xe-133	7.2690E+07	3.8834E-01	1.7584E+24	5.2315E+23
Xe-135	1.0154E+06	3.9761E-04	1.7737E+21	6.2312E+22
Cs-134	1.7190E+04	1.3286E-02	5.9710E+22	1.5423E+20
Cs-136	4.2280E+03	5.7687E-05	2.5544E+20	4.0550E+19
Cs-137	1.3657E+04	1.5701E-01	6.9015E+23	1.2240E+20
Ba-139	3.9131E-07	2.3923E-17	1.0365E+08	1.4773E+19
Ba-140	1.0752E+04	1.4687E-04	6.3177E+20	9.5654E+19
La-140	6.3001E+03	1.1335E-05	4.8756E+19	2.2789E+19
La-141	2.3006E-02	4.0680E-12	1.7375E+13	2.4607E+17
La-142	4.5300E-08	3.1645E-18	1.3420E+07	1.4327E+17
Ce-141	2.6446E+02	9.2815E-06	3.9642E+19	2.2575E+18
Ce-143	9.3731E+01	1.4114E-07	5.9439E+17	1.5136E+18
Ce-144	2.3535E+02	7.3790E-05	3.0859E+20	1.9644E+18
Pr-143	1.0498E+02	1.5590E-06	6.5652E+18	8.5244E+17
Nd-147	3.9030E+01	4.8246E-07	1.9765E+18	3.5100E+17
Np-239	1.7994E+03	7.7561E-06	1.9543E+19	2.1793E+19
Pu-238	8.4832E-01	4.9552E-05	1.2538E+20	7.0585E+15
Pu-239	8.0512E-02	1.2953E-03	3.2638E+21	6.6816E+14
Pu-240	1.4680E-01	6.4422E-04	1.6165E+21	1.2216E+15
Pu-241	3.2408E+01	3.1460E-04	7.8614E+20	2.6974E+17
Am-241	2.1564E-02	6.2829E-06	1.5700E+19	1.7800E+14
Cm-242	5.3692E+00	1.6200E-06	4.0314E+18	4.4913E+16
Cm-244	3.1473E-01	3.8902E-06	9.6015E+18	2.6194E+15

## Sprayed Drywell Transport Group Inventory:

Time (h) = 48.0000	Atmosphere	Sump	
Noble gases (atoms)	1.6387E+25	0.0000E+00	
Elemental I (atoms)	4.0705E+20	5.4907E+22	
Organic I (atoms)	7.0616E+20	0.0000E+00	
Aerosols (kg)	1.8141E-01	5.2580E+01	
Dose Effective (Ci/cc) I-131 (Thyroid)			3.8794E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			4.0811E-05
Total I (Ci)			1.6360E+05

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 48.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.6580E+23
Elemental I (atoms)	0.0000E+00	6.3333E+18
Organic I (atoms)	0.0000E+00	8.5509E+18
Aerosols (kg)	0.0000E+00	3.4409E-03

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 48.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.6580E+23
Elemental I (atoms)	0.0000E+00	6.3333E+18
Organic I (atoms)	0.0000E+00	8.5509E+18
Aerosols (kg)	0.0000E+00	3.4409E-03

## Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 48.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.3266E+23
Elemental I (atoms)	0.0000E+00	5.0677E+18
Organic I (atoms)	0.0000E+00	6.8405E+18
Aerosols (kg)	0.0000E+00	2.7541E-03

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 48.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.0456E+27
Elemental I (atoms)	0.0000E+00	3.3958E+22
Organic I (atoms)	0.0000E+00	5.2177E+22
Aerosols (kg)	0.0000E+00	1.6132E+01

## Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 48.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.0343E+27
Elemental I (atoms)	0.0000E+00	3.3545E+22
Organic I (atoms)	0.0000E+00	5.1498E+22
Aerosols (kg)	0.0000E+00	1.6025E+01

## Exclusion Area Boundary Doses:

Time (h) = 72.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	5.3062E+00	1.4092E+02	1.1142E+01
Accumulated dose (rem)	7.3045E+01	8.8330E+02	1.0970E+02

## Low Population Zone Doses:

Time (h) = 72.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.8860E-02	6.7820E-01	6.6948E-02
Accumulated dose (rem)	1.8476E+00	1.6053E+01	2.5617E+00

## Control Room Doses:

Time (h) = 72.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	9.4887E-03	9.4895E-01	4.8732E-02
Accumulated dose (rem)	4.3666E-01	2.2869E+01	1.4254E+00

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 72.0000	Ci	kg	Atoms	Decay
Co-58	4.5397E+00	1.4277E-07	1.4824E+18	5.3446E+16
Co-60	5.5893E+00	4.9446E-06	4.9629E+19	6.4729E+16
Kr-85	8.0534E+05	2.0527E+00	1.4543E+25	7.6889E+21
Kr-85m	1.7421E+02	2.1169E-08	1.4998E+17	9.0507E+21
Kr-87	2.1739E-10	7.6747E-21	5.3124E+04	3.5768E+21
Kr-88	7.7989E-01	6.2196E-11	4.2563E+14	1.4677E+22
Rb-86	1.1622E+02	1.4283E-06	1.0002E+19	1.5194E+18
Sr-89	6.0861E+03	2.0949E-04	1.4175E+21	7.2147E+19
Sr-90	9.9734E+02	7.3115E-03	4.8923E+22	1.1544E+19
Sr-91	4.2077E+01	1.1607E-08	7.6815E+16	2.8661E+19
Sr-92	8.5579E-05	6.8085E-15	4.4567E+10	1.5982E+19
Y-90	5.3975E+02	9.9208E-07	6.6383E+18	2.8889E+18
Y-91	9.8818E+01	4.0295E-06	2.6666E+19	1.0874E+18
Y-92	1.9996E-02	2.0781E-12	1.3603E+13	3.4718E+18
Y-93	4.6593E-01	1.3965E-10	9.0432E+14	2.4027E+17
Zr-95	1.1305E+02	5.2622E-06	3.3358E+19	1.3334E+18
Zr-97	5.9245E+00	3.0991E-09	1.9241E+16	5.5789E+17
Nb-95	1.1661E+02	2.9821E-06	1.8904E+19	1.3505E+18
Mo-99	7.1863E+02	1.4984E-06	9.1145E+18	1.3268E+19
Tc-99m	7.3667E+02	1.4010E-07	8.5221E+17	1.2449E+19
Ru-103	1.2499E+03	3.8728E-05	2.2643E+20	1.4919E+19
Ru-105	1.2144E-02	1.8066E-12	1.0361E+13	2.2234E+18
Ru-106	5.7156E+02	1.7084E-04	9.7059E+20	6.6367E+18
Rh-105	2.4351E+02	2.8850E-07	1.6547E+18	6.7124E+18
Sb-127	8.4704E+02	3.1718E-06	1.5040E+19	1.3608E+19
Sb-129	5.0866E-02	9.0455E-12	4.2227E+13	1.2555E+19
Te-127	1.0515E+03	3.9841E-07	1.8892E+18	1.4706E+19
Te-127m	2.4650E+02	2.6132E-05	1.2392E+20	2.8601E+18
Te-129	8.3246E+02	3.9750E-08	1.8557E+17	1.9356E+19
Te-129m	9.6262E+02	3.1954E-05	1.4917E+20	1.1536E+19
Te-131m	6.2615E+02	7.8523E-07	3.6097E+18	2.1698E+19
Te-132	1.2317E+04	4.0569E-05	1.8509E+20	2.1065E+20
I-131	8.7902E+04	7.0903E-04	3.2595E+21	1.1665E+21
I-132	1.4701E+04	1.4242E-06	6.4977E+18	5.4262E+20
I-133	2.1254E+04	1.8762E-05	8.4954E+19	1.2546E+21
I-135	1.1723E+02	3.3380E-08	1.4890E+17	6.3371E+20
Xe-133	6.3341E+07	3.3840E-01	1.5322E+24	7.4022E+23
Xe-135	1.6223E+05	6.3528E-05	2.8339E+20	6.3799E+22
Cs-134	1.7079E+04	1.3200E-02	5.9323E+22	2.0900E+20
Cs-136	3.9878E+03	5.4410E-05	2.4093E+20	5.3677E+19
Cs-137	1.3580E+04	1.5612E-01	6.8628E+23	1.6593E+20
Ba-140	1.0126E+04	1.3832E-04	5.9499E+20	1.2901E+20
La-140	7.6904E+03	1.3836E-05	5.9516E+19	4.5084E+19
La-141	3.3195E-04	5.8696E-14	2.5069E+11	2.4608E+17
Ce-141	2.5744E+02	9.0352E-06	3.8590E+19	3.0915E+18
Ce-143	5.6303E+01	8.4783E-08	3.5705E+17	1.7484E+18
Ce-144	2.3348E+02	7.3202E-05	3.0613E+20	2.7136E+18
Pr-143	1.0284E+02	1.5272E-06	6.4313E+18	1.1848E+18
Nd-147	3.6439E+01	4.5043E-07	1.8453E+18	4.7156E+17
Np-239	1.3331E+03	5.7465E-06	1.4480E+19	2.6762E+19

Pu-238	8.4371E-01	4.9283E-05	1.2470E+20	9.7627E+15
Pu-239	8.0187E-02	1.2901E-03	3.2507E+21	9.2499E+14
Pu-240	1.4598E-01	6.4065E-04	1.6075E+21	1.6895E+15
Pu-241	3.2224E+01	3.1282E-04	7.8167E+20	3.7303E+17
Am-241	2.1586E-02	6.2892E-06	1.5716E+19	2.4695E+14
Cm-242	5.3167E+00	1.6042E-06	3.9919E+18	6.1991E+16
Cm-244	3.1295E-01	3.8682E-06	9.5471E+18	3.6226E+15

## Sprayed Drywell Transport Group Inventory:

Time (h) = 72.0000	Atmosphere	Sump	
Noble gases (atoms)	1.6076E+25	0.0000E+00	
Elemental I (atoms)	3.6175E+20	5.4907E+22	
Organic I (atoms)	6.2759E+20	0.0000E+00	
Aerosols (kg)	1.8029E-01	5.2580E+01	
Dose Effective (Ci/cc) I-131 (Thyroid)			3.4025E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			3.4989E-05
Total I (Ci)			1.2397E+05

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 72.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.1944E+23
Elemental I (atoms)	0.0000E+00	7.6030E+18
Organic I (atoms)	0.0000E+00	1.0754E+19
Aerosols (kg)	0.0000E+00	4.0385E-03

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 72.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.1944E+23
Elemental I (atoms)	0.0000E+00	7.6030E+18
Organic I (atoms)	0.0000E+00	1.0754E+19
Aerosols (kg)	0.0000E+00	4.0385E-03

## Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 72.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.7572E+23
Elemental I (atoms)	0.0000E+00	6.0870E+18
Organic I (atoms)	0.0000E+00	8.6088E+18
Aerosols (kg)	0.0000E+00	3.2338E-03

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 72.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.5623E+27
Elemental I (atoms)	0.0000E+00	4.6190E+22
Organic I (atoms)	0.0000E+00	7.3397E+22
Aerosols (kg)	0.0000E+00	2.1889E+01

## Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 72.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.5511E+27
Elemental I (atoms)	0.0000E+00	4.5778E+22
Organic I (atoms)	0.0000E+00	7.2721E+22
Aerosols (kg)	0.0000E+00	2.1783E+01

## Exclusion Area Boundary Doses:

Time (h) = 96.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	4.4239E+00	1.1531E+02	9.4561E+00
Accumulated dose (rem)	7.7469E+01	9.9862E+02	1.1916E+02

## Low Population Zone Doses:

Time (h) = 96.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.2398E-02	5.5496E-01	5.6616E-02
Accumulated dose (rem)	1.8800E+00	1.6608E+01	2.6183E+00

## Control Room Doses:

Time (h) = 96.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	7.9197E-03	7.7645E-01	4.1749E-02
Accumulated dose (rem)	4.4458E-01	2.3645E+01	1.4671E+00

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 96.0000	Ci	kg	Atoms	Decay
Co-58	4.4705E+00	1.4059E-07	1.4598E+18	6.7847E+16
Co-60	5.5563E+00	4.9154E-06	4.9335E+19	8.2542E+16
Kr-85	8.0073E+05	2.0409E+00	1.4460E+25	1.0256E+22
Kr-85m	4.2267E+00	5.1360E-10	3.6388E+15	9.0508E+21
Kr-88	2.2167E-03	1.7678E-13	1.2097E+12	1.4677E+22
Rb-86	1.1136E+02	1.3686E-06	9.5837E+18	1.8831E+18
Sr-89	5.9698E+03	2.0548E-04	1.3904E+21	9.1414E+19
Sr-90	9.9173E+02	7.2704E-03	4.8648E+22	1.4723E+19
Sr-91	7.2632E+00	2.0036E-09	1.3260E+16	2.8724E+19
Sr-92	1.8365E-07	1.4611E-17	9.5642E+07	1.5982E+19
Y-90	6.4214E+02	1.1803E-06	7.8974E+18	4.7682E+18
Y-91	9.7210E+01	3.9639E-06	2.6232E+19	1.4007E+18
Y-92	1.8312E-04	1.9031E-14	1.2457E+11	3.4718E+18
Y-93	8.9246E-02	2.6750E-11	1.7322E+14	2.4100E+17
Zr-95	1.1121E+02	5.1766E-06	3.2815E+19	1.6918E+18
Zr-97	2.2016E+00	1.1517E-09	7.1499E+15	5.6991E+17
Nb-95	1.1586E+02	2.9629E-06	1.8782E+19	1.7219E+18
Mo-99	5.5542E+02	1.1581E-06	7.0444E+18	1.5293E+19
Tc-99m	5.6944E+02	1.0829E-07	6.5875E+17	1.4420E+19
Ru-103	1.2212E+03	3.7839E-05	2.2124E+20	1.8868E+19
Ru-105	2.8493E-04	4.2388E-14	2.4311E+11	2.2234E+18
Ru-106	5.6732E+02	1.6957E-04	9.6338E+20	8.4569E+18
Rh-105	1.5128E+02	1.7923E-07	1.0280E+18	7.3317E+18
Sb-127	7.0355E+02	2.6345E-06	1.2492E+19	1.6079E+19
Sb-129	1.0755E-03	1.9126E-13	8.9286E+11	1.2555E+19
Te-127	9.1469E+02	3.4659E-07	1.6435E+18	1.7737E+19
Te-127m	2.4445E+02	2.5916E-05	1.2289E+20	3.6447E+18
Te-129	8.1087E+02	3.8719E-08	1.8075E+17	2.1334E+19
Te-129m	9.3773E+02	3.1128E-05	1.4531E+20	1.4573E+19
Te-131m	3.5763E+02	4.4849E-07	2.0617E+18	2.3231E+19
Te-132	9.9011E+03	3.2613E-05	1.4879E+20	2.4602E+20
I-131	8.0224E+04	6.4710E-04	2.9748E+21	1.4351E+21
I-132	1.1818E+04	1.1449E-06	5.2234E+18	5.7923E+20
I-133	9.4990E+03	8.3854E-06	3.7968E+19	1.3012E+21
I-135	9.4104E+00	2.6796E-09	1.1953E+16	6.3385E+20
Xe-133	5.5194E+07	2.9487E-01	1.3351E+24	9.2936E+23
Xe-135	2.5900E+04	1.0142E-05	4.5241E+19	6.4037E+22
Cs-134	1.6968E+04	1.3115E-02	5.8940E+22	2.6342E+20
Cs-136	3.7613E+03	5.1320E-05	2.2725E+20	6.6058E+19
Cs-137	1.3504E+04	1.5525E-01	6.8242E+23	2.0921E+20
Ba-140	9.5368E+03	1.3027E-04	5.6035E+20	1.6043E+20
La-140	8.3988E+03	1.5110E-05	6.4998E+19	7.0671E+19

La-141	4.7896E-06	8.4692E-16	3.6172E+09	2.4608E+17
Ce-141	2.5061E+02	8.7955E-06	3.7566E+19	3.9035E+18
Ce-143	3.3821E+01	5.0929E-08	2.1447E+17	1.8894E+18
Ce-144	2.3161E+02	7.2618E-05	3.0369E+20	3.4570E+18
Pr-143	9.9359E+01	1.4755E-06	6.2138E+18	1.5080E+18
Nd-147	3.4020E+01	4.2052E-07	1.7228E+18	5.8413E+17
Np-239	9.8771E+02	4.2575E-06	1.0728E+19	3.0444E+19
Pu-238	8.3912E-01	4.9015E-05	1.2402E+20	1.2452E+16
Pu-239	7.9833E-02	1.2844E-03	3.2363E+21	1.1807E+15
Pu-240	1.4517E-01	6.3709E-04	1.5986E+21	2.1549E+15
Pu-241	3.2041E+01	3.1104E-04	7.7723E+20	4.7574E+17
Am-241	2.1606E-02	6.2953E-06	1.5731E+19	3.1597E+14
Cm-242	5.2647E+00	1.5885E-06	3.9529E+18	7.8902E+16
Cm-244	3.1118E-01	3.8463E-06	9.4931E+18	4.6201E+15

## Sprayed Drywell Transport Group Inventory:

Time (h) = 96.0000	Atmosphere	Sump	
Noble gases (atoms)	1.5795E+25	0.0000E+00	
Elemental I (atoms)	3.2580E+20	5.4907E+22	
Organic I (atoms)	5.6520E+20	0.0000E+00	
Aerosols (kg)	1.7920E-01	5.2580E+01	
Dose Effective (Ci/cc) I-131 (Thyroid)			3.0436E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			3.0925E-05
Total I (Ci)			1.0155E+05

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.7211E+23
Elemental I (atoms)	0.0000E+00	8.7395E+18
Organic I (atoms)	0.0000E+00	1.2725E+19
Aerosols (kg)	0.0000E+00	4.6324E-03

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.7211E+23
Elemental I (atoms)	0.0000E+00	8.7395E+18
Organic I (atoms)	0.0000E+00	1.2725E+19
Aerosols (kg)	0.0000E+00	4.6324E-03

## Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.1799E+23
Elemental I (atoms)	0.0000E+00	6.9993E+18
Organic I (atoms)	0.0000E+00	1.0191E+19
Aerosols (kg)	0.0000E+00	3.7106E-03

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.0696E+27
Elemental I (atoms)	0.0000E+00	5.7137E+22
Organic I (atoms)	0.0000E+00	9.2389E+22
Aerosols (kg)	0.0000E+00	2.7610E+01

## Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:



	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.0585E+27
Elemental I (atoms)	0.0000E+00	5.6727E+22
Organic I (atoms)	0.0000E+00	9.1715E+22
Aerosols (kg)	0.0000E+00	2.7505E+01

## Exclusion Area Boundary Doses:

Time (h) = 240.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.6701E+01	4.7109E+02	3.9847E+01
Accumulated dose (rem)	9.4170E+01	1.4697E+03	1.5901E+02

## Low Population Zone Doses:

Time (h) = 240.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.0946E-02	5.7363E-01	5.9130E-02
Accumulated dose (rem)	1.9109E+00	1.7181E+01	2.6774E+00

## Control Room Doses:

Time (h) = 240.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.2264E-02	1.2946E+00	7.5801E-02
Accumulated dose (rem)	4.5684E-01	2.4940E+01	1.5429E+00

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 240.0000	Ci	kg	Atoms	Decay
Co-58	4.0770E+00	1.2822E-07	1.3313E+18	1.4975E+17
Co-60	5.3621E+00	4.7436E-06	4.7611E+19	1.8723E+17
Kr-85	7.7360E+05	1.9718E+00	1.3970E+25	2.5351E+22
Kr-85m	8.6203E-10	1.0475E-19	7.4213E+05	9.0508E+21
Rb-86	8.6185E+01	1.0592E-06	7.4170E+18	3.7671E+18
Sr-89	5.3172E+03	1.8302E-04	1.2384E+21	1.9953E+20
Sr-90	9.5877E+02	7.0288E-03	4.7031E+22	3.3425E+19
Sr-91	1.9215E-04	5.3007E-14	3.5078E+11	2.8737E+19
Y-90	8.9199E+02	1.6395E-06	1.0970E+19	2.0068E+19
Y-91	8.7584E+01	3.5714E-06	2.3634E+19	3.1713E+18
Y-93	4.4072E-06	1.3210E-15	8.5539E+09	2.4117E+17
Zr-95	1.0079E+02	4.6914E-06	2.9740E+19	3.7230E+18
Zr-97	5.7974E-03	3.0326E-12	1.8828E+13	5.7700E+17
Nb-95	1.1105E+02	2.8400E-06	1.8003E+19	3.8978E+18
Mo-99	1.1839E+02	2.4685E-07	1.5016E+18	2.0716E+19
Tc-99m	1.2138E+02	2.3084E-08	1.4042E+17	1.9699E+19
Ru-103	1.0624E+03	3.2919E-05	1.9247E+20	4.0732E+19
Ru-106	5.4251E+02	1.6216E-04	9.2126E+20	1.9098E+19
Rh-105	8.6969E+00	1.0304E-08	5.9096E+16	8.2892E+18
Sb-127	2.3102E+02	8.6508E-07	4.1021E+18	2.4217E+19
Te-127	4.5358E+02	1.7187E-07	8.1497E+17	2.9665E+19
Te-127m	2.3036E+02	2.4422E-05	1.1581E+20	8.2011E+18
Te-129	6.9292E+02	3.3087E-08	1.5446E+17	3.2172E+19
Te-129m	8.0133E+02	2.6600E-05	1.2418E+20	3.1215E+19
Te-131m	1.2416E+01	1.5570E-08	7.1578E+16	2.5201E+19
Te-132	2.6721E+03	8.8015E-06	4.0154E+19	3.5187E+20
I-131	4.6282E+04	3.7331E-04	1.7161E+21	2.6186E+21
I-132	3.1894E+03	3.0899E-07	1.4097E+18	6.8880E+20
I-133	7.5703E+01	6.6828E-08	3.0259E+17	1.3386E+21
I-135	2.5183E-06	7.1708E-16	3.1988E+09	6.3386E+20
Xe-133	2.4156E+07	1.2905E-01	5.8434E+23	1.6498E+24
Xe-135	4.2693E-01	1.6718E-10	7.4576E+14	6.4082E+22
Cs-134	1.6320E+04	1.2614E-02	5.6689E+22	5.8259E+20
Cs-136	2.6482E+03	3.6133E-05	1.6000E+20	1.2690E+20
Cs-137	1.3055E+04	1.5009E-01	6.5975E+23	4.6387E+20

Ba-140	6.6546E+03	9.0899E-05	3.9100E+20	3.1404E+20
La-140	7.5128E+03	1.3516E-05	5.8142E+19	2.2898E+20
Ce-141	2.1327E+02	7.4847E-06	3.1967E+19	8.3421E+18
Ce-143	1.5889E+00	2.3926E-09	1.0076E+16	2.0915E+18
Ce-144	2.2075E+02	6.9212E-05	2.8945E+20	7.7940E+18
Pr-143	7.3253E+01	1.0878E-06	4.5811E+18	3.1624E+18
Nd-147	2.2528E+01	2.7847E-07	1.1408E+18	1.1188E+18
Np-239	1.6337E+02	7.0419E-07	1.7744E+18	3.9230E+19
Pu-238	8.1209E-01	4.7436E-05	1.2003E+20	2.8285E+16
Pu-239	7.7422E-02	1.2456E-03	3.1385E+21	2.6891E+15
Pu-240	1.4040E-01	6.1616E-04	1.5461E+21	4.8930E+15
Pu-241	3.0964E+01	3.0058E-04	7.5109E+20	1.0799E+18
Am-241	2.1712E-02	6.3260E-06	1.5808E+19	7.3136E+14
Cm-242	4.9633E+00	1.4975E-06	3.7266E+18	1.7695E+17
Cm-244	3.0077E-01	3.7176E-06	9.1754E+18	1.0488E+16

## Sprayed Drywell Transport Group Inventory:

Time (h) = 240.0000	Atmosphere	Sump	
Noble gases (atoms)	1.4554E+25	0.0000E+00	
Elemental I (atoms)	1.8545E+20	5.4907E+22	
Organic I (atoms)	3.2172E+20	0.0000E+00	
Aerosols (kg)	1.7289E-01	5.2580E+01	
Dose Effective (Ci/cc) I-131 (Thyroid)			1.7216E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			1.7255E-05
Total I (Ci)			4.9547E+04

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 240.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.7197E+23
Elemental I (atoms)	0.0000E+00	1.3669E+19
Organic I (atoms)	0.0000E+00	2.1278E+19
Aerosols (kg)	0.0000E+00	8.1222E-03

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 240.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.7197E+23
Elemental I (atoms)	0.0000E+00	1.3669E+19
Organic I (atoms)	0.0000E+00	2.1278E+19
Aerosols (kg)	0.0000E+00	8.1222E-03

## Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 240.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.5871E+23
Elemental I (atoms)	0.0000E+00	1.0957E+19
Organic I (atoms)	0.0000E+00	1.7057E+19
Aerosols (kg)	0.0000E+00	6.5121E-03

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 240.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.9583E+27
Elemental I (atoms)	0.0000E+00	1.0463E+23
Organic I (atoms)	0.0000E+00	1.7477E+23
Aerosols (kg)	0.0000E+00	6.1227E+01

## Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 240.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.9474E+27
Elemental I (atoms)	0.0000E+00	1.0422E+23
Organic I (atoms)	0.0000E+00	1.7411E+23
Aerosols (kg)	0.0000E+00	6.1126E+01

## Exclusion Area Boundary Doses:

Time (h) = 720.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.2363E+01	5.1480E+02	5.4404E+01
Accumulated dose (rem)	1.0653E+02	1.9845E+03	2.1341E+02

## Low Population Zone Doses:

Time (h) = 720.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.2908E-02	6.2684E-01	7.4099E-02
Accumulated dose (rem)	1.9338E+00	1.7808E+01	2.7515E+00

## Control Room Doses:

Time (h) = 720.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	8.9144E-03	1.4018E+00	1.2338E-01
Accumulated dose (rem)	4.6575E-01	2.6342E+01	1.6663E+00

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 720.0000	Ci	kg	Atoms	Decay
Co-58	2.9987E+00	9.4306E-08	9.7918E+17	3.7416E+17
Co-60	4.7626E+00	4.2133E-06	4.2288E+19	5.1048E+17
Kr-85	6.8962E+05	1.7577E+00	1.2453E+25	7.2070E+22
Rb-86	3.6679E+01	4.5078E-07	3.1566E+18	7.4717E+18
Sr-89	3.6149E+03	1.2443E-04	8.4194E+20	4.8155E+20
Sr-90	8.5661E+02	6.2798E-03	4.2020E+22	9.1391E+19
Y-90	8.6112E+02	1.5828E-06	1.0591E+19	7.7183E+19
Y-91	6.1824E+01	2.5210E-06	1.6683E+19	7.8993E+18
Zr-95	7.2599E+01	3.3794E-06	2.1422E+19	9.2160E+18
Zr-97	1.4619E-11	7.6470E-21	4.7476E+04	5.7702E+17
Nb-95	9.2950E+01	2.3770E-06	1.5068E+19	1.0426E+19
Mo-99	6.8493E-01	1.4281E-09	8.6870E+15	2.2176E+19
Tc-99m	7.0222E-01	1.3355E-10	8.1236E+14	2.1121E+19
Ru-103	6.6782E+02	2.0692E-05	1.2098E+20	9.5065E+19
Ru-106	4.6740E+02	1.3971E-04	7.9372E+20	5.1319E+19
Rh-105	6.3770E-04	7.5552E-13	4.3332E+12	8.3476E+18
Sb-127	5.6428E+00	2.1130E-08	1.0019E+17	2.8098E+19
Te-127	1.9170E+02	7.2640E-08	3.4445E+17	4.6164E+19
Te-127m	1.8264E+02	1.9362E-05	9.1813E+19	2.1364E+19
Te-129	4.1033E+02	1.9593E-08	9.1468E+16	5.8140E+19
Te-129m	4.7453E+02	1.5752E-05	7.3535E+19	7.1089E+19
Te-131m	1.6949E-04	2.1255E-13	9.7709E+11	2.5272E+19
Te-132	3.3941E+01	1.1180E-07	5.1005E+17	3.9050E+20
I-131	7.3829E+03	5.9552E-05	2.7376E+20	3.9734E+21
I-132	4.0512E+01	3.9248E-09	1.7906E+16	7.2878E+20
I-133	7.6543E-06	6.7569E-15	3.0595E+10	1.3389E+21
Xe-133	1.5374E+06	8.2135E-03	3.7190E+22	2.1747E+24
Cs-134	1.4334E+04	1.1079E-02	4.9790E+22	1.5611E+21
Cs-136	8.2223E+02	1.1219E-05	4.9677E+19	2.2670E+20
Cs-137	1.1664E+04	1.3410E-01	5.8947E+23	1.2532E+21
Ba-140	2.0053E+03	2.7392E-05	1.1783E+20	5.6182E+20
La-140	2.3294E+03	4.1908E-06	1.8027E+19	5.1302E+20
Ce-141	1.2454E+02	4.3709E-06	1.8668E+19	1.8887E+19
Ce-143	5.9443E-05	8.9512E-14	3.7696E+11	2.1015E+18

Ce-144	1.8809E+02	5.8971E-05	2.4662E+20	2.0834E+19
Pr-143	2.3633E+01	3.5096E-07	1.4780E+18	5.9694E+18
Nd-147	5.7021E+00	7.0484E-08	2.8875E+17	1.9017E+18
Np-239	4.0577E-01	1.7491E-09	4.4072E+15	4.0967E+19
Pu-238	7.2804E-01	4.2526E-05	1.0760E+20	7.7466E+16
Pu-239	6.9301E-02	1.1149E-03	2.8093E+21	7.3751E+15
Pu-240	1.2561E-01	5.5122E-04	1.3831E+21	1.3387E+16
Pu-241	2.7627E+01	2.6819E-04	6.7017E+20	2.9506E+18
Am-241	2.1851E-02	6.3666E-06	1.5909E+19	2.1253E+15
Cm-242	4.0778E+00	1.2304E-06	3.0617E+18	4.6502E+17
Cm-244	2.6850E-01	3.3189E-06	8.1913E+18	2.8664E+16

## Sprayed Drywell Transport Group Inventory:

Time (h) = 720.0000	Atmosphere	Sump	
Noble gases (atoms)	1.2491E+25	0.0000E+00	
Elemental I (atoms)	2.9555E+19	5.4907E+22	
Organic I (atoms)	5.1274E+19	0.0000E+00	
Aerosols (kg)	1.5393E-01	5.2580E+01	
Dose Effective (Ci/cc) I-131 (Thyroid)			2.7446E-06
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			2.7450E-06
Total I (Ci)			7.4234E+03

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.4573E+24
Elemental I (atoms)	0.0000E+00	1.9288E+19
Organic I (atoms)	0.0000E+00	3.1025E+19
Aerosols (kg)	0.0000E+00	1.8907E-02

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.4573E+24
Elemental I (atoms)	0.0000E+00	1.9288E+19
Organic I (atoms)	0.0000E+00	3.1025E+19
Aerosols (kg)	0.0000E+00	1.8907E-02

## Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.1694E+24
Elemental I (atoms)	0.0000E+00	1.5467E+19
Organic I (atoms)	0.0000E+00	2.4882E+19
Aerosols (kg)	0.0000E+00	1.5170E-02

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.3487E+28
Elemental I (atoms)	0.0000E+00	1.5875E+23
Organic I (atoms)	0.0000E+00	2.6867E+23
Aerosols (kg)	0.0000E+00	1.6512E+02

## Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.3477E+28

Elemental I (atoms) 0.0000E+00 1.5835E+23  
 Organic I (atoms) 0.0000E+00 2.6802E+23  
 Aerosols (kg) 0.0000E+00 1.6503E+02

930

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

Time (hr)	Sprayed Drywell I-131 (Curies)	MSIV Failed Control V I-131 (Curies)	Intact Control Volume I-131 (Curies)
0.000	4.4650E+03	0.0000E+00	0.0000E+00
0.033	2.6200E+05	0.0000E+00	0.0000E+00
0.167	1.2153E+06	4.5443E+01	4.4992E+01
0.500	5.2942E+05	1.2711E+02	1.2139E+02
0.667	8.4094E+05	1.7009E+02	1.6066E+02
1.000	8.8110E+05	2.6062E+02	2.4114E+02
1.160	8.8777E+05	2.9891E+02	2.7371E+02
1.410	8.9556E+05	3.5235E+02	3.1754E+02
1.660	9.0132E+05	3.9875E+02	3.5395E+02
1.910	9.0581E+05	4.3896E+02	3.8414E+02
2.000	9.0720E+05	4.5208E+02	3.9370E+02
2.200	1.1304E+05	4.3708E+02	3.7441E+02
2.300	7.8884E+04	4.2370E+02	3.5922E+02
2.600	1.6295E+05	3.8964E+02	3.2102E+02
2.900	1.6482E+05	3.6176E+02	2.9053E+02
3.200	1.4696E+05	3.3598E+02	2.6333E+02
3.500	1.2691E+05	3.1137E+02	2.3829E+02
3.800	1.0913E+05	2.8785E+02	2.1516E+02
4.000	9.8955E+04	2.7283E+02	2.0078E+02
4.300	1.0846E+05	2.5234E+02	1.8172E+02
4.600	1.1187E+05	2.3447E+02	1.6569E+02
4.900	1.1304E+05	2.1864E+02	1.5199E+02
5.200	1.1338E+05	2.0453E+02	1.4019E+02
5.500	1.1343E+05	1.9192E+02	1.2999E+02
5.800	1.1335E+05	1.8063E+02	1.2117E+02
6.100	1.1324E+05	1.7051E+02	1.1354E+02
6.400	1.1312E+05	1.6146E+02	1.0692E+02
6.700	1.1299E+05	1.5334E+02	1.0119E+02
7.000	1.1285E+05	1.4607E+02	9.6226E+01
7.300	1.1272E+05	1.3955E+02	9.1920E+01
7.600	1.1258E+05	1.3371E+02	8.8185E+01
7.900	1.1245E+05	1.2847E+02	8.4945E+01
8.000	1.1240E+05	1.2684E+02	8.3962E+01
8.300	1.1227E+05	1.2231E+02	8.1278E+01
8.600	1.1213E+05	1.1824E+02	7.8947E+01
8.900	1.1200E+05	1.1459E+02	7.6919E+01
9.200	1.1187E+05	1.1132E+02	7.5156E+01
9.500	1.1173E+05	1.0838E+02	7.3620E+01
9.800	1.1160E+05	1.0573E+02	7.2281E+01
10.100	1.1147E+05	1.0336E+02	7.1113E+01
10.400	1.1133E+05	1.0122E+02	7.0093E+01
24.000	1.0544E+05	7.9561E+01	6.0668E+01
48.000	9.6292E+04	7.2393E+01	5.5270E+01
72.000	8.7902E+04	6.6082E+01	5.0454E+01
96.000	8.0224E+04	6.0310E+01	4.6047E+01
240.000	4.6282E+04	3.4793E+01	2.6564E+01
720.000	7.3829E+03	5.5502E+00	4.2376E+00

Time (hr)	Intact Control Volume I-131 (Curies)	Intact Control Volume I-131 (Curies)	Intact Control Volume I-131 (Curies)
0.000	0.0000E+00	0.0000E+00	0.0000E+00

0.033	0.0000E+00	0.0000E+00	0.0000E+00
0.167	5.4888E-01	3.6416E+01	2.5768E-01
0.500	5.6876E+00	1.0212E+02	2.8856E+00
0.667	8.5936E+00	1.3675E+02	4.5094E+00
1.000	1.5612E+01	2.0985E+02	8.6089E+00
1.160	1.9115E+01	2.4086E+02	1.0771E+01
1.410	2.4340E+01	2.8425E+02	1.4164E+01
1.660	2.9072E+01	3.2205E+02	1.7431E+01
1.910	3.3239E+01	3.5490E+02	2.0487E+01
2.000	3.4602E+01	3.6564E+02	2.1527E+01
2.200	3.5926E+01	3.5390E+02	2.2668E+01
2.300	3.6193E+01	3.4331E+02	2.3048E+01
2.600	3.5798E+01	3.1634E+02	2.3555E+01
2.900	3.4413E+01	2.9423E+02	2.3452E+01
3.200	3.2572E+01	2.7373E+02	2.2986E+01
3.500	3.0533E+01	2.5410E+02	2.2291E+01
3.800	2.8439E+01	2.3531E+02	2.1454E+01
4.000	2.7054E+01	2.2328E+02	2.0847E+01
4.300	2.5049E+01	2.0684E+02	1.9901E+01
4.600	2.3197E+01	1.9247E+02	1.8961E+01
4.900	2.1529E+01	1.7970E+02	1.8058E+01
5.200	2.0046E+01	1.6830E+02	1.7206E+01
5.500	1.8739E+01	1.5807E+02	1.6414E+01
5.800	1.7593E+01	1.4890E+02	1.5683E+01
6.100	1.6590E+01	1.4067E+02	1.5014E+01
6.400	1.5716E+01	1.3327E+02	1.4403E+01
6.700	1.4955E+01	1.2663E+02	1.3848E+01
7.000	1.4293E+01	1.2067E+02	1.3344E+01
7.300	1.3717E+01	1.1531E+02	1.2888E+01
7.600	1.3216E+01	1.1050E+02	1.2476E+01
7.900	1.2781E+01	1.0617E+02	1.2104E+01
8.000	1.2649E+01	1.0482E+02	1.1988E+01
8.300	1.2275E+01	1.0107E+02	1.1651E+01
8.600	1.1953E+01	9.7692E+01	1.1350E+01
8.900	1.1675E+01	9.4654E+01	1.1079E+01
9.200	1.1434E+01	9.1921E+01	1.0837E+01
9.500	1.1224E+01	8.9461E+01	1.0619E+01
9.800	1.1042E+01	8.7246E+01	1.0423E+01
10.100	1.0882E+01	8.5250E+01	1.0246E+01
10.400	1.0743E+01	8.3451E+01	1.0087E+01
24.000	9.4074E+00	6.4982E+01	8.3394E+00
48.000	8.4907E+00	5.9474E+01	7.5457E+00
72.000	7.5645E+00	5.4294E+01	6.6797E+00
96.000	6.6508E+00	4.9551E+01	5.8195E+00
240.000	3.6732E+00	2.8586E+01	3.1853E+00
720.000	5.2820E-01	4.5601E+00	4.5473E-01

Time (hr)	Environment I-131 (Curies)	Control Room I-131 (Curies)	Unsprayed Drywell I-131 (Curies)
0.000	0.0000E+00	0.0000E+00	1.6446E+00
0.033	0.0000E+00	0.0000E+00	5.6993E+03
0.167	3.0661E-01	3.2291E-04	1.2411E+05
0.500	5.1610E+00	4.4070E-03	2.6442E+05
0.667	9.5002E+00	7.3663E-03	3.3106E+05
1.000	2.3094E+01	6.7271E-03	4.5042E+05
1.160	3.2015E+01	6.6402E-03	4.8752E+05
1.410	4.8942E+01	6.7343E-03	5.2815E+05
1.660	6.9290E+01	7.0522E-03	5.5449E+05
1.910	9.2778E+01	7.5374E-03	5.7177E+05
2.000	1.0195E+02	7.7436E-03	5.7645E+05
2.200	1.1427E+02	7.3830E-03	4.5314E+05
2.300	1.2041E+02	7.2205E-03	3.8194E+05
2.600	1.3856E+02	6.7814E-03	2.5033E+05

2.900	1.5617E+02	6.3996E-03	1.8720E+05
3.200	1.7318E+02	6.0597E-03	1.4916E+05
3.500	1.8953E+02	5.7508E-03	1.2240E+05
3.800	2.0520E+02	5.4659E-03	1.0206E+05
4.000	2.1528E+02	5.2870E-03	9.1006E+04
4.300	2.2984E+02	5.0334E-03	8.1281E+04
4.600	2.4380E+02	4.7969E-03	7.7643E+04
4.900	2.5721E+02	4.5772E-03	7.6246E+04
5.200	2.7012E+02	4.3739E-03	7.5675E+04
5.500	2.8259E+02	4.1866E-03	7.5408E+04
5.800	2.9466E+02	4.0144E-03	7.5253E+04
6.100	3.0638E+02	3.8568E-03	7.5139E+04
6.400	3.1777E+02	3.7130E-03	7.5040E+04
6.700	3.2888E+02	3.5820E-03	7.4948E+04
7.000	3.3974E+02	3.4630E-03	7.4857E+04
7.300	3.5037E+02	3.3551E-03	7.4767E+04
7.600	3.6080E+02	3.2574E-03	7.4677E+04
7.900	3.7104E+02	3.1692E-03	7.4588E+04
8.000	3.7442E+02	3.1417E-03	7.4558E+04
8.300	3.8434E+02	2.7487E-03	7.4469E+04
8.600	3.9411E+02	2.4290E-03	7.4380E+04
8.900	4.0375E+02	2.1687E-03	7.4291E+04
9.200	4.1328E+02	1.9565E-03	7.4202E+04
9.500	4.2271E+02	1.7834E-03	7.4114E+04
9.800	4.3205E+02	1.6420E-03	7.4025E+04
10.100	4.4131E+02	1.5263E-03	7.3936E+04
10.400	4.5049E+02	1.4315E-03	7.3848E+04
24.000	8.3714E+02	9.3610E-04	6.9940E+04
48.000	1.1390E+03	2.6437E-04	6.3865E+04
72.000	1.3932E+03	2.2255E-04	5.8300E+04
96.000	1.6073E+03	1.8750E-04	5.3207E+04
240.000	2.5040E+03	6.2668E-05	3.0696E+04
720.000	3.4840E+03	9.5458E-06	4.8966E+03

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

Time (hr)	Exclusion Area Bounda		Low Population Zone		Control Room	
	Thyroid (rem)	TEDE (rem)	Thyroid (rem)	TEDE (rem)	Thyroid (rem)	TEDE (rem)
0.000	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.033	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.167	2.2423E-01	1.1137E-02	1.7147E-02	8.5163E-04	5.4671E-03	2.2521E-04
0.500	3.7627E+00	1.9730E-01	2.8773E-01	1.5087E-02	2.6893E-01	1.1015E-02
0.667	6.9239E+00	3.8458E-01	5.2947E-01	2.9409E-02	6.2873E-01	2.5831E-02
1.000	1.6887E+01	1.1555E+00	1.2913E+00	8.8358E-02	1.4884E+00	6.2114E-02
1.160	2.3434E+01	1.7728E+00	1.7920E+00	1.3557E-01	1.8812E+00	7.9330E-02
1.410	3.5858E+01	3.1210E+00	2.7421E+00	2.3866E-01	2.4940E+00	1.0762E-01
1.660	5.0779E+01	4.9714E+00	3.8831E+00	3.8016E-01	3.1260E+00	1.3911E-01
1.910	6.7973E+01	7.3399E+00	5.1979E+00	5.6128E-01	3.7954E+00	1.7519E-01
2.000	7.4676E+01	8.3193E+00	5.7105E+00	6.3618E-01	4.0481E+00	1.8952E-01
2.200	8.3675E+01	9.6888E+00	5.9845E+00	6.7787E-01	4.6039E+00	2.2184E-01
2.300	8.8156E+01	1.0395E+01	6.1209E+00	6.9937E-01	4.8720E+00	2.3770E-01
2.600	1.0135E+02	1.2570E+01	6.5224E+00	7.6559E-01	5.6414E+00	2.8425E-01
2.900	1.1410E+02	1.4799E+01	6.9107E+00	8.3343E-01	6.3642E+00	3.2952E-01
3.200	1.2637E+02	1.7045E+01	7.2841E+00	9.0181E-01	7.0458E+00	3.7364E-01
3.500	1.3811E+02	1.9282E+01	7.6416E+00	9.6988E-01	7.6902E+00	4.1667E-01
3.800	1.4933E+02	2.1486E+01	7.9830E+00	1.0370E+00	8.3005E+00	4.5858E-01
4.000	1.5651E+02	2.2931E+01	8.2016E+00	1.0810E+00	8.6897E+00	4.8587E-01
4.300	1.6685E+02	2.5052E+01	8.5165E+00	1.1455E+00	9.2484E+00	5.2580E-01
4.600	1.7673E+02	2.7112E+01	8.8172E+00	1.2082E+00	9.7789E+00	5.6446E-01
4.900	1.8618E+02	2.9106E+01	9.1049E+00	1.2689E+00	1.0283E+01	6.0182E-01

5.200	1.9525E+02	3.1032E+01	9.3809E+00	1.3276E+00	1.0763E+01	6.3788E-01
5.500	2.0397E+02	3.2889E+01	9.6464E+00	1.3841E+00	1.1221E+01	6.7263E-01
5.800	2.1238E+02	3.4678E+01	9.9024E+00	1.4386E+00	1.1657E+01	7.0608E-01
6.100	2.2051E+02	3.6398E+01	1.0150E+01	1.4909E+00	1.2075E+01	7.3828E-01
6.400	2.2839E+02	3.8053E+01	1.0390E+01	1.5413E+00	1.2475E+01	7.6925E-01
6.700	2.3605E+02	3.9644E+01	1.0623E+01	1.5898E+00	1.2860E+01	7.9904E-01
7.000	2.4351E+02	4.1174E+01	1.0850E+01	1.6363E+00	1.3230E+01	8.2770E-01
7.300	2.5079E+02	4.2644E+01	1.1072E+01	1.6811E+00	1.3587E+01	8.5529E-01
7.600	2.5791E+02	4.4058E+01	1.1288E+01	1.7241E+00	1.3932E+01	8.8185E-01
7.900	2.6488E+02	4.5419E+01	1.1501E+01	1.7655E+00	1.4266E+01	9.0745E-01
8.000	2.6718E+02	4.5861E+01	1.1570E+01	1.7790E+00	1.4376E+01	9.1578E-01
8.300	2.7390E+02	4.7151E+01	1.1637E+01	1.8013E+00	1.4680E+01	9.3883E-01
8.600	2.8050E+02	4.8394E+01	1.1702E+01	1.8227E+00	1.4947E+01	9.5879E-01
8.900	2.8700E+02	4.9592E+01	1.1767E+01	1.8434E+00	1.5184E+01	9.7626E-01
9.200	2.9340E+02	5.0747E+01	1.1830E+01	1.8632E+00	1.5395E+01	9.9173E-01
9.500	2.9972E+02	5.1862E+01	1.1893E+01	1.8824E+00	1.5587E+01	1.0056E+00
9.800	3.0596E+02	5.2939E+01	1.1955E+01	1.9008E+00	1.5761E+01	1.0181E+00
10.100	3.1213E+02	5.3981E+01	1.2016E+01	1.9186E+00	1.5923E+01	1.0295E+00
10.400	3.1824E+02	5.4988E+01	1.2076E+01	1.9358E+00	1.6073E+01	1.0401E+00
24.000	5.6497E+02	8.3969E+01	1.4521E+01	2.4054E+00	2.0558E+01	1.3073E+00
48.000	7.4238E+02	9.8562E+01	1.5375E+01	2.4947E+00	2.1920E+01	1.3767E+00
72.000	8.8330E+02	1.0970E+02	1.6053E+01	2.5617E+00	2.2869E+01	1.4254E+00
96.000	9.9862E+02	1.1916E+02	1.6608E+01	2.6183E+00	2.3645E+01	1.4671E+00
240.000	1.4697E+03	1.5901E+02	1.7181E+01	2.6774E+00	2.4940E+01	1.5429E+00
720.000	1.9845E+03	2.1341E+02	1.7808E+01	2.7515E+00	2.6342E+01	1.6663E+00

#####  
Worst Two-Hour Doses  
#####

Exclusion Area Boundary

Time (hr)	Whole Body (rem)	Thyroid (rem)	TEDE (rem)
1.5	1.0759E+01	9.6884E+01	1.5494E+01



```
#####
RADTRAD Version 3.03 (Spring 2001) run on 1/28/2020 at 9:39:23
#####
```

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

```
Plant file          = D:\Projects\RabaioliBrosius\Exelon_RAIs\QDC-0000-N-
1481\Framatome\QDC39MS33_350.psf
Inventory file      = D:\Projects\RabaioliBrosius\Exelon_RAIs\QDC-0000-N-
1481\Framatome\DQLOCA_ATRIUM_DEF.nif
Release file       = c:\program files (x86)\radtrad3.03\defaults\bwr_dba.rft
Dose Conversion file = c:\program files
(x86)\radtrad3.03\defaults\fgr11&12.inp
```

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

```
Radtrad 3.03 4/15/2001
Quad Cities MSIV Leakeg - Optima Fuel With 39 GWD/MTU, MSIV Leakage =
125/125/100/0 scfh, 40% Aerosol Settling Velocity, CREV Initiated @ 40 Minutes,
CR Unfiltered Inleakage = 4,000 cfm for <0.6667 hrs and 400 cfm >0.6667 hrs
```

```
Nuclide Inventory File:
D:\Projects\RabaioliBrosius\Exelon_RAIs\QDC-0000-N-
1481\Framatome\DQLOCA_ATRIUM_DEF.nif
```

Plant Power Level:

3.0161E+03

Compartments:

9

Compartment 1:

Sprayed Drywell

3

9.5000E+04

1

0

0

0

0

Compartment 2:

MSIV Failed Control Vol 1

3

2.0024E+02

0

0

0

0

0

Compartment 3:

Intact Control Volume 2

3

1.5293E+02

0  
0  
0  
0  
0  
Compartment 4:  
Intact Control Volume 3  
3  
4.9110E+01  
0  
0  
0  
0  
0  
Compartment 5:  
Intact Control Volume 4  
3  
1.6375E+02  
0  
0  
0  
0  
0  
Compartment 6:  
Intact Control Volume 5  
3  
4.9110E+01  
0  
0  
0  
0  
0  
Compartment 7:  
Environment  
2  
0.0000E+00  
0  
0  
0  
0  
0  
Compartment 8:  
Control Room  
1  
1.8400E+05  
0  
0  
0  
0  
0  
Compartment 9:  
Unsprayed Drywell  
3  
6.3000E+04  
0  
0  
0  
0  
0  
Pathways:  
13  
Pathway 1:  
Drywell to MSIV Failed Control Vol 1

1  
2  
2  
Pathway 2:  
MSIV Failed Control Vol 1 to Environment  
2  
7  
2  
Pathway 3:  
Drywell to Intact Control Volume 2  
1  
3  
2  
Pathway 4:  
Intact Control Volume 2 to Intact Control Volume 3  
3  
4  
2  
Pathway 5:  
Intact Control Volume 3 to Environment  
4  
7  
2  
Pathway 6:  
Drywell to Intact Control Volume 4  
1  
5  
2  
Pathway 7:  
Intact Control Volume 4 to Intact Control Volume 5  
5  
6  
2  
Pathway 8:  
Intact Control Volume 5 to Environment  
6  
7  
2  
Pathway 9:  
Filtered Intake to Control Room  
7  
8  
2  
Pathway 10:  
Unfiltered Inleakage to Control Room  
7  
8  
2  
Pathway 11:  
Control Room Exhaust to Environment  
8  
7  
2  
Pathway 12:  
Sprayed Drywell to Unsprayed Drywell  
1  
9  
2  
Pathway 13:  
Unsprayed Drywell to Sprayed Drywell  
9  
1  
2

End of Plant Model File  
Scenario Description Name:

Plant Model Filename:

Source Term:

1  
1 1.0000E+00  
c:\program files (x86)\radtrad3.03\defaults\fgr11&12.inp  
c:\program files (x86)\radtrad3.03\defaults\bwr\_dba.rft  
0.0000E+00  
1  
9.5000E-01 4.8500E-02 1.5000E-03 1.0000E+00

Overlying Pool:

0  
0.0000E+00  
0  
0  
0  
0

Compartments:

9  
Compartment 1:

1  
1  
1  
0.0000E+00  
6  
0.0000E+00 0.0000E+00  
1.6670E-01 1.5000E+01  
2.2000E+00 1.5000E+00  
2.3000E+00 1.5000E+00  
4.0000E+00 0.0000E+00  
7.2000E+02 0.0000E+00

1  
0.0000E+00  
6  
0.0000E+00 0.0000E+00  
1.6670E-01 1.5000E+01  
2.2000E+00 1.5000E+01  
2.3000E+00 0.0000E+00  
4.0000E+00 0.0000E+00  
7.2000E+02 0.0000E+00

1  
0.0000E+00  
0  
0  
0  
0  
0

Compartment 2:

0  
1  
0  
0  
0  
0  
0  
0  
0

Compartment 3:

0  
1

0  
0  
0  
0  
0  
0  
0

Compartment 4:

0  
1  
0  
0  
0  
0  
0  
0  
0

Compartment 5:

0  
1  
0  
0  
0  
0  
0  
0  
0

Compartment 6:

0  
1  
0  
0  
0  
0  
0  
0  
0

Compartment 7:

0  
1  
0  
0  
0  
0  
0  
0  
0

Compartment 8:

0  
1  
0  
0  
0  
0  
0  
0  
0

Compartment 9:

0  
1  
0  
0  
0

```

0
0
0
0
Pathways:
13
Pathway 1:
0
0
0
0
0
1
5
0.0000E+00  0.0000E+00  0.0000E+00  0.0000E+00  0.0000E+00
3.3300E-02  7.4300E-01  0.0000E+00  0.0000E+00  0.0000E+00
2.0000E+00  4.3700E-01  0.0000E+00  0.0000E+00  0.0000E+00
2.4000E+01  2.1800E-01  0.0000E+00  0.0000E+00  0.0000E+00
7.2000E+02  0.0000E+00  0.0000E+00  0.0000E+00  0.0000E+00
0
0
0
0
0
0
Pathway 2:
0
0
0
0
0
1
10
0.0000E+00  0.0000E+00  0.0000E+00  0.0000E+00  0.0000E+00
3.3300E-02  2.0830E+00  8.5220E+01  6.8400E+00  0.0000E+00
2.0000E+00  1.2240E+00  8.5220E+01  6.8400E+00  0.0000E+00
8.0000E+00  1.2240E+00  8.5220E+01  9.1100E+00  0.0000E+00
2.4000E+01  6.1200E-01  8.5220E+01  1.5690E+01  0.0000E+00
4.8000E+01  6.1200E-01  8.5220E+01  3.1540E+01  0.0000E+00
7.2000E+01  6.1200E-01  8.5220E+01  5.2530E+01  0.0000E+00
9.6000E+01  6.1200E-01  8.5220E+01  7.2070E+01  0.0000E+00
2.4000E+02  6.1200E-01  8.5220E+01  9.7260E+01  0.0000E+00
7.2000E+02  0.0000E+00  0.0000E+00  0.0000E+00  0.0000E+00
0
0
0
0
0
0
Pathway 3:
0
0
0
0
0
1
5
0.0000E+00  0.0000E+00  0.0000E+00  0.0000E+00  0.0000E+00
3.3300E-02  7.4300E-01  0.0000E+00  0.0000E+00  0.0000E+00
2.0000E+00  4.3700E-01  0.0000E+00  0.0000E+00  0.0000E+00
2.4000E+01  2.1800E-01  0.0000E+00  0.0000E+00  0.0000E+00
7.2000E+02  0.0000E+00  0.0000E+00  0.0000E+00  0.0000E+00
0

```

0				
0				
0				
0				
0				
Pathway 4:				
0				
0				
0				
0				
0				
1				
10				
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	2.0830E+00	7.2540E+01	4.1600E+00	0.0000E+00
2.0000E+00	1.2240E+00	7.2540E+01	4.1600E+00	0.0000E+00
8.0000E+00	1.2240E+00	7.2540E+01	5.5700E+00	0.0000E+00
2.4000E+01	6.1200E-01	7.2540E+01	9.7400E+00	0.0000E+00
4.8000E+01	6.1200E-01	7.2540E+01	2.0390E+01	0.0000E+00
7.2000E+01	6.1200E-01	7.2540E+01	3.6240E+01	0.0000E+00
9.6000E+01	6.1200E-01	7.2540E+01	5.4010E+01	0.0000E+00
2.4000E+02	6.1200E-01	7.2540E+01	9.3310E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0				
0				
0				
0				
0				
Pathway 5:				
0				
0				
0				
0				
0				
1				
10				
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	2.0830E+00	7.6440E+01	1.4970E+01	0.0000E+00
2.0000E+00	1.2240E+00	7.6440E+01	1.4970E+01	0.0000E+00
8.0000E+00	1.2240E+00	7.6440E+01	1.9630E+01	0.0000E+00
2.4000E+01	6.1200E-01	7.6440E+01	3.2260E+01	0.0000E+00
4.8000E+01	6.1200E-01	7.6440E+01	5.7570E+01	0.0000E+00
7.2000E+01	6.1200E-01	7.6440E+01	8.0730E+01	0.0000E+00
9.6000E+01	6.1200E-01	7.6440E+01	9.2810E+01	0.0000E+00
2.4000E+02	6.1200E-01	7.6440E+01	9.7840E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0				
0				
0				
0				
0				
0				
Pathway 6:				
0				
0				
0				
0				
0				
1				
5				
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	5.9500E-01	0.0000E+00	0.0000E+00	0.0000E+00

2.0000E+00	3.4900E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	1.7500E-01	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0				
0				
0				
0				
0				
0				

Pathway 7:

0				
0				
0				
0				
0				
1				
10				
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	1.6670E+00	8.0190E+01	4.7500E+00	0.0000E+00
2.0000E+00	9.7900E-01	8.0190E+01	4.7500E+00	0.0000E+00
8.0000E+00	9.7900E-01	8.0190E+01	6.3500E+00	0.0000E+00
2.4000E+01	4.8900E-01	8.0190E+01	1.1060E+01	0.0000E+00
4.8000E+01	4.8900E-01	8.0190E+01	2.2950E+01	0.0000E+00
7.2000E+01	4.8900E-01	8.0190E+01	4.0200E+01	0.0000E+00
9.6000E+01	4.8900E-01	8.0190E+01	5.8780E+01	0.0000E+00
2.4000E+02	4.8900E-01	8.0190E+01	9.4930E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway 8:

0				
0				
0				
0				
0				
1				
10				
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	1.6670E+00	8.0220E+01	1.4970E+01	0.0000E+00
2.0000E+00	9.7900E-01	8.0220E+01	1.4970E+01	0.0000E+00
8.0000E+00	9.7900E-01	8.0220E+01	1.9630E+01	0.0000E+00
2.4000E+01	4.8900E-01	8.0220E+01	3.2260E+01	0.0000E+00
4.8000E+01	4.8900E-01	8.0220E+01	5.7570E+01	0.0000E+00
7.2000E+01	4.8900E-01	8.0220E+01	8.0730E+01	0.0000E+00
9.6000E+01	4.8900E-01	8.0220E+01	9.2810E+01	0.0000E+00
2.4000E+02	4.8900E-01	8.0220E+01	9.7840E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway 9:

0  
0  
0  
0  
0



1				
8				
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
2.0000E+00	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
8.0000E+00	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
2.4000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
9.6000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0				
0				
0				
0				
0				
Pathway 10:				
0				
0				
0				
0				
0				
1				
8				
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	4.0000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
8.0000E+00	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
9.6000E+01	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0				
0				
0				
0				
0				
Pathway 11:				
0				
0				
0				
0				
0				
1				
8				
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	6.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
8.0000E+00	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
9.6000E+01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0				
0				
0				
0				
0				
0				
Pathway 12:				
0				
0				

```

0
0
0
1
2
0.0000E+00  2.1000E+03  0.0000E+00  0.0000E+00  0.0000E+00
7.2000E+02  0.0000E+00  0.0000E+00  0.0000E+00  0.0000E+00
0
0
0
0
0
0
Pathway 13:
0
0
0
0
0
1
2
0.0000E+00  2.1000E+03  0.0000E+00  0.0000E+00  0.0000E+00
7.2000E+02  0.0000E+00  0.0000E+00  0.0000E+00  0.0000E+00
0
0
0
0
0
Dose Locations:
3
Location 1:
Exclusion Area Boundary
7
1
2
0.0000E+00  1.3600E-03
7.2000E+02  0.0000E+00
1
2
0.0000E+00  3.5000E-04
7.2000E+02  0.0000E+00
0
Location 2:
Low Population Zone
7
1
6
0.0000E+00  3.8800E-04
2.0000E+00  3.0000E-04
8.0000E+00  1.2400E-04
2.4000E+01  7.9900E-05
9.6000E+01  4.8700E-05
7.2000E+02  0.0000E+00
1
4
0.0000E+00  3.5000E-04
8.0000E+00  1.8000E-04
2.4000E+01  2.3000E-04
7.2000E+02  0.0000E+00
0
Location 3:
Control Room

```

```

8
0
1
2
0.0000E+00  3.5000E-04
7.2000E+02  0.0000E+00
1
4
0.0000E+00  1.0000E+00
2.4000E+01  6.0000E-01
9.6000E+01  4.0000E-01
7.2000E+02  0.0000E+00
Effective Volume Location:
1
6
0.0000E+00  3.8800E-04
2.0000E+00  3.0000E-04
8.0000E+00  1.2400E-04
2.4000E+01  7.9900E-05
9.6000E+01  4.8700E-05
7.2000E+02  0.0000E+00
Simulation Parameters:
7
0.0000E+00  1.0000E-01
1.0000E+00  1.0000E-02
2.0000E+00  5.0000E-01
8.0000E+00  1.0000E+00
2.4000E+01  2.0000E+00
9.6000E+01  5.0000E+00
7.2000E+02  0.0000E+00
Output Filename:
D:\Projects\RabaioliBrosius\Exelon_RAIs\QDC-0000-N-
1481\Framatome\QDC39MS33_350.o0
1
1
1
0
0
End of Scenario File

#####
RADTRAD Version 3.03 (Spring 2001) run on 1/28/2020 at 9:39:23
#####

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

Number of Nuclides = 60

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

Number of compartments = 9

Compartment information

Compartment number 1 (Source term fraction = 1.0000E+00
)
Name: Sprayed Drywell
Compartment volume = 9.5000E+04 (Cubic feet)
Compartment type is Normal
Removal devices within compartment:

```

## Spray(s)

Pathways into and out of compartment 1

Inlet Pathway Number 13: Unsprayed Drywell to Sprayed Drywell  
Exit Pathway Number 1: Drywell to MSIV Failed Control Vol 1  
Exit Pathway Number 3: Drywell to Intact Control Volume 2  
Exit Pathway Number 6: Drywell to Intact Control Volume 4  
Exit Pathway Number 12: Sprayed Drywell to Unsprayed Drywell

Compartment number 2

Name: MSIV Failed Control Vol 1

Compartment volume = 2.0024E+02 (Cubic feet)

Compartment type is Normal

Pathways into and out of compartment 2

Inlet Pathway Number 1: Drywell to MSIV Failed Control Vol 1  
Exit Pathway Number 2: MSIV Failed Control Vol 1 to Environment

Compartment number 3

Name: Intact Control Volume 2

Compartment volume = 1.5293E+02 (Cubic feet)

Compartment type is Normal

Pathways into and out of compartment 3

Inlet Pathway Number 3: Drywell to Intact Control Volume 2  
Exit Pathway Number 4: Intact Control Volume 2 to Intact Control Volume

3

Compartment number 4

Name: Intact Control Volume 3

Compartment volume = 4.9110E+01 (Cubic feet)

Compartment type is Normal

Pathways into and out of compartment 4

Inlet Pathway Number 4: Intact Control Volume 2 to Intact Control Volume  
Exit Pathway Number 5: Intact Control Volume 3 to Environment

3

Compartment number 5

Name: Intact Control Volume 4

Compartment volume = 1.6375E+02 (Cubic feet)

Compartment type is Normal

Pathways into and out of compartment 5

Inlet Pathway Number 6: Drywell to Intact Control Volume 4  
Exit Pathway Number 7: Intact Control Volume 4 to Intact Control Volume

5

Compartment number 6

Name: Intact Control Volume 5

Compartment volume = 4.9110E+01 (Cubic feet)

Compartment type is Normal

Pathways into and out of compartment 6

Inlet Pathway Number 7: Intact Control Volume 4 to Intact Control Volume  
Exit Pathway Number 8: Intact Control Volume 5 to Environment

5

Compartment number 7

Name: Environment

Compartment type is Environment

Pathways into and out of compartment 7

Inlet Pathway Number 2: MSIV Failed Control Vol 1 to Environment  
Inlet Pathway Number 5: Intact Control Volume 3 to Environment  
Inlet Pathway Number 8: Intact Control Volume 5 to Environment  
Inlet Pathway Number 11: Control Room Exhaust to Environment  
Exit Pathway Number 9: Filtered Intake to Control Room  
Exit Pathway Number 10: Unfiltered Inleakage to Control Room

Compartment number 8  
Name: Control Room  
Compartment volume = 1.8400E+05 (Cubic feet)  
Compartment type is Control Room  
Pathways into and out of compartment 8  
    Inlet Pathway Number 9: Filtered Intake to Control Room  
    Inlet Pathway Number 10: Unfiltered Inleakage to Control Room  
    Exit Pathway Number 11: Control Room Exhaust to Environment

Compartment number 9  
Name: Unsprayed Drywell  
Compartment volume = 6.3000E+04 (Cubic feet)  
Compartment type is Normal  
Pathways into and out of compartment 9  
    Inlet Pathway Number 12: Sprayed Drywell to Unsprayed Drywell  
    Exit Pathway Number 13: Unsprayed Drywell to Sprayed Drywell

Total number of pathways = 13

```
#####
RADTRAD Version 3.03 (Spring 2001) run on 1/28/2020 at 9:39:23
#####

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

Radioactive Decay is enabled  
 Calculation of Daughters is enabled

Release Fractions and Timings

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

Inventory Power = 3016. Mwt

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

I-132	2	3.879E+04	8.280E+03	1.120E-13	1.740E-09	1.030E-10
I-133	2	5.504E+04	7.488E+04	2.940E-14	4.860E-08	1.580E-09
I-134	2	6.100E+04	3.156E+03	1.300E-13	2.880E-10	3.550E-11
I-135	2	5.238E+04	2.380E+04	8.294E-14	8.460E-09	3.320E-10
Xe-133	1	5.272E+04	4.532E+05	1.560E-15	0.000E+00	0.000E+00
Xe-135	1	1.787E+04	3.272E+04	1.190E-14	0.000E+00	0.000E+00
Cs-134	3	6.730E+03	6.507E+07	7.570E-14	1.110E-08	1.250E-08
Cs-136	3	1.837E+03	1.132E+06	1.060E-13	1.730E-09	1.980E-09
Cs-137	3	5.338E+03	9.467E+08	2.725E-14	7.930E-09	8.630E-09
Ba-139	6	4.841E+04	4.962E+03	2.170E-15	2.400E-12	4.640E-11
Ba-140	6	4.874E+04	1.101E+06	8.580E-15	2.560E-10	1.010E-09
La-140	9	5.205E+04	1.450E+05	1.170E-13	6.870E-11	1.310E-09
La-141	9	4.443E+04	1.415E+04	2.390E-15	9.400E-12	1.570E-10
La-142	9	4.343E+04	5.550E+03	1.440E-13	8.740E-12	6.840E-11
Ce-141	8	4.476E+04	2.808E+06	3.430E-15	2.550E-11	2.420E-09
Ce-143	8	4.178E+04	1.188E+05	1.290E-14	6.230E-12	9.160E-10
Ce-144	8	3.846E+04	2.456E+07	2.773E-15	2.920E-10	1.010E-07
Pr-143	9	4.045E+04	1.172E+06	2.100E-17	1.680E-18	2.190E-09
Nd-147	9	1.800E+04	9.487E+05	6.190E-15	1.820E-11	1.850E-09
Np-239	8	5.272E+05	2.035E+05	7.690E-15	7.620E-12	6.780E-10
Pu-238	8	1.379E+02	2.769E+09	4.880E-18	3.860E-10	7.790E-05
Pu-239	8	1.303E+01	7.594E+11	4.240E-18	3.750E-10	8.330E-05
Pu-240	8	2.387E+01	2.063E+11	4.750E-18	3.760E-10	8.330E-05
Pu-241	8	5.272E+03	4.544E+08	7.250E-20	9.150E-12	1.340E-06
Am-241	9	8.653E+00	1.364E+10	8.180E-16	1.600E-09	1.200E-04
Cm-242	9	2.202E+03	1.407E+07	5.690E-18	9.410E-10	4.670E-06
Cm-244	9	1.280E+02	5.715E+08	4.910E-18	1.010E-09	6.700E-05

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

Pu-240	U-236	1.00	none	0.00	none	0.00
Pu-241	U-237	0.00	Am-241	1.00	none	0.00
Am-241	Np-237	1.00	none	0.00	none	0.00
Cm-242	Pu-238	1.00	none	0.00	none	0.00
Cm-244	Pu-240	1.00	none	0.00	none	0.00

Iodine fractions

Aerosol	=	9.5000E-01
Elemental	=	4.8500E-02
Organic	=	1.5000E-03

COMPARTMENT DATA

Compartment number 1: Sprayed Drywell

Sprays: Aerosol Removal Data

Time (hr)	Removal Coef. (hr <sup>-1</sup> )
0.0000E+00	0.0000E+00
1.6670E-01	1.5000E+01
2.2000E+00	1.5000E+00
2.3000E+00	1.5000E+00
4.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00

Sprays: Elemental Removal Data

Time (hr)	Removal Coef. (hr <sup>-1</sup> )
0.0000E+00	0.0000E+00
1.6670E-01	1.5000E+01
2.2000E+00	1.5000E+01
2.3000E+00	0.0000E+00
4.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00

Compartment number 2: MSIV Failed Control Vol 1

Compartment number 3: Intact Control Volume 2

Compartment number 4: Intact Control Volume 3

Compartment number 5: Intact Control Volume 4

Compartment number 6: Intact Control Volume 5

Compartment number 7: Environment

Compartment number 8: Control Room

Compartment number 9: Unsprayed Drywell

PATHWAY DATA

Pathway number 1: Drywell to MSIV Failed Control Vol 1

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	7.4300E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	4.3700E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	2.1800E-01	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00



Pathway number 2: MSIV Failed Control Vol 1 to Environment

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	2.0830E+00	8.5220E+01	6.8400E+00	0.0000E+00
2.0000E+00	1.2240E+00	8.5220E+01	6.8400E+00	0.0000E+00
8.0000E+00	1.2240E+00	8.5220E+01	9.1100E+00	0.0000E+00
2.4000E+01	6.1200E-01	8.5220E+01	1.5690E+01	0.0000E+00
4.8000E+01	6.1200E-01	8.5220E+01	3.1540E+01	0.0000E+00
7.2000E+01	6.1200E-01	8.5220E+01	5.2530E+01	0.0000E+00
9.6000E+01	6.1200E-01	8.5220E+01	7.2070E+01	0.0000E+00
2.4000E+02	6.1200E-01	8.5220E+01	9.7260E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 3: Drywell to Intact Control Volume 2

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	7.4300E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	4.3700E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	2.1800E-01	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 4: Intact Control Volume 2 to Intact Control Volume 3

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	2.0830E+00	7.2540E+01	4.1600E+00	0.0000E+00
2.0000E+00	1.2240E+00	7.2540E+01	4.1600E+00	0.0000E+00
8.0000E+00	1.2240E+00	7.2540E+01	5.5700E+00	0.0000E+00
2.4000E+01	6.1200E-01	7.2540E+01	9.7400E+00	0.0000E+00
4.8000E+01	6.1200E-01	7.2540E+01	2.0390E+01	0.0000E+00
7.2000E+01	6.1200E-01	7.2540E+01	3.6240E+01	0.0000E+00
9.6000E+01	6.1200E-01	7.2540E+01	5.4010E+01	0.0000E+00
2.4000E+02	6.1200E-01	7.2540E+01	9.3310E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 5: Intact Control Volume 3 to Environment

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	2.0830E+00	7.6440E+01	1.4970E+01	0.0000E+00
2.0000E+00	1.2240E+00	7.6440E+01	1.4970E+01	0.0000E+00
8.0000E+00	1.2240E+00	7.6440E+01	1.9630E+01	0.0000E+00
2.4000E+01	6.1200E-01	7.6440E+01	3.2260E+01	0.0000E+00
4.8000E+01	6.1200E-01	7.6440E+01	5.7570E+01	0.0000E+00
7.2000E+01	6.1200E-01	7.6440E+01	8.0730E+01	0.0000E+00
9.6000E+01	6.1200E-01	7.6440E+01	9.2810E+01	0.0000E+00
2.4000E+02	6.1200E-01	7.6440E+01	9.7840E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 6: Drywell to Intact Control Volume 4

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	5.9500E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	3.4900E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	1.7500E-01	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 7: Intact Control Volume 4 to Intact Control Volume 5

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	1.6670E+00	8.0190E+01	4.7500E+00	0.0000E+00
2.0000E+00	9.7900E-01	8.0190E+01	4.7500E+00	0.0000E+00
8.0000E+00	9.7900E-01	8.0190E+01	6.3500E+00	0.0000E+00
2.4000E+01	4.8900E-01	8.0190E+01	1.1060E+01	0.0000E+00
4.8000E+01	4.8900E-01	8.0190E+01	2.2950E+01	0.0000E+00
7.2000E+01	4.8900E-01	8.0190E+01	4.0200E+01	0.0000E+00
9.6000E+01	4.8900E-01	8.0190E+01	5.8780E+01	0.0000E+00
2.4000E+02	4.8900E-01	8.0190E+01	9.4930E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 8: Intact Control Volume 5 to Environment

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	1.6670E+00	8.0220E+01	1.4970E+01	0.0000E+00
2.0000E+00	9.7900E-01	8.0220E+01	1.4970E+01	0.0000E+00
8.0000E+00	9.7900E-01	8.0220E+01	1.9630E+01	0.0000E+00
2.4000E+01	4.8900E-01	8.0220E+01	3.2260E+01	0.0000E+00
4.8000E+01	4.8900E-01	8.0220E+01	5.7570E+01	0.0000E+00
7.2000E+01	4.8900E-01	8.0220E+01	8.0730E+01	0.0000E+00
9.6000E+01	4.8900E-01	8.0220E+01	9.2810E+01	0.0000E+00
2.4000E+02	4.8900E-01	8.0220E+01	9.7840E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 9: Filtered Intake to Control Room

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
2.0000E+00	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
8.0000E+00	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
2.4000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
9.6000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 10: Unfiltered Inleakage to Control Room

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	4.0000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
8.0000E+00	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
9.6000E+01	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 11: Control Room Exhaust to Environment

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	6.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
8.0000E+00	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
9.6000E+01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 12: Sprayed Drywell to Unsprayed Drywell

Pathway Filter: Removal Data

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

Pathway number 13: Unsprayed Drywell to Sprayed Drywell

Pathway Filter: Removal Data

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

LOCATION DATA

Location Exclusion Area Boundary is in compartment 7

Location X/Q Data

Time (hr)	X/Q (s * m <sup>-3</sup> )
0.0000E+00	1.3600E-03
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 Low Population Zone is in compartment 7

Location X/Q Data

Time (hr)	X/Q (s * m <sup>-3</sup> )
0.0000E+00	3.8800E-04

2.0000E+00	3.0000E-04
8.0000E+00	1.2400E-04
2.4000E+01	7.9900E-05
9.6000E+01	4.8700E-05
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
8.0000E+00	1.8000E-04
2.4000E+01	2.3000E-04
7.2000E+02	0.0000E+00

Location Control Room is in compartment 8

## Location X/Q Data

Time (hr)	X/Q (s * m <sup>-3</sup> )
0.0000E+00	3.8800E-04
2.0000E+00	3.0000E-04
8.0000E+00	1.2400E-04
2.4000E+01	7.9900E-05
9.6000E+01	4.8700E-05
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 Occupancy Factor Data

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

## USER SPECIFIED TIME STEP DATA - SUPPLEMENTAL TIME STEPS

Time	Time step
0.0000E+00	1.0000E-01
1.0000E+00	1.0000E-02
2.0000E+00	5.0000E-01
8.0000E+00	1.0000E+00
2.4000E+01	2.0000E+00
9.6000E+01	5.0000E+00
7.2000E+02	0.0000E+00

#####  
 RADTRAD Version 3.03 (Spring 2001) run on 1/28/2020 at 9:39:23  
 #####

```

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

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

Exclusion Area Boundary Doses:

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

Low Population Zone Doses:

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

Control Room Doses:

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

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =	0.0333	Ci	kg	Atoms	Decay
------------	--------	----	----	-------	-------

Sprayed Drywell Transport Group Inventory:

Time (h) =	0.0333	Atmosphere	Sump	
Noble gases (atoms)		9.3660E+22	0.0000E+00	
Elemental I (atoms)		6.2043E+20	0.0000E+00	
Organic I (atoms)		1.9188E+19	0.0000E+00	
Aerosols (kg)		6.5728E-01	0.0000E+00	
Dose Effective (Ci/cc)		I-131 (Thyroid)		1.3741E-04
Dose Effective (Ci/cc)		I-131 (ICRP2 Thyroid)		1.7573E-04
Total I (Ci)				2.2772E+06

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

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

## Drywell to Intact Control Volume 2 Transport Group Inventory:

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

## Drywell to Intact Control Volume 4 Transport Group Inventory:

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

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) =	0.0333	
	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.0833E+21
Elemental I (atoms)	0.0000E+00	1.3811E+19
Organic I (atoms)	0.0000E+00	4.2713E+17
Aerosols (kg)	0.0000E+00	1.4620E-02

## Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) =	0.0333	
	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.5284E+19
Elemental I (atoms)	0.0000E+00	3.0020E+17
Organic I (atoms)	0.0000E+00	9.2845E+15
Aerosols (kg)	0.0000E+00	3.1779E-04

## Exclusion Area Boundary Doses:

Time (h) =	0.1667	Whole Body	Thyroid	TEDE
Delta dose (rem)		2.0067E-03	2.2423E-01	1.1137E-02
Accumulated dose (rem)		2.0067E-03	2.2423E-01	1.1137E-02

## Low Population Zone Doses:

Time (h) =	0.1667	Whole Body	Thyroid	TEDE
Delta dose (rem)		5.7250E-04	6.3973E-02	3.1772E-03
Accumulated dose (rem)		5.7250E-04	6.3973E-02	3.1772E-03

## Control Room Doses:

Time (h) =	0.1667	Whole Body	Thyroid	TEDE
Delta dose (rem)		2.4986E-06	5.4671E-03	2.2521E-04
Accumulated dose (rem)		2.4986E-06	5.4671E-03	2.2521E-04

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =	0.1667	Ci	kg	Atoms	Decay
Kr-85		2.0719E+04	5.2810E-02	3.7415E+23	3.1770E+17
Kr-85m		3.0067E+05	3.6535E-05	2.5885E+20	4.6565E+18
Kr-87		5.6481E+05	1.9940E-05	1.3802E+20	8.9724E+18
Kr-88		8.2477E+05	6.5775E-05	4.5012E+20	1.2848E+19
Rb-86		2.3285E+03	2.8617E-05	2.0039E+20	3.5707E+16
I-131		1.2153E+06	9.8025E-03	4.5063E+22	1.8639E+19

I-132	1.7110E+06	1.6576E-04	7.5623E+20	2.6630E+19
I-133	2.4966E+06	2.2039E-03	9.9791E+21	3.8364E+19
I-134	2.4391E+06	9.1432E-05	4.1091E+20	3.9376E+19
I-135	2.3481E+06	6.6863E-04	2.9827E+21	3.6250E+19
Xe-133	2.4047E+06	1.2847E-02	5.8169E+22	3.6865E+19
Xe-135	8.3038E+05	3.2516E-04	1.4505E+21	1.2567E+19
Cs-134	3.0701E+05	2.3729E-01	1.0664E+24	4.7076E+18
Cs-136	8.3755E+04	1.1428E-03	5.0602E+21	1.2844E+18
Cs-137	2.4349E+05	2.7993E+00	1.2305E+25	3.7335E+18

## Sprayed Drywell Transport Group Inventory:

Time (h) =	0.1667	Atmosphere	Sump	
Noble gases (atoms)	4.3462E+23	0.0000E+00		
Elemental I (atoms)	2.8708E+21	0.0000E+00		
Organic I (atoms)	8.8787E+19	0.0000E+00		
Aerosols (kg)	3.0500E+00	0.0000E+00		
Dose Effective (Ci/cc)	I-131 (Thyroid)			6.3620E-04
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)			8.1085E-04
Total I (Ci)				1.0210E+07

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

		Pathway	
Time (h) =	0.1667	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.6793E+19	
Elemental I (atoms)	0.0000E+00	1.1114E+17	
Organic I (atoms)	0.0000E+00	3.4374E+15	
Aerosols (kg)	0.0000E+00	1.1785E-04	

## Drywell to Intact Control Volume 2 Transport Group Inventory:

		Pathway	
Time (h) =	0.1667	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.6793E+19	
Elemental I (atoms)	0.0000E+00	1.1114E+17	
Organic I (atoms)	0.0000E+00	3.4374E+15	
Aerosols (kg)	0.0000E+00	1.1785E-04	

## Drywell to Intact Control Volume 4 Transport Group Inventory:

		Pathway	
Time (h) =	0.1667	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.3448E+19	
Elemental I (atoms)	0.0000E+00	8.9003E+16	
Organic I (atoms)	0.0000E+00	2.7527E+15	
Aerosols (kg)	0.0000E+00	9.4373E-05	

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

		Pathway	
Time (h) =	0.1667	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.9546E+22	
Elemental I (atoms)	0.0000E+00	3.2794E+20	
Organic I (atoms)	0.0000E+00	1.0142E+19	
Aerosols (kg)	0.0000E+00	3.4770E-01	

## Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

		Pathway	
Time (h) =	0.1667	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.1415E+21	
Elemental I (atoms)	0.0000E+00	3.4021E+19	
Organic I (atoms)	0.0000E+00	1.0522E+18	

Aerosols (kg) 0.0000E+00 3.6082E-02

Exclusion Area Boundary Doses:

Time (h) =	0.5000	Whole Body	Thyroid	TEDE
Delta dose (rem)	4.3643E-02	4.3643E-02	3.5385E+00	1.8616E-01
Accumulated dose (rem)	4.5650E-02	4.5650E-02	3.7627E+00	1.9730E-01

Low Population Zone Doses:

Time (h) =	0.5000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.2451E-02	1.2451E-02	1.0095E+00	5.3110E-02
Accumulated dose (rem)	1.3024E-02	1.3024E-02	1.0735E+00	5.6287E-02

Control Room Doses:

Time (h) =	0.5000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.4655E-04	1.4655E-04	2.6346E-01	1.0790E-02
Accumulated dose (rem)	1.4905E-04	1.4905E-04	2.6893E-01	1.1015E-02

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =	Ci	kg	Atoms	Decay
Kr-85	5.4480E+04	1.3886E-01	9.8381E+23	2.2187E+18
Kr-85m	7.5084E+05	9.1237E-05	6.4640E+20	3.1456E+19
Kr-87	1.2384E+06	4.3721E-05	3.0263E+20	5.5822E+19
Kr-88	1.9992E+06	1.5944E-04	1.0911E+21	8.5155E+19
Rb-86	1.0072E+03	1.2379E-05	8.6681E+19	8.5794E+16
I-131	5.2942E+05	4.2704E-03	1.9631E+22	4.4902E+19
I-132	7.3929E+05	7.1621E-05	3.2675E+20	6.3828E+19
I-133	1.0767E+06	9.5048E-04	4.3037E+21	9.2068E+19
I-134	8.1725E+05	3.0635E-05	1.3768E+20	8.6211E+19
I-135	9.8882E+05	2.8157E-04	1.2560E+21	8.6209E+19
Xe-133	6.3164E+06	3.3745E-02	1.5279E+23	2.5736E+20
Xe-135	2.1862E+06	8.5609E-04	3.8189E+21	8.8786E+19
Cs-134	1.3287E+05	1.0270E-01	4.6153E+23	1.1313E+19
Cs-136	3.6222E+04	4.9422E-04	2.1884E+21	3.0859E+18
Cs-137	1.0538E+05	1.2115E+00	5.3255E+24	8.9724E+18

Sprayed Drywell Transport Group Inventory:

Time (h) =	0.5000	Atmosphere	Sump
Noble gases (atoms)	1.1425E+24	0.0000E+00	
Elemental I (atoms)	1.2349E+21	7.5493E+21	
Organic I (atoms)	2.3190E+20	0.0000E+00	
Aerosols (kg)	1.3200E+00	8.0347E+00	
Dose Effective (Ci/cc) I-131 (Thyroid)			2.7601E-04
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			3.4946E-04
Total I (Ci)			4.1515E+06

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.4203E+20
Elemental I (atoms)	0.0000E+00	3.4732E+17
Organic I (atoms)	0.0000E+00	2.8953E+16
Aerosols (kg)	0.0000E+00	3.6921E-04

Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.4203E+20



Elemental I (atoms)	0.0000E+00	3.4732E+17
Organic I (atoms)	0.0000E+00	2.8953E+16
Aerosols (kg)	0.0000E+00	3.6921E-04

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 0.5000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.1374E+20
Elemental I (atoms)	0.0000E+00	2.7813E+17
Organic I (atoms)	0.0000E+00	2.3186E+16
Aerosols (kg)	0.0000E+00	2.9566E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 0.5000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.0350E+23
Elemental I (atoms)	0.0000E+00	9.9546E+20
Organic I (atoms)	0.0000E+00	8.2260E+19
Aerosols (kg)	0.0000E+00	1.0581E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 0.5000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.0977E+23
Elemental I (atoms)	0.0000E+00	3.7777E+20
Organic I (atoms)	0.0000E+00	2.2358E+19
Aerosols (kg)	0.0000E+00	4.0231E-01

Exclusion Area Boundary Doses:

Time (h) = 0.6667	Whole Body	Thyroid	TEDE
Delta dose (rem)	5.7093E-02	3.1612E+00	1.8728E-01
Accumulated dose (rem)	1.0274E-01	6.9239E+00	3.8458E-01

Low Population Zone Doses:

Time (h) = 0.6667	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.6288E-02	9.0186E-01	5.3431E-02
Accumulated dose (rem)	2.9312E-02	1.9753E+00	1.0972E-01

Control Room Doses:

Time (h) = 0.6667	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.5318E-04	3.5980E-01	1.4816E-02
Accumulated dose (rem)	4.0223E-04	6.2873E-01	2.5831E-02

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 0.6667	Ci	kg	Atoms	Decay
Co-58	4.4404E+01	1.3965E-06	1.4499E+19	9.0093E+14
Co-60	5.3160E+01	4.7028E-05	4.7202E+20	1.0785E+15
Kr-85	1.8003E+05	4.5887E-01	3.2510E+24	5.5804E+18
Kr-85m	2.4180E+06	2.9382E-04	2.0817E+21	7.7151E+19
Kr-87	3.7369E+06	1.3193E-04	9.1319E+20	1.2862E+20
Kr-88	6.3431E+06	5.0586E-04	3.4618E+21	2.0586E+20
Rb-86	1.3044E+03	1.6032E-05	1.1226E+20	1.1417E+17
Sr-89	6.0230E+04	2.0732E-03	1.4028E+22	1.2220E+18
Sr-90	9.4773E+03	6.9478E-02	4.6490E+23	1.9228E+17
Sr-91	7.2806E+04	2.0084E-05	1.3291E+20	1.4858E+18
Sr-92	6.8220E+04	5.4274E-06	3.5527E+19	1.4129E+18

Y-90	1.0761E+02	1.9779E-07	1.3235E+18	2.0107E+15
Y-91	7.7951E+02	3.1786E-05	2.1035E+20	1.5790E+16
Y-92	2.0954E+03	2.1777E-07	1.4255E+18	1.9872E+16
Y-93	5.9179E+02	1.7738E-07	1.1486E+18	1.2073E+16
Zr-95	1.1092E+03	5.1631E-05	3.2730E+20	2.2505E+16
Zr-97	1.0496E+03	5.4905E-07	3.4087E+18	2.1365E+16
Nb-95	1.1095E+03	2.8374E-05	1.7987E+20	2.2510E+16
Mo-99	1.4442E+04	3.0111E-05	1.8317E+20	2.9325E+17
Tc-99m	1.2899E+04	2.4532E-06	1.4922E+19	2.6046E+17
Ru-103	1.2514E+04	3.8776E-04	2.2671E+21	2.5392E+17
Ru-105	7.9154E+03	1.1775E-06	6.7536E+18	1.6262E+17
Ru-106	5.4607E+03	1.6322E-03	9.2730E+21	1.1079E+17
Rh-105	8.2266E+03	9.7466E-06	5.5900E+19	1.6678E+17
Sb-127	1.3742E+04	5.1459E-05	2.4401E+20	2.7898E+17
Sb-129	4.5175E+04	8.0334E-06	3.7502E+19	9.2843E+17
Te-127	1.3711E+04	5.1954E-06	2.4636E+19	2.7732E+17
Te-127m	2.3501E+03	2.4914E-04	1.1814E+21	4.7679E+16
Te-129	4.6518E+04	2.2213E-06	1.0370E+19	9.2622E+17
Te-129m	9.6704E+03	3.2101E-04	1.4986E+21	1.9619E+17
Te-131m	3.0918E+04	3.8774E-05	1.7824E+20	6.2845E+17
Te-132	2.2021E+05	7.2536E-04	3.3092E+21	4.4710E+18
I-131	8.4094E+05	6.7831E-03	3.1182E+22	6.2964E+19
I-132	1.1889E+06	1.1518E-04	5.2547E+20	8.9521E+19
I-133	1.7016E+06	1.5021E-03	6.8015E+21	1.2871E+20
I-134	1.1384E+06	4.2673E-05	1.9178E+20	1.1232E+20
I-135	1.5442E+06	4.3971E-04	1.9615E+21	1.1965E+20
Xe-133	2.0874E+07	1.1152E-01	5.0494E+23	6.4723E+20
Xe-135	7.3600E+06	2.8820E-03	1.2856E+22	2.2617E+20
Cs-134	1.7212E+05	1.3303E-01	5.9787E+23	1.5057E+19
Cs-136	4.6906E+04	6.3999E-04	2.8339E+21	4.1064E+18
Cs-137	1.3651E+05	1.5694E+00	6.8988E+24	1.1942E+19
Ba-139	8.0448E+04	4.9183E-06	2.1308E+19	1.6999E+18
Ba-140	1.1309E+05	1.5448E-03	6.6450E+21	2.2949E+18
La-140	1.3943E+03	2.5084E-06	1.0790E+19	2.5016E+16
La-141	9.1794E+02	1.6231E-07	6.9324E+17	1.8890E+16
La-142	7.4794E+02	5.2248E-08	2.2158E+17	1.5735E+16
Ce-141	2.6002E+03	9.1257E-05	3.8976E+20	5.2756E+16
Ce-143	2.3933E+03	3.6040E-06	1.5177E+19	4.8639E+16
Ce-144	2.2343E+03	7.0053E-04	2.9296E+21	4.5332E+16
Pr-143	9.4034E+02	1.3964E-05	5.8808E+19	1.9071E+16
Nd-147	4.1765E+02	5.1626E-06	2.1150E+19	8.4753E+15
Np-239	3.0378E+04	1.3094E-04	3.2994E+20	6.1693E+17
Pu-238	8.0130E+00	4.6806E-04	1.1843E+21	1.6257E+14
Pu-239	7.5709E-01	1.2180E-02	3.0691E+22	1.5360E+13
Pu-240	1.3869E+00	6.0866E-03	1.5273E+22	2.8139E+13
Pu-241	3.0627E+02	2.9731E-03	7.4293E+21	6.2138E+15
Am-241	2.0112E-01	5.8598E-05	1.4643E+20	4.0803E+12
Cm-242	5.1156E+01	1.5435E-05	3.8409E+19	1.0379E+15
Cm-244	2.9742E+00	3.6763E-05	9.0733E+19	6.0342E+13

## Sprayed Drywell Transport Group Inventory:

Time (h) =	0.6667	Atmosphere	Sump	
Noble gases (atoms)	3.7753E+24	0.0000E+00		
Elemental I (atoms)	1.9579E+21	1.1945E+22		
Organic I (atoms)	3.5372E+20	0.0000E+00		
Aerosols (kg)	1.8110E+00	1.2217E+01		
Dose Effective (Ci/cc) I-131 (Thyroid)			4.3757E-04	
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			5.5259E-04	
Total I (Ci)			6.4140E+06	

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

Pathway

Time (h) =	0.6667	Filtered	Transported
Noble gases (atoms)	0.0000E+00		3.3735E+20
Elemental I (atoms)	0.0000E+00		4.8483E+17
Organic I (atoms)	0.0000E+00		5.1978E+16
Aerosols (kg)	0.0000E+00		5.0004E-04

Drywell to Intact Control Volume 2 Transport Group Inventory:

		Pathway	
Time (h) =	0.6667	Filtered	Transported
Noble gases (atoms)	0.0000E+00		3.3735E+20
Elemental I (atoms)	0.0000E+00		4.8483E+17
Organic I (atoms)	0.0000E+00		5.1978E+16
Aerosols (kg)	0.0000E+00		5.0004E-04

Drywell to Intact Control Volume 4 Transport Group Inventory:

		Pathway	
Time (h) =	0.6667	Filtered	Transported
Noble gases (atoms)	0.0000E+00		2.7015E+20
Elemental I (atoms)	0.0000E+00		3.8826E+17
Organic I (atoms)	0.0000E+00		4.1624E+16
Aerosols (kg)	0.0000E+00		4.0044E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

		Pathway	
Time (h) =	0.6667	Filtered	Transported
Noble gases (atoms)	0.0000E+00		9.5556E+23
Elemental I (atoms)	0.0000E+00		1.3841E+21
Organic I (atoms)	0.0000E+00		1.4734E+20
Aerosols (kg)	0.0000E+00		1.4279E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

		Pathway	
Time (h) =	0.6667	Filtered	Transported
Noble gases (atoms)	0.0000E+00		2.6170E+23
Elemental I (atoms)	0.0000E+00		6.0692E+20
Organic I (atoms)	0.0000E+00		4.8323E+19
Aerosols (kg)	0.0000E+00		6.4247E-01

Exclusion Area Boundary Doses:

Time (h) =	2.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		4.6700E+00	6.7752E+01	7.9347E+00
Accumulated dose (rem)		4.7728E+00	7.4676E+01	8.3193E+00

Low Population Zone Doses:

Time (h) =	2.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		1.3323E+00	1.9329E+01	2.2637E+00
Accumulated dose (rem)		1.3616E+00	2.1305E+01	2.3734E+00

Control Room Doses:

Time (h) =	2.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		1.6691E-02	3.4194E+00	1.6368E-01
Accumulated dose (rem)		1.7093E-02	4.0481E+00	1.8952E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =	2.0000	Ci	kg	Atoms	Decay
------------	--------	----	----	-------	-------

Co-58	5.0850E+01	1.5991E-06	1.6604E+19	9.7344E+15
Co-60	6.0908E+01	5.3882E-05	5.4081E+20	1.1657E+16
Kr-85	9.2638E+05	2.3612E+00	1.6729E+25	1.0809E+20
Kr-85m	1.0123E+07	1.2301E-03	8.7149E+21	1.2952E+21
Kr-87	9.2968E+06	3.2821E-04	2.2719E+21	1.5301E+21
Kr-88	2.3573E+07	1.8800E-03	1.2865E+22	3.1871E+21
Rb-86	1.3607E+03	1.6722E-05	1.1710E+20	3.5389E+17
Sr-89	6.8957E+04	2.3736E-03	1.6061E+22	1.3202E+19
Sr-90	1.0859E+04	7.9605E-02	5.3266E+23	2.0781E+18
Sr-91	7.5686E+04	2.0879E-05	1.3817E+20	1.5283E+19
Sr-92	5.5578E+04	4.4217E-06	2.8943E+19	1.2893E+19
Y-90	1.2404E+02	2.2800E-07	1.5256E+18	2.2915E+16
Y-91	8.9275E+02	3.6403E-05	2.4091E+20	1.7079E+17
Y-92	1.9924E+03	2.0706E-07	1.3554E+18	3.3234E+17
Y-93	6.1876E+02	1.8546E-07	1.2010E+18	1.2455E+17
Zr-95	1.2701E+03	5.9122E-05	3.7478E+20	2.4315E+17
Zr-97	1.1386E+03	5.9561E-07	3.6978E+18	2.2455E+17
Nb-95	1.2712E+03	3.2510E-05	2.0608E+20	2.4328E+17
Mo-99	1.6317E+04	3.4021E-05	2.0695E+20	3.1467E+18
Tc-99m	1.4737E+04	2.8027E-06	1.7049E+19	2.8196E+18
Ru-103	1.4325E+04	4.4384E-04	2.5950E+21	2.7429E+18
Ru-105	7.3650E+03	1.0957E-06	6.2840E+18	1.5829E+18
Ru-106	6.2561E+03	1.8699E-03	1.0624E+22	1.1973E+18
Rh-105	9.3939E+03	1.1129E-05	6.3831E+19	1.8012E+18
Sb-127	1.5589E+04	5.8374E-05	2.7680E+20	2.9997E+18
Sb-129	4.1791E+04	7.4317E-06	3.4693E+19	9.0113E+18
Te-127	1.5690E+04	5.9453E-06	2.8192E+19	3.0012E+18
Te-127m	2.6927E+03	2.8546E-04	1.3536E+21	5.1531E+17
Te-129	4.7598E+04	2.2728E-06	1.0610E+19	9.6469E+18
Te-129m	1.1079E+04	3.6777E-04	1.7169E+21	2.1204E+18
Te-131m	3.4351E+04	4.3078E-05	1.9803E+20	6.6859E+18
Te-132	2.4935E+05	8.2133E-04	3.7471E+21	4.8030E+19
I-131	9.0720E+05	7.3176E-03	3.3640E+22	2.2117E+20
I-132	1.2834E+06	1.2433E-04	5.6722E+20	3.1410E+20
I-133	1.7630E+06	1.5563E-03	7.0470E+21	4.4240E+20
I-134	4.2969E+05	1.6107E-05	7.2388E+19	2.4433E+20
I-135	1.4544E+06	4.1413E-04	1.8474E+21	3.9115E+20
Xe-133	1.0707E+08	5.7201E-01	2.5900E+24	1.2512E+22
Xe-135	3.8684E+07	1.5148E-02	6.7573E+22	4.4883E+21
Cs-134	1.7990E+05	1.3905E-01	6.2489E+23	4.6720E+19
Cs-136	4.8884E+04	6.6699E-04	2.9535E+21	1.2722E+19
Cs-137	1.4269E+05	1.6404E+00	7.2110E+24	3.7054E+19
Ba-139	4.7143E+04	2.8822E-06	1.2487E+19	1.3319E+19
Ba-140	1.2919E+05	1.7647E-03	7.5907E+21	2.4765E+19
La-140	1.6097E+03	2.8960E-06	1.2457E+19	2.9263E+17
La-141	8.3135E+02	1.4700E-07	6.2785E+17	1.8144E+17
La-142	4.7056E+02	3.2872E-08	1.3941E+17	1.2729E+17
Ce-141	2.9785E+03	1.0453E-04	4.4647E+20	5.7011E+17
Ce-143	2.6665E+03	4.0153E-06	1.6909E+19	5.1820E+17
Ce-144	2.5597E+03	8.0253E-04	3.3562E+21	4.8990E+17
Pr-143	1.0774E+03	1.6000E-05	6.7382E+19	2.0617E+17
Nd-147	4.7685E+02	5.8944E-06	2.4148E+19	9.1434E+16
Np-239	3.4242E+04	1.4760E-04	3.7191E+20	6.6120E+18
Pu-238	9.1813E+00	5.3630E-04	1.3570E+21	1.7571E+15
Pu-239	8.6761E-01	1.3958E-02	3.5171E+22	1.6602E+14
Pu-240	1.5891E+00	6.9738E-03	1.7499E+22	3.0412E+14
Pu-241	3.5091E+02	3.4065E-03	8.5122E+21	6.7158E+16
Am-241	2.3047E-01	6.7150E-05	1.6780E+20	4.4103E+13
Cm-242	5.8599E+01	1.7681E-05	4.3998E+19	1.1216E+16
Cm-244	3.4077E+00	4.2121E-05	1.0396E+20	6.5216E+14

Sprayed Drywell Transport Group Inventory:

Time (h) = 2.0000 Atmosphere Sump

Noble gases (atoms)	1.9410E+25	0.0000E+00	
Elemental I (atoms)	2.0418E+21	5.2661E+22	
Organic I (atoms)	1.1385E+21	0.0000E+00	
Aerosols (kg)	1.9029E+00	4.9869E+01	
Dose Effective (Ci/cc) I-131 (Thyroid)			4.6498E-04
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			5.7731E-04
Total I (Ci)			5.8376E+06

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 2.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	7.7864E+21
Elemental I (atoms)	0.0000E+00	1.7586E+18
Organic I (atoms)	0.0000E+00	5.2662E+17
Aerosols (kg)	0.0000E+00	1.6779E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 2.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	7.7864E+21
Elemental I (atoms)	0.0000E+00	1.7586E+18
Organic I (atoms)	0.0000E+00	5.2662E+17
Aerosols (kg)	0.0000E+00	1.6779E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 2.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	6.2354E+21
Elemental I (atoms)	0.0000E+00	1.4083E+18
Organic I (atoms)	0.0000E+00	4.2172E+17
Aerosols (kg)	0.0000E+00	1.3437E-03

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 2.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.2009E+25
Elemental I (atoms)	0.0000E+00	4.9843E+21
Organic I (atoms)	0.0000E+00	1.4889E+21
Aerosols (kg)	0.0000E+00	4.7571E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 2.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.2729E+25
Elemental I (atoms)	0.0000E+00	3.6477E+21
Organic I (atoms)	0.0000E+00	9.1382E+20
Aerosols (kg)	0.0000E+00	3.5374E+00

Exclusion Area Boundary Doses:

Time (h) = 2.2000	Whole Body	Thyroid	TEDE
Delta dose (rem)	9.2441E-01	8.9993E+00	1.3696E+00
Accumulated dose (rem)	5.6972E+00	8.3675E+01	9.6888E+00

Low Population Zone Doses:

Time (h) = 2.2000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.0391E-01	1.9851E+00	3.0211E-01

Accumulated dose (rem) 1.5656E+00 2.3290E+01 2.6755E+00

## Control Room Doses:

Time (h) =	2.2000	Whole Body	Thyroid	TEDE
Delta dose (rem)		6.7618E-03	5.5574E-01	3.2325E-02
Accumulated dose (rem)		2.3855E-02	4.6039E+00	2.2184E-01

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =	Ci	kg	Atoms	Decay
Co-58	5.1069E+00	1.6061E-07	1.6676E+18	9.9744E+15
Co-60	6.1176E+00	5.4120E-06	5.4319E+19	1.1944E+16
Kr-85	8.7609E+05	2.2330E+00	1.5821E+25	1.3171E+20
Kr-85m	9.2815E+06	1.1278E-03	7.9905E+21	1.5493E+21
Kr-87	7.8839E+06	2.7833E-04	1.9266E+21	1.7548E+21
Kr-88	2.1231E+07	1.6932E-03	1.1587E+22	3.7737E+21
Rb-86	1.3978E+02	1.7179E-06	1.2030E+19	3.6039E+17
Sr-89	6.9253E+03	2.3837E-04	1.6129E+21	1.3528E+19
Sr-90	1.0907E+03	7.9956E-03	5.3501E+22	2.1294E+18
Sr-91	7.4918E+03	2.0667E-06	1.3677E+19	1.5638E+19
Sr-92	5.3039E+03	4.2197E-07	2.7621E+18	1.3150E+19
Y-90	1.7379E+01	3.1942E-08	2.1373E+17	2.3583E+16
Y-91	9.0331E+01	3.6834E-06	2.4376E+19	1.7501E+17
Y-92	6.4162E+02	6.6680E-08	4.3648E+17	3.4942E+17
Y-93	6.1302E+01	1.8374E-08	1.1898E+17	1.2745E+17
Zr-95	1.2756E+02	5.9377E-06	3.7640E+19	2.4915E+17
Zr-97	1.1343E+02	5.9335E-08	3.6837E+17	2.2991E+17
Nb-95	1.2768E+02	3.2653E-06	2.0699E+19	2.4928E+17
Mo-99	1.6354E+03	3.4099E-06	2.0742E+19	3.2237E+18
Tc-99m	1.4795E+03	2.8137E-07	1.7116E+18	2.8888E+18
Ru-103	1.4386E+03	4.4573E-05	2.6061E+20	2.8105E+18
Ru-105	7.1701E+02	1.0667E-07	6.1177E+17	1.6172E+18
Ru-106	6.2835E+02	1.8782E-04	1.0670E+21	1.2269E+18
Rh-105	9.4269E+02	1.1169E-06	6.4056E+18	1.8454E+18
Sb-127	1.5634E+03	5.8543E-06	2.7760E+19	3.0733E+18
Sb-129	4.0650E+03	7.2287E-07	3.3746E+18	9.2061E+18
Te-127	1.5756E+03	5.9703E-07	2.8310E+18	3.0749E+18
Te-127m	2.7045E+02	2.8672E-05	1.3596E+20	5.2802E+17
Te-129	4.6952E+03	2.2420E-07	1.0466E+18	9.8644E+18
Te-129m	1.1128E+03	3.6938E-05	1.7244E+20	2.1727E+18
Te-131m	3.4343E+03	4.3068E-06	1.9799E+19	6.8478E+18
Te-132	2.5000E+04	8.2349E-05	3.7569E+20	4.9206E+19
I-131	1.1304E+05	9.1179E-04	4.1916E+21	2.2599E+20
I-132	1.4514E+05	1.4061E-05	6.4149E+19	3.2059E+20
I-133	2.1839E+05	1.9279E-04	8.7293E+20	4.5175E+20
I-134	4.5746E+04	1.7148E-06	7.7066E+18	2.4648E+20
I-135	1.7760E+05	5.0571E-05	2.2559E+20	3.9882E+20
Xe-133	1.0113E+08	5.4029E-01	2.4464E+24	1.5240E+22
Xe-135	3.5900E+07	1.4058E-02	6.2710E+22	5.4643E+21
Cs-134	1.8487E+04	1.4289E-02	6.4216E+22	4.7580E+19
Cs-136	5.0213E+03	6.8512E-05	3.0337E+20	1.2956E+19
Cs-137	1.4663E+04	1.6858E-01	7.4102E+23	3.7737E+19
Ba-139	4.2820E+03	2.6179E-07	1.1342E+18	1.3533E+19
Ba-140	1.2970E+04	1.7716E-04	7.6207E+20	2.5374E+19
La-140	2.5447E+02	4.5782E-07	1.9693E+18	3.0180E+17
La-141	8.0607E+01	1.4253E-08	6.0876E+16	1.8531E+17
La-142	4.3199E+01	3.0177E-09	1.2798E+16	1.2944E+17
Ce-141	2.9910E+02	1.0497E-05	4.4833E+19	5.8417E+17
Ce-143	2.6670E+02	4.0161E-07	1.6913E+18	5.3076E+17
Ce-144	2.5709E+02	8.0605E-05	3.3710E+20	5.0198E+17
Pr-143	1.0836E+02	1.6092E-06	6.7769E+18	2.1125E+17
Nd-147	4.7870E+01	5.9173E-07	2.4241E+18	9.3684E+16

Np-239	3.4308E+03	1.4789E-05	3.7263E+19	6.7735E+18
Pu-238	9.2217E-01	5.3866E-05	1.3630E+20	1.8004E+15
Pu-239	8.7145E-02	1.4020E-03	3.5327E+21	1.7012E+14
Pu-240	1.5961E-01	7.0046E-04	1.7576E+21	3.1162E+14
Pu-241	3.5246E+01	3.4215E-04	8.5498E+20	6.8814E+16
Am-241	2.3151E-02	6.7452E-06	1.6855E+19	4.5191E+13
Cm-242	5.8855E+00	1.7758E-06	4.4190E+18	1.1493E+16
Cm-244	3.4227E-01	4.2307E-06	1.0442E+19	6.6825E+14

## Sprayed Drywell Transport Group Inventory:

Time (h) =	2.2000	Atmosphere	Sump	
Noble gases (atoms)	1.8351E+25	0.0000E+00		
Elemental I (atoms)	2.0801E+20	5.4668E+22		
Organic I (atoms)	1.0796E+21	0.0000E+00		
Aerosols (kg)	1.9528E-01	5.1741E+01		
Dose Effective (Ci/cc)	I-131 (Thyroid)		5.7784E-05	
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		7.1448E-05	
Total I (Ci)			6.9991E+05	

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
2.2000		
Noble gases (atoms)	0.0000E+00	8.8255E+21
Elemental I (atoms)	0.0000E+00	1.7955E+18
Organic I (atoms)	0.0000E+00	5.8772E+17
Aerosols (kg)	0.0000E+00	1.7124E-03

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
2.2000		
Noble gases (atoms)	0.0000E+00	8.8255E+21
Elemental I (atoms)	0.0000E+00	1.7955E+18
Organic I (atoms)	0.0000E+00	5.8772E+17
Aerosols (kg)	0.0000E+00	1.7124E-03

## Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
2.2000		
Noble gases (atoms)	0.0000E+00	7.0652E+21
Elemental I (atoms)	0.0000E+00	1.4378E+18
Organic I (atoms)	0.0000E+00	4.7052E+17
Aerosols (kg)	0.0000E+00	1.3712E-03

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
2.2000		
Noble gases (atoms)	0.0000E+00	2.7003E+25
Elemental I (atoms)	0.0000E+00	5.1617E+21
Organic I (atoms)	0.0000E+00	1.7825E+21
Aerosols (kg)	0.0000E+00	4.9227E+00

## Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
2.2000		
Noble gases (atoms)	0.0000E+00	1.6671E+25
Elemental I (atoms)	0.0000E+00	4.1225E+21
Organic I (atoms)	0.0000E+00	1.1525E+21
Aerosols (kg)	0.0000E+00	3.9831E+00

## Exclusion Area Boundary Doses:

Time (h) =	2.3000	Whole Body	Thyroid	TEDE
Delta dose (rem)	4.8523E-01	4.4803E+00	7.0612E-01	
Accumulated dose (rem)	6.1824E+00	8.8156E+01	1.0395E+01	

## Low Population Zone Doses:

Time (h) =	2.3000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.0704E-01	9.8830E-01	1.5576E-01	
Accumulated dose (rem)	1.6726E+00	2.4278E+01	2.8313E+00	

## Control Room Doses:

Time (h) =	2.3000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.4535E-03	2.6810E-01	1.5856E-02	
Accumulated dose (rem)	2.7308E-02	4.8720E+00	2.3770E-01	

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =	Ci	kg	Atoms	Decay
Co-58	3.1728E+00	9.9781E-08	1.0360E+18	1.0017E+16
Co-60	3.8009E+00	3.3625E-06	3.3749E+19	1.1995E+16
Kr-85	8.6101E+05	2.1946E+00	1.5548E+25	1.4318E+20
Kr-85m	8.9818E+06	1.0914E-03	7.7325E+21	1.6699E+21
Kr-87	7.3372E+06	2.5903E-04	1.7930E+21	1.8552E+21
Kr-88	2.0363E+07	1.6239E-03	1.1113E+22	4.0483E+21
Rb-86	8.7620E+01	1.0768E-06	7.5405E+18	3.6156E+17
Sr-89	4.3025E+03	1.4809E-04	1.0021E+21	1.3585E+19
Sr-90	6.7763E+02	4.9677E-03	3.3240E+22	2.1384E+18
Sr-91	4.6208E+03	1.2747E-06	8.4357E+18	1.5700E+19
Sr-92	3.2121E+03	2.5555E-07	1.6728E+18	1.3193E+19
Y-90	1.2161E+01	2.2352E-08	1.4957E+17	2.3736E+16
Y-91	5.6305E+01	2.2959E-06	1.5194E+19	1.7576E+17
Y-92	5.1264E+02	5.3276E-08	3.4873E+17	3.5546E+17
Y-93	3.7827E+01	1.1338E-08	7.3417E+16	1.2796E+17
Zr-95	7.9250E+01	3.6890E-06	2.3385E+19	2.5020E+17
Zr-97	7.0185E+01	3.6714E-08	2.2794E+17	2.3085E+17
Nb-95	7.9330E+01	2.0287E-06	1.2860E+19	2.5034E+17
Mo-99	1.0150E+03	2.1164E-06	1.2874E+19	3.2372E+18
Tc-99m	9.1899E+02	1.7477E-07	1.0631E+18	2.9010E+18
Ru-103	8.9372E+02	2.7692E-05	1.6191E+20	2.8224E+18
Ru-105	4.3858E+02	6.5245E-08	3.7420E+17	1.6231E+18
Ru-106	3.9040E+02	1.1669E-04	6.6295E+20	1.2321E+18
Rh-105	5.8541E+02	6.9357E-07	3.9779E+18	1.8532E+18
Sb-127	9.7062E+02	3.6346E-06	1.7235E+19	3.0862E+18
Sb-129	2.4854E+03	4.4197E-07	2.0633E+18	9.2394E+18
Te-127	9.7884E+02	3.7090E-07	1.7587E+18	3.0879E+18
Te-127m	1.6803E+02	1.7814E-05	8.4472E+19	5.3026E+17
Te-129	2.8901E+03	1.3800E-07	6.4424E+17	9.9022E+18
Te-129m	6.9135E+02	2.2949E-05	1.0713E+20	2.1819E+18
Te-131m	2.1288E+03	2.6697E-06	1.2273E+19	6.8762E+18
Te-132	1.5519E+04	5.1118E-05	2.3321E+20	4.9413E+19
I-131	7.8884E+04	6.3629E-04	2.9251E+21	2.2704E+20
I-132	9.6940E+04	9.3915E-06	4.2846E+19	3.2189E+20
I-133	1.5196E+05	1.3414E-04	6.0738E+20	4.5377E+20
I-134	2.9508E+04	1.1061E-06	4.9712E+18	2.4689E+20
I-135	1.2269E+05	3.4936E-05	1.5585E+20	4.0046E+20
Xe-133	9.9333E+07	5.3068E-01	2.4029E+24	1.6563E+22
Xe-135	3.4974E+07	1.3695E-02	6.1093E+22	5.9320E+21
Cs-134	1.1590E+04	8.9579E-03	4.0258E+22	4.7734E+19
Cs-136	3.1473E+03	4.2942E-05	1.9015E+20	1.2998E+19



Cs-137	9.1927E+03	1.0569E-01	4.6456E+23	3.7859E+19
Ba-139	2.5300E+03	1.5467E-07	6.7011E+17	1.3567E+19
Ba-140	8.0564E+03	1.1005E-04	4.7337E+20	2.5482E+19
La-140	1.8378E+02	3.3065E-07	1.4223E+18	3.0407E+17
La-141	4.9206E+01	8.7008E-09	3.7161E+16	1.8597E+17
La-142	2.5660E+01	1.7925E-09	7.6019E+15	1.2979E+17
Ce-141	1.8581E+02	6.5213E-06	2.7852E+19	5.8664E+17
Ce-143	1.6535E+02	2.4900E-07	1.0486E+18	5.3297E+17
Ce-144	1.5973E+02	5.0080E-05	2.0944E+20	5.0411E+17
Pr-143	6.7367E+01	1.0004E-06	4.2130E+18	2.1215E+17
Nd-147	2.9734E+01	3.6755E-07	1.5057E+18	9.4081E+16
Np-239	2.1290E+03	9.1770E-06	2.3123E+19	6.8019E+18
Pu-238	5.7295E-01	3.3467E-05	8.4683E+19	1.8080E+15
Pu-239	5.4144E-02	8.7110E-04	2.1949E+21	1.7084E+14
Pu-240	9.9167E-02	4.3520E-04	1.0920E+21	3.1294E+14
Pu-241	2.1899E+01	2.1258E-04	5.3120E+20	6.9106E+16
Am-241	1.4384E-02	4.1910E-06	1.0473E+19	4.5382E+13
Cm-242	3.6566E+00	1.1033E-06	2.7455E+18	1.1541E+16
Cm-244	2.1266E-01	2.6285E-06	6.4875E+18	6.7108E+14

## Sprayed Drywell Transport Group Inventory:

Time (h) =	2.3000	Atmosphere	Sump	
Noble gases (atoms)	1.8033E+25	0.0000E+00		
Elemental I (atoms)	1.2992E+20	5.4907E+22		
Organic I (atoms)	1.0613E+21	0.0000E+00		
Aerosols (kg)	1.2236E-01	5.1966E+01		
Dose Effective (Ci/cc) I-131 (Thyroid)				4.0272E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)				4.9703E-05
Total I (Ci)				4.7998E+05

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

		Pathway	
Time (h) =	2.3000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	9.3273E+21	
Elemental I (atoms)	0.0000E+00	1.7999E+18	
Organic I (atoms)	0.0000E+00	6.1727E+17	
Aerosols (kg)	0.0000E+00	1.7165E-03	

## Drywell to Intact Control Volume 2 Transport Group Inventory:

		Pathway	
Time (h) =	2.3000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	9.3273E+21	
Elemental I (atoms)	0.0000E+00	1.7999E+18	
Organic I (atoms)	0.0000E+00	6.1727E+17	
Aerosols (kg)	0.0000E+00	1.7165E-03	

## Drywell to Intact Control Volume 4 Transport Group Inventory:

		Pathway	
Time (h) =	2.3000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	7.4660E+21	
Elemental I (atoms)	0.0000E+00	1.4413E+18	
Organic I (atoms)	0.0000E+00	4.9412E+17	
Aerosols (kg)	0.0000E+00	1.3745E-03	

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

		Pathway	
Time (h) =	2.3000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.9414E+25	
Elemental I (atoms)	0.0000E+00	5.1828E+21	

Organic I (atoms)	0.0000E+00	1.9245E+21
Aerosols (kg)	0.0000E+00	4.9426E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 2.3000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.8769E+25
Elemental I (atoms)	0.0000E+00	4.3084E+21
Organic I (atoms)	0.0000E+00	1.2781E+21
Aerosols (kg)	0.0000E+00	4.1580E+00

Exclusion Area Boundary Doses:

Time (h) = 4.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	9.2466E+00	6.8351E+01	1.2536E+01
Accumulated dose (rem)	1.5429E+01	1.5651E+02	2.2931E+01

Low Population Zone Doses:

Time (h) = 4.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.0397E+00	1.5077E+01	2.7653E+00
Accumulated dose (rem)	3.7123E+00	3.9356E+01	5.5966E+00

Control Room Doses:

Time (h) = 4.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	6.8284E-02	3.8177E+00	2.4818E-01
Accumulated dose (rem)	9.5592E-02	8.6897E+00	4.8587E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 4.0000	Ci	kg	Atoms	Decay
Co-58	3.8626E+00	1.2147E-07	1.2613E+18	1.1426E+16
Co-60	4.6303E+00	4.0962E-06	4.1113E+19	1.3684E+16
Kr-85	8.2240E+05	2.0962E+00	1.4851E+25	3.3073E+20
Kr-85m	6.5948E+06	8.0136E-04	5.6775E+21	3.3912E+21
Kr-87	2.7745E+06	9.7949E-05	6.7800E+20	2.8995E+21
Kr-88	1.2844E+07	1.0243E-03	7.0099E+21	7.6821E+21
Rb-86	1.0685E+02	1.3132E-06	9.1959E+18	4.0059E+17
Sr-89	5.2364E+03	1.8024E-04	1.2196E+21	1.5497E+19
Sr-90	8.2551E+02	6.0518E-03	4.0494E+22	2.4396E+18
Sr-91	4.9726E+03	1.3718E-06	9.0779E+18	1.7644E+19
Sr-92	2.5333E+03	2.0155E-07	1.3193E+18	1.4376E+19
Y-90	2.9930E+01	5.5011E-08	3.6809E+17	3.1514E+16
Y-91	7.0446E+01	2.8725E-06	1.9010E+19	2.0108E+17
Y-92	1.3651E+03	1.4187E-07	9.2863E+17	7.2020E+17
Y-93	4.1007E+01	1.2291E-08	7.9591E+16	1.4392E+17
Zr-95	9.6471E+01	4.4906E-06	2.8466E+19	2.8541E+17
Zr-97	7.9744E+01	4.1714E-08	2.5898E+17	2.6109E+17
Nb-95	9.6642E+01	2.4715E-06	1.5667E+19	2.8560E+17
Mo-99	1.2147E+03	2.5326E-06	1.5406E+19	3.6847E+18
Tc-99m	1.1133E+03	2.1173E-07	1.2879E+18	3.3062E+18
Ru-103	1.0874E+03	3.3693E-05	1.9699E+20	3.2194E+18
Ru-105	4.0975E+02	6.0957E-08	3.4961E+17	1.7966E+18
Ru-106	4.7553E+02	1.4214E-04	8.0752E+20	1.4056E+18
Rh-105	7.0518E+02	8.3547E-07	4.7917E+18	2.1121E+18
Sb-127	1.1675E+03	4.3717E-06	2.0730E+19	3.5151E+18
Sb-129	2.3050E+03	4.0989E-07	1.9135E+18	1.0220E+19
Te-127	1.1896E+03	4.5076E-07	2.1374E+18	3.5210E+18
Te-127m	2.0471E+02	2.1702E-05	1.0291E+20	6.0494E+17
Te-129	2.9453E+03	1.4064E-07	6.5654E+17	1.1064E+19
Te-129m	8.4185E+02	2.7945E-05	1.3046E+20	2.4891E+18

Te-131m	2.4935E+03	3.1270E-06	1.4375E+19	7.8059E+18
Te-132	1.8623E+04	6.1343E-05	2.7986E+20	5.6264E+19
I-131	9.8955E+04	7.9818E-04	3.6693E+21	2.5829E+20
I-132	8.1441E+04	7.8899E-06	3.5996E+19	3.5362E+20
I-133	1.8120E+05	1.5996E-04	7.2428E+20	5.1259E+20
I-134	9.7106E+03	3.6401E-07	1.6359E+18	2.5361E+20
I-135	1.2955E+05	3.6890E-05	1.6456E+20	4.4539E+20
Xe-133	9.3987E+07	5.0211E-01	2.2735E+24	3.8098E+22
Xe-135	2.9280E+07	1.1466E-02	5.1147E+22	1.3064E+22
Cs-134	1.4171E+04	1.0953E-02	4.9222E+22	5.2903E+19
Cs-136	3.8339E+03	5.2311E-05	2.3163E+20	1.4399E+19
Cs-137	1.1240E+04	1.2923E-01	5.6804E+23	4.1959E+19
Ba-139	1.3109E+03	8.0142E-08	3.4721E+17	1.4354E+19
Ba-140	9.7769E+03	1.3355E-04	5.7446E+20	2.9056E+19
La-140	5.0604E+02	9.1043E-07	3.9163E+18	4.3017E+17
La-141	4.4416E+01	7.8537E-09	3.3543E+16	2.0516E+17
La-142	1.4556E+01	1.0168E-09	4.3123E+15	1.3806E+17
Ce-141	2.2610E+02	7.9351E-06	3.3891E+19	6.6918E+17
Ce-143	1.9437E+02	2.9270E-07	1.2326E+18	6.0530E+17
Ce-144	1.9456E+02	6.0999E-05	2.5510E+20	5.7510E+17
Pr-143	8.2497E+01	1.2251E-06	5.1593E+18	2.4216E+17
Nd-147	3.6062E+01	4.4576E-07	1.8262E+18	1.0727E+17
Np-239	2.5401E+03	1.0949E-05	2.7589E+19	7.7393E+18
Pu-238	6.9800E-01	4.0771E-05	1.0316E+20	2.0627E+15
Pu-239	6.5975E-02	1.0614E-03	2.6745E+21	1.9491E+14
Pu-240	1.2081E-01	5.3017E-04	1.3303E+21	3.5702E+14
Pu-241	2.6677E+01	2.5897E-04	6.4712E+20	7.8838E+16
Am-241	1.7532E-02	5.1081E-06	1.2764E+19	5.1777E+13
Cm-242	4.4533E+00	1.3437E-06	3.3437E+18	1.3166E+16
Cm-244	2.5906E-01	3.2022E-06	7.9032E+18	7.6559E+14

## Sprayed Drywell Transport Group Inventory:

Time (h) =	4.0000	Atmosphere	Sump	
Noble gases (atoms)	1.7189E+25	0.0000E+00		
Elemental I (atoms)	5.7104E+20	5.4907E+22		
Organic I (atoms)	9.9352E+20	0.0000E+00		
Aerosols (kg)	1.4956E-01	5.2580E+01		
Dose Effective (Ci/cc)	I-131 (Thyroid)		4.9575E-05	
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		5.9949E-05	
Total I (Ci)			5.0086E+05	

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) =	4.0000	
	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.7469E+22
Elemental I (atoms)	0.0000E+00	2.0346E+18
Organic I (atoms)	0.0000E+00	1.0931E+18
Aerosols (kg)	0.0000E+00	1.8295E-03

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) =	4.0000	
	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.7469E+22
Elemental I (atoms)	0.0000E+00	2.0346E+18
Organic I (atoms)	0.0000E+00	1.0931E+18
Aerosols (kg)	0.0000E+00	1.8295E-03

## Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) =	4.0000	
	Filtered	Transported

Noble gases (atoms)	0.0000E+00	1.3968E+22
Elemental I (atoms)	0.0000E+00	1.6287E+18
Organic I (atoms)	0.0000E+00	8.7416E+17
Aerosols (kg)	0.0000E+00	1.4648E-03

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 4.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	6.8538E+25
Elemental I (atoms)	0.0000E+00	6.3104E+21
Organic I (atoms)	0.0000E+00	4.2113E+21
Aerosols (kg)	0.0000E+00	5.4856E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 4.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.7106E+25
Elemental I (atoms)	0.0000E+00	5.8905E+21
Organic I (atoms)	0.0000E+00	3.5242E+21
Aerosols (kg)	0.0000E+00	5.3424E+00

Exclusion Area Boundary Doses:

Time (h) = 8.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.8112E+01	1.1067E+02	2.2930E+01
Accumulated dose (rem)	3.3541E+01	2.6718E+02	4.5861E+01

Low Population Zone Doses:

Time (h) = 8.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.9953E+00	2.4412E+01	5.0580E+00
Accumulated dose (rem)	7.7075E+00	6.3768E+01	1.0655E+01

Control Room Doses:

Time (h) = 8.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.7009E-01	5.6859E+00	4.2991E-01
Accumulated dose (rem)	2.6569E-01	1.4376E+01	9.1578E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 8.0000	Ci	kg	Atoms	Decay
Co-58	4.7469E+00	1.4928E-07	1.5500E+18	1.3929E+16
Co-60	5.6993E+00	5.0419E-06	5.0605E+19	1.6687E+16
Kr-85	8.2075E+05	2.0920E+00	1.4821E+25	7.6842E+20
Kr-85m	3.5444E+06	4.3070E-04	3.0514E+21	6.0085E+21
Kr-87	3.1291E+05	1.1047E-05	7.6466E+19	3.5004E+21
Kr-88	4.8289E+06	3.8510E-04	2.6354E+21	1.2047E+22
Rb-86	1.3072E+02	1.6066E-06	1.1250E+19	4.6968E+17
Sr-89	6.4310E+03	2.2136E-04	1.4978E+21	1.8889E+19
Sr-90	1.0162E+03	7.4494E-03	4.9846E+22	2.9750E+18
Sr-91	4.5717E+03	1.2612E-06	8.3460E+18	2.0437E+19
Sr-92	1.1210E+03	8.9185E-08	5.8378E+17	1.5399E+19
Y-90	7.8385E+01	1.4407E-07	9.6404E+17	6.1769E+16
Y-91	9.0942E+01	3.7083E-06	2.4541E+19	2.4792E+17
Y-92	1.7698E+03	1.8393E-07	1.2040E+18	1.6894E+18
Y-93	3.8360E+01	1.1498E-08	7.4453E+16	1.6715E+17
Zr-95	1.1854E+02	5.5177E-06	3.4977E+19	3.4792E+17
Zr-97	8.3309E+01	4.3579E-08	2.7055E+17	3.0875E+17
Nb-95	1.1896E+02	3.0421E-06	1.9284E+19	3.4827E+17
Mo-99	1.4337E+03	2.9893E-06	1.8184E+19	4.4561E+18

Tc-99m	1.3422E+03	2.5525E-07	1.5527E+18	4.0174E+18
Ru-103	1.3346E+03	4.1353E-05	2.4178E+20	3.9236E+18
Ru-105	2.7012E+02	4.0185E-08	2.3048E+17	1.9936E+18
Ru-106	5.8517E+02	1.7491E-04	9.9371E+20	1.7139E+18
Rh-105	8.3079E+02	9.8428E-07	5.6452E+18	2.5600E+18
Sb-127	1.3946E+03	5.2223E-06	2.4763E+19	4.2610E+18
Sb-129	1.4934E+03	2.6557E-07	1.2398E+18	1.1319E+19
Te-127	1.4510E+03	5.4979E-07	2.6070E+18	4.2865E+18
Te-127m	2.5199E+02	2.6715E-05	1.2668E+20	7.3771E+17
Te-129	2.2994E+03	1.0980E-07	5.1257E+17	1.2556E+19
Te-129m	1.0343E+03	3.4333E-05	1.6028E+20	3.0346E+18
Te-131m	2.7984E+03	3.5094E-06	1.6133E+19	9.3499E+18
Te-132	2.2126E+04	7.2880E-05	3.3250E+20	6.8129E+19
I-131	1.1240E+05	9.0666E-04	4.1680E+21	3.1815E+20
I-132	4.4104E+04	4.2728E-06	1.9493E+19	3.8728E+20
I-133	1.8270E+05	1.6128E-04	7.3025E+20	6.1587E+20
I-134	4.7335E+02	1.7744E-08	7.9743E+16	2.5537E+20
I-135	9.8114E+04	2.7938E-05	1.2463E+20	5.0975E+20
Xe-133	9.1758E+07	4.9021E-01	2.2196E+24	8.7573E+22
Xe-135	2.1567E+07	8.4451E-03	3.7672E+22	2.6503E+22
Cs-134	1.7441E+04	1.3480E-02	6.0581E+22	6.2093E+19
Cs-136	4.6779E+03	6.3827E-05	2.8263E+20	1.6875E+19
Cs-137	1.3836E+04	1.5907E-01	6.9922E+23	4.9249E+19
Ba-139	2.1587E+02	1.3198E-08	5.7179E+16	1.4716E+19
Ba-140	1.1926E+04	1.6291E-04	7.0075E+20	3.5368E+19
La-140	1.3792E+03	2.4813E-06	1.0673E+19	9.5680E+17
La-141	2.7001E+01	4.7745E-09	2.0392E+16	2.2575E+17
La-142	2.9664E+00	2.0722E-10	8.7882E+14	1.4239E+17
Ce-141	2.7747E+02	9.7379E-06	4.1591E+19	8.1560E+17
Ce-143	2.1998E+02	3.3126E-07	1.3950E+18	7.2616E+17
Ce-144	2.3939E+02	7.5056E-05	3.1389E+20	7.0125E+17
Pr-143	1.0264E+02	1.5242E-06	6.4187E+18	2.9595E+17
Nd-147	4.3926E+01	5.4297E-07	2.2244E+18	1.3053E+17
Np-239	2.9770E+03	1.2833E-05	3.2335E+19	9.3466E+18
Pu-238	8.5922E-01	5.0189E-05	1.2699E+20	2.5154E+15
Pu-239	8.1252E-02	1.3072E-03	3.2938E+21	2.3771E+14
Pu-240	1.4871E-01	6.5262E-04	1.6376E+21	4.3537E+14
Pu-241	3.2838E+01	3.1878E-04	7.9656E+20	9.6140E+16
Am-241	2.1605E-02	6.2948E-06	1.5730E+19	6.3154E+13
Cm-242	5.4779E+00	1.6528E-06	4.1130E+18	1.6053E+16
Cm-244	3.1889E-01	3.9416E-06	9.7283E+18	9.3361E+14

## Sprayed Drywell Transport Group Inventory:

Time (h) =	8.0000	Atmosphere	Sump	
Noble gases (atoms)		1.7084E+25	0.0000E+00	
Elemental I (atoms)		5.4434E+20	5.4907E+22	
Organic I (atoms)		9.4434E+20	0.0000E+00	
Aerosols (kg)		1.8405E-01	5.2580E+01	
Dose Effective (Ci/cc)	I-131 (Thyroid)			5.4242E-05
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)			6.3565E-05
Total I (Ci)				4.3779E+05

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway		
Time (h) =	8.0000	Filtered	Transported
Noble gases (atoms)		0.0000E+00	3.6386E+22
Elemental I (atoms)		0.0000E+00	2.6506E+18
Organic I (atoms)		0.0000E+00	2.1622E+18
Aerosols (kg)		0.0000E+00	2.0301E-03

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
	Filtered	Transported
Time (h) = 8.0000		
Noble gases (atoms)	0.0000E+00	3.6386E+22
Elemental I (atoms)	0.0000E+00	2.6506E+18
Organic I (atoms)	0.0000E+00	2.1622E+18
Aerosols (kg)	0.0000E+00	2.0301E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
	Filtered	Transported
Time (h) = 8.0000		
Noble gases (atoms)	0.0000E+00	2.9076E+22
Elemental I (atoms)	0.0000E+00	2.1207E+18
Organic I (atoms)	0.0000E+00	1.7279E+18
Aerosols (kg)	0.0000E+00	1.6249E-03

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
	Filtered	Transported
Time (h) = 8.0000		
Noble gases (atoms)	0.0000E+00	1.5945E+26
Elemental I (atoms)	0.0000E+00	9.2709E+21
Organic I (atoms)	0.0000E+00	9.3485E+21
Aerosols (kg)	0.0000E+00	6.4492E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
	Filtered	Transported
Time (h) = 8.0000		
Noble gases (atoms)	0.0000E+00	1.4803E+26
Elemental I (atoms)	0.0000E+00	8.8533E+21
Organic I (atoms)	0.0000E+00	8.6625E+21
Aerosols (kg)	0.0000E+00	6.3410E+00

Exclusion Area Boundary Doses:

Time (h) = 24.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.6595E+01	2.9779E+02	3.8109E+01
Accumulated dose (rem)	6.0136E+01	5.6497E+02	8.3969E+01

Low Population Zone Doses:

Time (h) = 24.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.4248E+00	1.3964E+01	2.9647E+00
Accumulated dose (rem)	1.0132E+01	7.7731E+01	1.3619E+01

Control Room Doses:

Time (h) = 24.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.4563E-01	6.1824E+00	3.9155E-01
Accumulated dose (rem)	4.1131E-01	2.0558E+01	1.3073E+00

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 24.0000	Ci	kg	Atoms	Decay
Co-58	4.6811E+00	1.4721E-07	1.5285E+18	2.3974E+16
Co-60	5.6557E+00	5.0034E-06	5.0218E+19	2.8785E+16
Kr-85	8.1461E+05	2.0763E+00	1.4710E+25	2.5108E+21
Kr-85m	2.9595E+05	3.5962E-05	2.5478E+20	8.7965E+21
Kr-87	5.0659E+01	1.7885E-09	1.2380E+16	3.5768E+21
Kr-88	9.6534E+04	7.6985E-06	5.2684E+19	1.4625E+22
Rb-86	1.2658E+02	1.5557E-06	1.0893E+19	7.4379E+17
Sr-89	6.3252E+03	2.1772E-04	1.4732E+21	3.2479E+19

Sr-90	1.0086E+03	7.3940E-03	4.9475E+22	5.1322E+18
Sr-91	1.4121E+03	3.8953E-07	2.5778E+18	2.6168E+19
Sr-92	1.8581E+01	1.4783E-09	9.6767E+15	1.5972E+19
Y-90	2.2655E+02	4.1640E-07	2.7862E+18	3.8295E+17
Y-91	9.8400E+01	4.0124E-06	2.6553E+19	4.5113E+17
Y-92	1.8077E+02	1.8786E-08	1.2297E+17	3.3393E+18
Y-93	1.2699E+01	3.8064E-09	2.4648E+16	2.1661E+17
Zr-95	1.1681E+02	5.4375E-06	3.4469E+19	5.9867E+17
Zr-97	4.2901E+01	2.2441E-08	1.3933E+17	4.3849E+17
Nb-95	1.1805E+02	3.0189E-06	1.9137E+19	6.0071E+17
Mo-99	1.2030E+03	2.5082E-06	1.5257E+19	7.2581E+18
Tc-99m	1.2056E+03	2.2927E-07	1.3946E+18	6.6302E+18
Ru-103	1.3092E+03	4.0566E-05	2.3718E+20	6.7403E+18
Ru-105	2.2057E+01	3.2813E-09	1.8819E+16	2.2046E+18
Ru-106	5.8011E+02	1.7340E-04	9.8511E+20	2.9554E+18
Rh-105	6.2773E+02	7.4371E-07	4.2654E+18	4.1138E+18
Sb-127	1.2277E+03	4.5973E-06	2.1800E+19	7.0511E+18
Sb-129	1.1377E+02	2.0231E-08	9.4446E+16	1.2461E+19
Te-127	1.3723E+03	5.2000E-07	2.4657E+18	7.2210E+18
Te-127m	2.5006E+02	2.6510E-05	1.2571E+20	1.2726E+18
Te-129	1.0368E+03	4.9505E-08	2.3111E+17	1.5134E+19
Te-129m	1.0142E+03	3.3667E-05	1.5717E+20	5.2177E+18
Te-131m	1.9193E+03	2.4069E-06	1.1065E+19	1.4318E+19
Te-132	1.9058E+04	6.2776E-05	2.8640E+20	1.1193E+20
I-131	1.0544E+05	8.5050E-04	3.9098E+21	5.5016E+20
I-132	2.2807E+04	2.2095E-06	1.0080E+19	4.4040E+20
I-133	1.0640E+05	9.3926E-05	4.2529E+20	9.1660E+20
I-134	1.5062E-03	5.6459E-14	2.5374E+11	2.5545E+20
I-135	1.8190E+04	5.1796E-06	2.3106E+19	6.1081E+20
Xe-133	8.3409E+07	4.4560E-01	2.0177E+24	2.7406E+23
Xe-135	6.3441E+06	2.4843E-03	1.1082E+22	5.3015E+22
Cs-134	1.7301E+04	1.3372E-02	6.0095E+22	9.9108E+19
Cs-136	4.4824E+03	6.1159E-05	2.7081E+20	2.6633E+19
Cs-137	1.3733E+04	1.5788E-01	6.9402E+23	7.8622E+19
Ba-139	6.8636E-02	4.1961E-12	1.8180E+13	1.4773E+19
Ba-140	1.1416E+04	1.5594E-04	6.7079E+20	6.0234E+19
La-140	3.8538E+03	6.9334E-06	2.9824E+19	6.5206E+18
La-141	1.5944E+00	2.8192E-10	1.2041E+15	2.4488E+17
La-142	2.2121E-03	1.5453E-13	6.5534E+11	1.4327E+17
Ce-141	2.7165E+02	9.5338E-06	4.0719E+19	1.4007E+18
Ce-143	1.5603E+02	2.3496E-07	9.8947E+17	1.1229E+18
Ce-144	2.3723E+02	7.4380E-05	3.1106E+20	1.2091E+18
Pr-143	1.0467E+02	1.5545E-06	6.5462E+18	5.1693E+17
Nd-147	4.1804E+01	5.1674E-07	2.1169E+18	2.2185E+17
Np-239	2.4285E+03	1.0468E-05	2.6377E+19	1.5086E+19
Pu-238	8.5292E-01	4.9821E-05	1.2606E+20	4.3395E+15
Pu-239	8.0792E-02	1.2998E-03	3.2752E+21	4.1035E+14
Pu-240	1.4761E-01	6.4779E-04	1.6254E+21	7.5107E+14
Pu-241	3.2592E+01	3.1639E-04	7.9059E+20	1.6585E+17
Am-241	2.1540E-02	6.2760E-06	1.5683E+19	1.0912E+14
Cm-242	5.4219E+00	1.6359E-06	4.0710E+18	2.7666E+16
Cm-244	3.1651E-01	3.9122E-06	9.6556E+18	1.6106E+15

## Sprayed Drywell Transport Group Inventory:

Time (h) = 24.0000	Atmosphere	Sump	
Noble gases (atoms)	1.6739E+25	0.0000E+00	
Elemental I (atoms)	4.7156E+20	5.4907E+22	
Organic I (atoms)	8.1809E+20	0.0000E+00	
Aerosols (kg)	1.8255E-01	5.2580E+01	
Dose Effective (Ci/cc) I-131 (Thyroid)			4.6025E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			5.0637E-05
Total I (Ci)			2.5284E+05

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 24.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.1107E+23
Elemental I (atoms)	0.0000E+00	4.8852E+18
Organic I (atoms)	0.0000E+00	6.0388E+18
Aerosols (kg)	0.0000E+00	2.8395E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 24.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.1107E+23
Elemental I (atoms)	0.0000E+00	4.8852E+18
Organic I (atoms)	0.0000E+00	6.0388E+18
Aerosols (kg)	0.0000E+00	2.8395E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 24.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	8.8718E+22
Elemental I (atoms)	0.0000E+00	3.9053E+18
Organic I (atoms)	0.0000E+00	4.8239E+18
Aerosols (kg)	0.0000E+00	2.2714E-03

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 24.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.1832E+26
Elemental I (atoms)	0.0000E+00	2.0009E+22
Organic I (atoms)	0.0000E+00	2.7977E+22
Aerosols (kg)	0.0000E+00	1.0339E+01

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 24.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.0699E+26
Elemental I (atoms)	0.0000E+00	1.9594E+22
Organic I (atoms)	0.0000E+00	2.7296E+22
Aerosols (kg)	0.0000E+00	1.0232E+01

Exclusion Area Boundary Doses:

Time (h) = 48.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	7.6033E+00	1.7741E+02	1.4592E+01
Accumulated dose (rem)	6.7739E+01	7.4238E+02	9.8562E+01

Low Population Zone Doses:

Time (h) = 48.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	4.4669E-01	6.8495E+00	7.1652E-01
Accumulated dose (rem)	1.0579E+01	8.4581E+01	1.4336E+01

Control Room Doses:

Time (h) = 48.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.5854E-02	1.3618E+00	6.9332E-02
Accumulated dose (rem)	4.2717E-01	2.1920E+01	1.3767E+00



## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 48.0000	Ci	kg	Atoms	Decay
Co-58	4.6100E+00	1.4498E-07	1.5053E+18	3.8823E+16
Co-60	5.6226E+00	4.9740E-06	4.9924E+19	4.6810E+16
Kr-85	8.0998E+05	2.0645E+00	1.4627E+25	5.1073E+21
Kr-85m	7.1805E+03	8.7253E-07	6.1818E+18	9.0447E+21
Kr-87	1.0494E-04	3.7049E-15	2.5645E+10	3.5768E+21
Kr-88	2.7439E+02	2.1882E-08	1.4975E+17	1.4677E+22
Rb-86	1.2129E+02	1.4907E-06	1.0438E+19	1.1399E+18
Sr-89	6.2047E+03	2.1357E-04	1.4451E+21	5.2505E+19
Sr-90	1.0030E+03	7.3528E-03	4.9199E+22	8.3472E+18
Sr-91	2.4376E+02	6.7244E-08	4.4500E+17	2.8294E+19
Sr-92	3.9878E-02	3.1726E-12	2.0767E+13	1.5982E+19
Y-90	4.0456E+02	7.4358E-07	4.9755E+18	1.3871E+18
Y-91	9.9979E+01	4.0768E-06	2.6979E+19	7.6945E+17
Y-92	2.0994E+00	2.1818E-10	1.4282E+15	3.4703E+18
Y-93	2.4325E+00	7.2911E-10	4.7213E+15	2.3647E+17
Zr-95	1.1492E+02	5.3493E-06	3.3909E+19	9.6902E+17
Zr-97	1.5943E+01	8.3398E-09	5.1777E+16	5.2554E+17
Nb-95	1.1734E+02	3.0008E-06	1.9023E+19	9.7678E+17
Mo-99	9.2980E+02	1.9386E-06	1.1793E+19	1.0648E+19
Tc-99m	9.5153E+02	1.8096E-07	1.1008E+18	9.9003E+18
Ru-103	1.2793E+03	3.9637E-05	2.3175E+20	1.0877E+19
Ru-105	5.1756E-01	7.6994E-11	4.4159E+14	2.2230E+18
Ru-106	5.7583E+02	1.7212E-04	9.7785E+20	4.8029E+18
Rh-105	3.9190E+02	4.6431E-07	2.6630E+18	5.7156E+18
Sb-127	1.0198E+03	3.8187E-06	1.8108E+19	1.0633E+19
Sb-129	2.4057E+00	4.2780E-10	1.9971E+15	1.2553E+19
Te-127	1.2106E+03	4.5872E-07	2.1752E+18	1.1216E+19
Te-127m	2.4838E+02	2.6332E-05	1.2486E+20	2.0692E+18
Te-129	8.5787E+02	4.0964E-08	1.9123E+17	1.7324E+19
Te-129m	9.8817E+02	3.2802E-05	1.5313E+20	8.4180E+18
Te-131m	1.0963E+03	1.3748E-06	6.3200E+18	1.9015E+19
Te-132	1.5321E+04	5.0467E-05	2.3024E+20	1.6666E+20
I-131	9.6292E+04	7.7671E-04	3.5706E+21	8.7237E+20
I-132	1.8288E+04	1.7717E-06	8.0828E+18	4.9708E+20
I-133	4.7555E+04	4.1980E-05	1.9008E+20	1.1502E+21
I-135	1.4603E+03	4.1582E-07	1.8549E+18	6.3201E+20
Xe-133	7.2690E+07	3.8834E-01	1.7584E+24	5.2315E+23
Xe-135	1.0154E+06	3.9761E-04	1.7737E+21	6.2312E+22
Cs-134	1.7190E+04	1.3286E-02	5.9710E+22	1.5423E+20
Cs-136	4.2280E+03	5.7687E-05	2.5544E+20	4.0550E+19
Cs-137	1.3657E+04	1.5701E-01	6.9015E+23	1.2240E+20
Ba-139	3.9131E-07	2.3923E-17	1.0365E+08	1.4773E+19
Ba-140	1.0752E+04	1.4687E-04	6.3177E+20	9.5654E+19
La-140	6.3001E+03	1.1335E-05	4.8756E+19	2.2789E+19
La-141	2.3006E-02	4.0680E-12	1.7375E+13	2.4607E+17
La-142	4.5300E-08	3.1645E-18	1.3420E+07	1.4327E+17
Ce-141	2.6446E+02	9.2815E-06	3.9642E+19	2.2575E+18
Ce-143	9.3731E+01	1.4114E-07	5.9439E+17	1.5136E+18
Ce-144	2.3535E+02	7.3790E-05	3.0859E+20	1.9644E+18
Pr-143	1.0498E+02	1.5590E-06	6.5652E+18	8.5244E+17
Nd-147	3.9030E+01	4.8246E-07	1.9765E+18	3.5100E+17
Np-239	1.7994E+03	7.7561E-06	1.9543E+19	2.1793E+19
Pu-238	8.4832E-01	4.9552E-05	1.2538E+20	7.0585E+15
Pu-239	8.0512E-02	1.2953E-03	3.2638E+21	6.6816E+14
Pu-240	1.4680E-01	6.4422E-04	1.6165E+21	1.2216E+15
Pu-241	3.2408E+01	3.1460E-04	7.8614E+20	2.6974E+17
Am-241	2.1564E-02	6.2829E-06	1.5700E+19	1.7800E+14
Cm-242	5.3692E+00	1.6200E-06	4.0314E+18	4.4913E+16
Cm-244	3.1473E-01	3.8902E-06	9.6015E+18	2.6194E+15

## Sprayed Drywell Transport Group Inventory:

Time (h) = 48.0000	Atmosphere	Sump	
Noble gases (atoms)	1.6387E+25	0.0000E+00	
Elemental I (atoms)	4.0705E+20	5.4907E+22	
Organic I (atoms)	7.0616E+20	0.0000E+00	
Aerosols (kg)	1.8141E-01	5.2580E+01	
Dose Effective (Ci/cc) I-131 (Thyroid)			3.8794E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			4.0811E-05
Total I (Ci)			1.6360E+05

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 48.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.6580E+23
Elemental I (atoms)	0.0000E+00	6.3333E+18
Organic I (atoms)	0.0000E+00	8.5509E+18
Aerosols (kg)	0.0000E+00	3.4409E-03

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 48.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.6580E+23
Elemental I (atoms)	0.0000E+00	6.3333E+18
Organic I (atoms)	0.0000E+00	8.5509E+18
Aerosols (kg)	0.0000E+00	3.4409E-03

## Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 48.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.3266E+23
Elemental I (atoms)	0.0000E+00	5.0677E+18
Organic I (atoms)	0.0000E+00	6.8405E+18
Aerosols (kg)	0.0000E+00	2.7541E-03

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 48.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.0456E+27
Elemental I (atoms)	0.0000E+00	3.3958E+22
Organic I (atoms)	0.0000E+00	5.2177E+22
Aerosols (kg)	0.0000E+00	1.6132E+01

## Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 48.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.0343E+27
Elemental I (atoms)	0.0000E+00	3.3545E+22
Organic I (atoms)	0.0000E+00	5.1498E+22
Aerosols (kg)	0.0000E+00	1.6025E+01

## Exclusion Area Boundary Doses:

Time (h) = 72.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	5.3062E+00	1.4092E+02	1.1142E+01
Accumulated dose (rem)	7.3045E+01	8.8330E+02	1.0970E+02

## Low Population Zone Doses:

Time (h) = 72.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.1174E-01	5.4406E+00	5.3706E-01
Accumulated dose (rem)	1.0891E+01	9.0022E+01	1.4873E+01

## Control Room Doses:

Time (h) = 72.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	9.4887E-03	9.4895E-01	4.8732E-02
Accumulated dose (rem)	4.3666E-01	2.2869E+01	1.4254E+00

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 72.0000	Ci	kg	Atoms	Decay
Co-58	4.5397E+00	1.4277E-07	1.4824E+18	5.3446E+16
Co-60	5.5893E+00	4.9446E-06	4.9629E+19	6.4729E+16
Kr-85	8.0534E+05	2.0527E+00	1.4543E+25	7.6889E+21
Kr-85m	1.7421E+02	2.1169E-08	1.4998E+17	9.0507E+21
Kr-87	2.1739E-10	7.6747E-21	5.3124E+04	3.5768E+21
Kr-88	7.7989E-01	6.2196E-11	4.2563E+14	1.4677E+22
Rb-86	1.1622E+02	1.4283E-06	1.0002E+19	1.5194E+18
Sr-89	6.0861E+03	2.0949E-04	1.4175E+21	7.2147E+19
Sr-90	9.9734E+02	7.3115E-03	4.8923E+22	1.1544E+19
Sr-91	4.2077E+01	1.1607E-08	7.6815E+16	2.8661E+19
Sr-92	8.5579E-05	6.8085E-15	4.4567E+10	1.5982E+19
Y-90	5.3975E+02	9.9208E-07	6.6383E+18	2.8889E+18
Y-91	9.8818E+01	4.0295E-06	2.6666E+19	1.0874E+18
Y-92	1.9996E-02	2.0781E-12	1.3603E+13	3.4718E+18
Y-93	4.6593E-01	1.3965E-10	9.0432E+14	2.4027E+17
Zr-95	1.1305E+02	5.2622E-06	3.3358E+19	1.3334E+18
Zr-97	5.9245E+00	3.0991E-09	1.9241E+16	5.5789E+17
Nb-95	1.1661E+02	2.9821E-06	1.8904E+19	1.3505E+18
Mo-99	7.1863E+02	1.4984E-06	9.1145E+18	1.3268E+19
Tc-99m	7.3667E+02	1.4010E-07	8.5221E+17	1.2449E+19
Ru-103	1.2499E+03	3.8728E-05	2.2643E+20	1.4919E+19
Ru-105	1.2144E-02	1.8066E-12	1.0361E+13	2.2234E+18
Ru-106	5.7156E+02	1.7084E-04	9.7059E+20	6.6367E+18
Rh-105	2.4351E+02	2.8850E-07	1.6547E+18	6.7124E+18
Sb-127	8.4704E+02	3.1718E-06	1.5040E+19	1.3608E+19
Sb-129	5.0866E-02	9.0455E-12	4.2227E+13	1.2555E+19
Te-127	1.0515E+03	3.9841E-07	1.8892E+18	1.4706E+19
Te-127m	2.4650E+02	2.6132E-05	1.2392E+20	2.8601E+18
Te-129	8.3246E+02	3.9750E-08	1.8557E+17	1.9356E+19
Te-129m	9.6262E+02	3.1954E-05	1.4917E+20	1.1536E+19
Te-131m	6.2615E+02	7.8523E-07	3.6097E+18	2.1698E+19
Te-132	1.2317E+04	4.0569E-05	1.8509E+20	2.1065E+20
I-131	8.7902E+04	7.0903E-04	3.2595E+21	1.1665E+21
I-132	1.4701E+04	1.4242E-06	6.4977E+18	5.4262E+20
I-133	2.1254E+04	1.8762E-05	8.4954E+19	1.2546E+21
I-135	1.1723E+02	3.3380E-08	1.4890E+17	6.3371E+20
Xe-133	6.3341E+07	3.3840E-01	1.5322E+24	7.4022E+23
Xe-135	1.6223E+05	6.3528E-05	2.8339E+20	6.3799E+22
Cs-134	1.7079E+04	1.3200E-02	5.9323E+22	2.0900E+20
Cs-136	3.9878E+03	5.4410E-05	2.4093E+20	5.3677E+19
Cs-137	1.3580E+04	1.5612E-01	6.8628E+23	1.6593E+20
Ba-140	1.0126E+04	1.3832E-04	5.9499E+20	1.2901E+20
La-140	7.6904E+03	1.3836E-05	5.9516E+19	4.5084E+19
La-141	3.3195E-04	5.8696E-14	2.5069E+11	2.4608E+17
Ce-141	2.5744E+02	9.0352E-06	3.8590E+19	3.0915E+18
Ce-143	5.6303E+01	8.4783E-08	3.5705E+17	1.7484E+18
Ce-144	2.3348E+02	7.3202E-05	3.0613E+20	2.7136E+18
Pr-143	1.0284E+02	1.5272E-06	6.4313E+18	1.1848E+18
Nd-147	3.6439E+01	4.5043E-07	1.8453E+18	4.7156E+17
Np-239	1.3331E+03	5.7465E-06	1.4480E+19	2.6762E+19

Pu-238	8.4371E-01	4.9283E-05	1.2470E+20	9.7627E+15
Pu-239	8.0187E-02	1.2901E-03	3.2507E+21	9.2499E+14
Pu-240	1.4598E-01	6.4065E-04	1.6075E+21	1.6895E+15
Pu-241	3.2224E+01	3.1282E-04	7.8167E+20	3.7303E+17
Am-241	2.1586E-02	6.2892E-06	1.5716E+19	2.4695E+14
Cm-242	5.3167E+00	1.6042E-06	3.9919E+18	6.1991E+16
Cm-244	3.1295E-01	3.8682E-06	9.5471E+18	3.6226E+15

## Sprayed Drywell Transport Group Inventory:

Time (h) = 72.0000	Atmosphere	Sump	
Noble gases (atoms)	1.6076E+25	0.0000E+00	
Elemental I (atoms)	3.6175E+20	5.4907E+22	
Organic I (atoms)	6.2759E+20	0.0000E+00	
Aerosols (kg)	1.8029E-01	5.2580E+01	
Dose Effective (Ci/cc) I-131 (Thyroid)			3.4025E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			3.4989E-05
Total I (Ci)			1.2397E+05

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 72.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.1944E+23
Elemental I (atoms)	0.0000E+00	7.6030E+18
Organic I (atoms)	0.0000E+00	1.0754E+19
Aerosols (kg)	0.0000E+00	4.0385E-03

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 72.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.1944E+23
Elemental I (atoms)	0.0000E+00	7.6030E+18
Organic I (atoms)	0.0000E+00	1.0754E+19
Aerosols (kg)	0.0000E+00	4.0385E-03

## Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 72.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.7572E+23
Elemental I (atoms)	0.0000E+00	6.0870E+18
Organic I (atoms)	0.0000E+00	8.6088E+18
Aerosols (kg)	0.0000E+00	3.2338E-03

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 72.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.5623E+27
Elemental I (atoms)	0.0000E+00	4.6190E+22
Organic I (atoms)	0.0000E+00	7.3397E+22
Aerosols (kg)	0.0000E+00	2.1889E+01

## Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 72.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.5511E+27
Elemental I (atoms)	0.0000E+00	4.5778E+22
Organic I (atoms)	0.0000E+00	7.2721E+22
Aerosols (kg)	0.0000E+00	2.1783E+01

## Exclusion Area Boundary Doses:

Time (h) = 96.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	4.4239E+00	1.1531E+02	9.4561E+00
Accumulated dose (rem)	7.7469E+01	9.9862E+02	1.1916E+02

## Low Population Zone Doses:

Time (h) = 96.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.5990E-01	4.4520E+00	4.5418E-01
Accumulated dose (rem)	1.1151E+01	9.4474E+01	1.5327E+01

## Control Room Doses:

Time (h) = 96.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	7.9197E-03	7.7645E-01	4.1749E-02
Accumulated dose (rem)	4.4458E-01	2.3645E+01	1.4671E+00

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 96.0000	Ci	kg	Atoms	Decay
Co-58	4.4705E+00	1.4059E-07	1.4598E+18	6.7847E+16
Co-60	5.5563E+00	4.9154E-06	4.9335E+19	8.2542E+16
Kr-85	8.0073E+05	2.0409E+00	1.4460E+25	1.0256E+22
Kr-85m	4.2267E+00	5.1360E-10	3.6388E+15	9.0508E+21
Kr-88	2.2167E-03	1.7678E-13	1.2097E+12	1.4677E+22
Rb-86	1.1136E+02	1.3686E-06	9.5837E+18	1.8831E+18
Sr-89	5.9698E+03	2.0548E-04	1.3904E+21	9.1414E+19
Sr-90	9.9173E+02	7.2704E-03	4.8648E+22	1.4723E+19
Sr-91	7.2632E+00	2.0036E-09	1.3260E+16	2.8724E+19
Sr-92	1.8365E-07	1.4611E-17	9.5642E+07	1.5982E+19
Y-90	6.4214E+02	1.1803E-06	7.8974E+18	4.7682E+18
Y-91	9.7210E+01	3.9639E-06	2.6232E+19	1.4007E+18
Y-92	1.8312E-04	1.9031E-14	1.2457E+11	3.4718E+18
Y-93	8.9246E-02	2.6750E-11	1.7322E+14	2.4100E+17
Zr-95	1.1121E+02	5.1766E-06	3.2815E+19	1.6918E+18
Zr-97	2.2016E+00	1.1517E-09	7.1499E+15	5.6991E+17
Nb-95	1.1586E+02	2.9629E-06	1.8782E+19	1.7219E+18
Mo-99	5.5542E+02	1.1581E-06	7.0444E+18	1.5293E+19
Tc-99m	5.6944E+02	1.0829E-07	6.5875E+17	1.4420E+19
Ru-103	1.2212E+03	3.7839E-05	2.2124E+20	1.8868E+19
Ru-105	2.8493E-04	4.2388E-14	2.4311E+11	2.2234E+18
Ru-106	5.6732E+02	1.6957E-04	9.6338E+20	8.4569E+18
Rh-105	1.5128E+02	1.7923E-07	1.0280E+18	7.3317E+18
Sb-127	7.0355E+02	2.6345E-06	1.2492E+19	1.6079E+19
Sb-129	1.0755E-03	1.9126E-13	8.9286E+11	1.2555E+19
Te-127	9.1469E+02	3.4659E-07	1.6435E+18	1.7737E+19
Te-127m	2.4445E+02	2.5916E-05	1.2289E+20	3.6447E+18
Te-129	8.1087E+02	3.8719E-08	1.8075E+17	2.1334E+19
Te-129m	9.3773E+02	3.1128E-05	1.4531E+20	1.4573E+19
Te-131m	3.5763E+02	4.4849E-07	2.0617E+18	2.3231E+19
Te-132	9.9011E+03	3.2613E-05	1.4879E+20	2.4602E+20
I-131	8.0224E+04	6.4710E-04	2.9748E+21	1.4351E+21
I-132	1.1818E+04	1.1449E-06	5.2234E+18	5.7923E+20
I-133	9.4990E+03	8.3854E-06	3.7968E+19	1.3012E+21
I-135	9.4104E+00	2.6796E-09	1.1953E+16	6.3385E+20
Xe-133	5.5194E+07	2.9487E-01	1.3351E+24	9.2936E+23
Xe-135	2.5900E+04	1.0142E-05	4.5241E+19	6.4037E+22
Cs-134	1.6968E+04	1.3115E-02	5.8940E+22	2.6342E+20
Cs-136	3.7613E+03	5.1320E-05	2.2725E+20	6.6058E+19
Cs-137	1.3504E+04	1.5525E-01	6.8242E+23	2.0921E+20
Ba-140	9.5368E+03	1.3027E-04	5.6035E+20	1.6043E+20
La-140	8.3988E+03	1.5110E-05	6.4998E+19	7.0671E+19

La-141	4.7896E-06	8.4692E-16	3.6172E+09	2.4608E+17
Ce-141	2.5061E+02	8.7955E-06	3.7566E+19	3.9035E+18
Ce-143	3.3821E+01	5.0929E-08	2.1447E+17	1.8894E+18
Ce-144	2.3161E+02	7.2618E-05	3.0369E+20	3.4570E+18
Pr-143	9.9359E+01	1.4755E-06	6.2138E+18	1.5080E+18
Nd-147	3.4020E+01	4.2052E-07	1.7228E+18	5.8413E+17
Np-239	9.8771E+02	4.2575E-06	1.0728E+19	3.0444E+19
Pu-238	8.3912E-01	4.9015E-05	1.2402E+20	1.2452E+16
Pu-239	7.9833E-02	1.2844E-03	3.2363E+21	1.1807E+15
Pu-240	1.4517E-01	6.3709E-04	1.5986E+21	2.1549E+15
Pu-241	3.2041E+01	3.1104E-04	7.7723E+20	4.7574E+17
Am-241	2.1606E-02	6.2953E-06	1.5731E+19	3.1597E+14
Cm-242	5.2647E+00	1.5885E-06	3.9529E+18	7.8902E+16
Cm-244	3.1118E-01	3.8463E-06	9.4931E+18	4.6201E+15

## Sprayed Drywell Transport Group Inventory:

Time (h) = 96.0000	Atmosphere	Sump	
Noble gases (atoms)	1.5795E+25	0.0000E+00	
Elemental I (atoms)	3.2580E+20	5.4907E+22	
Organic I (atoms)	5.6520E+20	0.0000E+00	
Aerosols (kg)	1.7920E-01	5.2580E+01	
Dose Effective (Ci/cc) I-131 (Thyroid)			3.0436E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			3.0925E-05
Total I (Ci)			1.0155E+05

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.7211E+23
Elemental I (atoms)	0.0000E+00	8.7395E+18
Organic I (atoms)	0.0000E+00	1.2725E+19
Aerosols (kg)	0.0000E+00	4.6324E-03

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.7211E+23
Elemental I (atoms)	0.0000E+00	8.7395E+18
Organic I (atoms)	0.0000E+00	1.2725E+19
Aerosols (kg)	0.0000E+00	4.6324E-03

## Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.1799E+23
Elemental I (atoms)	0.0000E+00	6.9993E+18
Organic I (atoms)	0.0000E+00	1.0191E+19
Aerosols (kg)	0.0000E+00	3.7106E-03

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.0696E+27
Elemental I (atoms)	0.0000E+00	5.7137E+22
Organic I (atoms)	0.0000E+00	9.2389E+22
Aerosols (kg)	0.0000E+00	2.7610E+01

## Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.0585E+27
Elemental I (atoms)	0.0000E+00	5.6727E+22
Organic I (atoms)	0.0000E+00	9.1715E+22
Aerosols (kg)	0.0000E+00	2.7505E+01

## Exclusion Area Boundary Doses:

Time (h) = 240.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.6701E+01	4.7109E+02	3.9847E+01
Accumulated dose (rem)	9.4170E+01	1.4697E+03	1.5901E+02

## Low Population Zone Doses:

Time (h) = 240.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	5.9805E-01	1.1086E+01	1.1427E+00
Accumulated dose (rem)	1.1749E+01	1.0556E+02	1.6470E+01

## Control Room Doses:

Time (h) = 240.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.2264E-02	1.2946E+00	7.5801E-02
Accumulated dose (rem)	4.5684E-01	2.4940E+01	1.5429E+00

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 240.0000	Ci	kg	Atoms	Decay
Co-58	4.0770E+00	1.2822E-07	1.3313E+18	1.4975E+17
Co-60	5.3621E+00	4.7436E-06	4.7611E+19	1.8723E+17
Kr-85	7.7360E+05	1.9718E+00	1.3970E+25	2.5351E+22
Kr-85m	8.6203E-10	1.0475E-19	7.4213E+05	9.0508E+21
Rb-86	8.6185E+01	1.0592E-06	7.4170E+18	3.7671E+18
Sr-89	5.3172E+03	1.8302E-04	1.2384E+21	1.9953E+20
Sr-90	9.5877E+02	7.0288E-03	4.7031E+22	3.3425E+19
Sr-91	1.9215E-04	5.3007E-14	3.5078E+11	2.8737E+19
Y-90	8.9199E+02	1.6395E-06	1.0970E+19	2.0068E+19
Y-91	8.7584E+01	3.5714E-06	2.3634E+19	3.1713E+18
Y-93	4.4072E-06	1.3210E-15	8.5539E+09	2.4117E+17
Zr-95	1.0079E+02	4.6914E-06	2.9740E+19	3.7230E+18
Zr-97	5.7974E-03	3.0326E-12	1.8828E+13	5.7700E+17
Nb-95	1.1105E+02	2.8400E-06	1.8003E+19	3.8978E+18
Mo-99	1.1839E+02	2.4685E-07	1.5016E+18	2.0716E+19
Tc-99m	1.2138E+02	2.3084E-08	1.4042E+17	1.9699E+19
Ru-103	1.0624E+03	3.2919E-05	1.9247E+20	4.0732E+19
Ru-106	5.4251E+02	1.6216E-04	9.2126E+20	1.9098E+19
Rh-105	8.6969E+00	1.0304E-08	5.9096E+16	8.2892E+18
Sb-127	2.3102E+02	8.6508E-07	4.1021E+18	2.4217E+19
Te-127	4.5358E+02	1.7187E-07	8.1497E+17	2.9665E+19
Te-127m	2.3036E+02	2.4422E-05	1.1581E+20	8.2011E+18
Te-129	6.9292E+02	3.3087E-08	1.5446E+17	3.2172E+19
Te-129m	8.0133E+02	2.6600E-05	1.2418E+20	3.1215E+19
Te-131m	1.2416E+01	1.5570E-08	7.1578E+16	2.5201E+19
Te-132	2.6721E+03	8.8015E-06	4.0154E+19	3.5187E+20
I-131	4.6282E+04	3.7331E-04	1.7161E+21	2.6186E+21
I-132	3.1894E+03	3.0899E-07	1.4097E+18	6.8880E+20
I-133	7.5703E+01	6.6828E-08	3.0259E+17	1.3386E+21
I-135	2.5183E-06	7.1708E-16	3.1988E+09	6.3386E+20
Xe-133	2.4156E+07	1.2905E-01	5.8434E+23	1.6498E+24
Xe-135	4.2693E-01	1.6718E-10	7.4576E+14	6.4082E+22
Cs-134	1.6320E+04	1.2614E-02	5.6689E+22	5.8259E+20
Cs-136	2.6482E+03	3.6133E-05	1.6000E+20	1.2690E+20
Cs-137	1.3055E+04	1.5009E-01	6.5975E+23	4.6387E+20

Ba-140	6.6546E+03	9.0899E-05	3.9100E+20	3.1404E+20
La-140	7.5128E+03	1.3516E-05	5.8142E+19	2.2898E+20
Ce-141	2.1327E+02	7.4847E-06	3.1967E+19	8.3421E+18
Ce-143	1.5889E+00	2.3926E-09	1.0076E+16	2.0915E+18
Ce-144	2.2075E+02	6.9212E-05	2.8945E+20	7.7940E+18
Pr-143	7.3253E+01	1.0878E-06	4.5811E+18	3.1624E+18
Nd-147	2.2528E+01	2.7847E-07	1.1408E+18	1.1188E+18
Np-239	1.6337E+02	7.0419E-07	1.7744E+18	3.9230E+19
Pu-238	8.1209E-01	4.7436E-05	1.2003E+20	2.8285E+16
Pu-239	7.7422E-02	1.2456E-03	3.1385E+21	2.6891E+15
Pu-240	1.4040E-01	6.1616E-04	1.5461E+21	4.8930E+15
Pu-241	3.0964E+01	3.0058E-04	7.5109E+20	1.0799E+18
Am-241	2.1712E-02	6.3260E-06	1.5808E+19	7.3136E+14
Cm-242	4.9633E+00	1.4975E-06	3.7266E+18	1.7695E+17
Cm-244	3.0077E-01	3.7176E-06	9.1754E+18	1.0488E+16

## Sprayed Drywell Transport Group Inventory:

Time (h) = 240.0000	Atmosphere	Sump	
Noble gases (atoms)	1.4554E+25	0.0000E+00	
Elemental I (atoms)	1.8545E+20	5.4907E+22	
Organic I (atoms)	3.2172E+20	0.0000E+00	
Aerosols (kg)	1.7289E-01	5.2580E+01	
Dose Effective (Ci/cc) I-131 (Thyroid)			1.7216E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			1.7255E-05
Total I (Ci)			4.9547E+04

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 240.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.7197E+23
Elemental I (atoms)	0.0000E+00	1.3669E+19
Organic I (atoms)	0.0000E+00	2.1278E+19
Aerosols (kg)	0.0000E+00	8.1222E-03

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 240.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.7197E+23
Elemental I (atoms)	0.0000E+00	1.3669E+19
Organic I (atoms)	0.0000E+00	2.1278E+19
Aerosols (kg)	0.0000E+00	8.1222E-03

## Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 240.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.5871E+23
Elemental I (atoms)	0.0000E+00	1.0957E+19
Organic I (atoms)	0.0000E+00	1.7057E+19
Aerosols (kg)	0.0000E+00	6.5121E-03

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 240.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.9583E+27
Elemental I (atoms)	0.0000E+00	1.0463E+23
Organic I (atoms)	0.0000E+00	1.7477E+23
Aerosols (kg)	0.0000E+00	6.1227E+01

## Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:



	Pathway	
Time (h) = 240.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.9474E+27
Elemental I (atoms)	0.0000E+00	1.0422E+23
Organic I (atoms)	0.0000E+00	1.7411E+23
Aerosols (kg)	0.0000E+00	6.1126E+01

## Exclusion Area Boundary Doses:

Time (h) = 720.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.2363E+01	5.1480E+02	5.4404E+01
Accumulated dose (rem)	1.0653E+02	1.9845E+03	2.1341E+02

## Low Population Zone Doses:

Time (h) = 720.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	4.4270E-01	1.2114E+01	1.4320E+00
Accumulated dose (rem)	1.2191E+01	1.1767E+02	1.7902E+01

## Control Room Doses:

Time (h) = 720.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	8.9144E-03	1.4018E+00	1.2338E-01
Accumulated dose (rem)	4.6575E-01	2.6342E+01	1.6663E+00

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 720.0000	Ci	kg	Atoms	Decay
Co-58	2.9987E+00	9.4306E-08	9.7918E+17	3.7416E+17
Co-60	4.7626E+00	4.2133E-06	4.2288E+19	5.1048E+17
Kr-85	6.8962E+05	1.7577E+00	1.2453E+25	7.2070E+22
Rb-86	3.6679E+01	4.5078E-07	3.1566E+18	7.4717E+18
Sr-89	3.6149E+03	1.2443E-04	8.4194E+20	4.8155E+20
Sr-90	8.5661E+02	6.2798E-03	4.2020E+22	9.1391E+19
Y-90	8.6112E+02	1.5828E-06	1.0591E+19	7.7183E+19
Y-91	6.1824E+01	2.5210E-06	1.6683E+19	7.8993E+18
Zr-95	7.2599E+01	3.3794E-06	2.1422E+19	9.2160E+18
Zr-97	1.4619E-11	7.6470E-21	4.7476E+04	5.7702E+17
Nb-95	9.2950E+01	2.3770E-06	1.5068E+19	1.0426E+19
Mo-99	6.8493E-01	1.4281E-09	8.6870E+15	2.2176E+19
Tc-99m	7.0222E-01	1.3355E-10	8.1236E+14	2.1121E+19
Ru-103	6.6782E+02	2.0692E-05	1.2098E+20	9.5065E+19
Ru-106	4.6740E+02	1.3971E-04	7.9372E+20	5.1319E+19
Rh-105	6.3770E-04	7.5552E-13	4.3332E+12	8.3476E+18
Sb-127	5.6428E+00	2.1130E-08	1.0019E+17	2.8098E+19
Te-127	1.9170E+02	7.2640E-08	3.4445E+17	4.6164E+19
Te-127m	1.8264E+02	1.9362E-05	9.1813E+19	2.1364E+19
Te-129	4.1033E+02	1.9593E-08	9.1468E+16	5.8140E+19
Te-129m	4.7453E+02	1.5752E-05	7.3535E+19	7.1089E+19
Te-131m	1.6949E-04	2.1255E-13	9.7709E+11	2.5272E+19
Te-132	3.3941E+01	1.1180E-07	5.1005E+17	3.9050E+20
I-131	7.3829E+03	5.9552E-05	2.7376E+20	3.9734E+21
I-132	4.0512E+01	3.9248E-09	1.7906E+16	7.2878E+20
I-133	7.6543E-06	6.7569E-15	3.0595E+10	1.3389E+21
Xe-133	1.5374E+06	8.2135E-03	3.7190E+22	2.1747E+24
Cs-134	1.4334E+04	1.1079E-02	4.9790E+22	1.5611E+21
Cs-136	8.2223E+02	1.1219E-05	4.9677E+19	2.2670E+20
Cs-137	1.1664E+04	1.3410E-01	5.8947E+23	1.2532E+21
Ba-140	2.0053E+03	2.7392E-05	1.1783E+20	5.6182E+20
La-140	2.3294E+03	4.1908E-06	1.8027E+19	5.1302E+20
Ce-141	1.2454E+02	4.3709E-06	1.8668E+19	1.8887E+19
Ce-143	5.9443E-05	8.9512E-14	3.7696E+11	2.1015E+18

Ce-144	1.8809E+02	5.8971E-05	2.4662E+20	2.0834E+19
Pr-143	2.3633E+01	3.5096E-07	1.4780E+18	5.9694E+18
Nd-147	5.7021E+00	7.0484E-08	2.8875E+17	1.9017E+18
Np-239	4.0577E-01	1.7491E-09	4.4072E+15	4.0967E+19
Pu-238	7.2804E-01	4.2526E-05	1.0760E+20	7.7466E+16
Pu-239	6.9301E-02	1.1149E-03	2.8093E+21	7.3751E+15
Pu-240	1.2561E-01	5.5122E-04	1.3831E+21	1.3387E+16
Pu-241	2.7627E+01	2.6819E-04	6.7017E+20	2.9506E+18
Am-241	2.1851E-02	6.3666E-06	1.5909E+19	2.1253E+15
Cm-242	4.0778E+00	1.2304E-06	3.0617E+18	4.6502E+17
Cm-244	2.6850E-01	3.3189E-06	8.1913E+18	2.8664E+16

## Sprayed Drywell Transport Group Inventory:

Time (h) = 720.0000	Atmosphere	Sump	
Noble gases (atoms)	1.2491E+25	0.0000E+00	
Elemental I (atoms)	2.9555E+19	5.4907E+22	
Organic I (atoms)	5.1274E+19	0.0000E+00	
Aerosols (kg)	1.5393E-01	5.2580E+01	
Dose Effective (Ci/cc) I-131 (Thyroid)			2.7446E-06
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			2.7450E-06
Total I (Ci)			7.4234E+03

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.4573E+24
Elemental I (atoms)	0.0000E+00	1.9288E+19
Organic I (atoms)	0.0000E+00	3.1025E+19
Aerosols (kg)	0.0000E+00	1.8907E-02

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.4573E+24
Elemental I (atoms)	0.0000E+00	1.9288E+19
Organic I (atoms)	0.0000E+00	3.1025E+19
Aerosols (kg)	0.0000E+00	1.8907E-02

## Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.1694E+24
Elemental I (atoms)	0.0000E+00	1.5467E+19
Organic I (atoms)	0.0000E+00	2.4882E+19
Aerosols (kg)	0.0000E+00	1.5170E-02

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.3487E+28
Elemental I (atoms)	0.0000E+00	1.5875E+23
Organic I (atoms)	0.0000E+00	2.6867E+23
Aerosols (kg)	0.0000E+00	1.6512E+02

## Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.3477E+28

Elemental I (atoms) 0.0000E+00 1.5835E+23  
 Organic I (atoms) 0.0000E+00 2.6802E+23  
 Aerosols (kg) 0.0000E+00 1.6503E+02

930

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

Time (hr)	Sprayed Drywell I-131 (Curies)	MSIV Failed Control V I-131 (Curies)	Intact Control Volume I-131 (Curies)
0.000	4.4650E+03	0.0000E+00	0.0000E+00
0.033	2.6200E+05	0.0000E+00	0.0000E+00
0.167	1.2153E+06	4.5443E+01	4.4992E+01
0.500	5.2942E+05	1.2711E+02	1.2139E+02
0.667	8.4094E+05	1.7009E+02	1.6066E+02
1.000	8.8110E+05	2.6062E+02	2.4114E+02
1.160	8.8777E+05	2.9891E+02	2.7371E+02
1.410	8.9556E+05	3.5235E+02	3.1754E+02
1.660	9.0132E+05	3.9875E+02	3.5395E+02
1.910	9.0581E+05	4.3896E+02	3.8414E+02
2.000	9.0720E+05	4.5208E+02	3.9370E+02
2.200	1.1304E+05	4.3708E+02	3.7441E+02
2.300	7.8884E+04	4.2370E+02	3.5922E+02
2.600	1.6295E+05	3.8964E+02	3.2102E+02
2.900	1.6482E+05	3.6176E+02	2.9053E+02
3.200	1.4696E+05	3.3598E+02	2.6333E+02
3.500	1.2691E+05	3.1137E+02	2.3829E+02
3.800	1.0913E+05	2.8785E+02	2.1516E+02
4.000	9.8955E+04	2.7283E+02	2.0078E+02
4.300	1.0846E+05	2.5234E+02	1.8172E+02
4.600	1.1187E+05	2.3447E+02	1.6569E+02
4.900	1.1304E+05	2.1864E+02	1.5199E+02
5.200	1.1338E+05	2.0453E+02	1.4019E+02
5.500	1.1343E+05	1.9192E+02	1.2999E+02
5.800	1.1335E+05	1.8063E+02	1.2117E+02
6.100	1.1324E+05	1.7051E+02	1.1354E+02
6.400	1.1312E+05	1.6146E+02	1.0692E+02
6.700	1.1299E+05	1.5334E+02	1.0119E+02
7.000	1.1285E+05	1.4607E+02	9.6226E+01
7.300	1.1272E+05	1.3955E+02	9.1920E+01
7.600	1.1258E+05	1.3371E+02	8.8185E+01
7.900	1.1245E+05	1.2847E+02	8.4945E+01
8.000	1.1240E+05	1.2684E+02	8.3962E+01
8.300	1.1227E+05	1.2231E+02	8.1278E+01
8.600	1.1213E+05	1.1824E+02	7.8947E+01
8.900	1.1200E+05	1.1459E+02	7.6919E+01
9.200	1.1187E+05	1.1132E+02	7.5156E+01
9.500	1.1173E+05	1.0838E+02	7.3620E+01
9.800	1.1160E+05	1.0573E+02	7.2281E+01
10.100	1.1147E+05	1.0336E+02	7.1113E+01
10.400	1.1133E+05	1.0122E+02	7.0093E+01
24.000	1.0544E+05	7.9561E+01	6.0668E+01
48.000	9.6292E+04	7.2393E+01	5.5270E+01
72.000	8.7902E+04	6.6082E+01	5.0454E+01
96.000	8.0224E+04	6.0310E+01	4.6047E+01
240.000	4.6282E+04	3.4793E+01	2.6564E+01
720.000	7.3829E+03	5.5502E+00	4.2376E+00

Time (hr)	Intact Control Volume I-131 (Curies)	Intact Control Volume I-131 (Curies)	Intact Control Volume I-131 (Curies)
0.000	0.0000E+00	0.0000E+00	0.0000E+00

0.033	0.0000E+00	0.0000E+00	0.0000E+00
0.167	5.4888E-01	3.6416E+01	2.5768E-01
0.500	5.6876E+00	1.0212E+02	2.8856E+00
0.667	8.5936E+00	1.3675E+02	4.5094E+00
1.000	1.5612E+01	2.0985E+02	8.6089E+00
1.160	1.9115E+01	2.4086E+02	1.0771E+01
1.410	2.4340E+01	2.8425E+02	1.4164E+01
1.660	2.9072E+01	3.2205E+02	1.7431E+01
1.910	3.3239E+01	3.5490E+02	2.0487E+01
2.000	3.4602E+01	3.6564E+02	2.1527E+01
2.200	3.5926E+01	3.5390E+02	2.2668E+01
2.300	3.6193E+01	3.4331E+02	2.3048E+01
2.600	3.5798E+01	3.1634E+02	2.3555E+01
2.900	3.4413E+01	2.9423E+02	2.3452E+01
3.200	3.2572E+01	2.7373E+02	2.2986E+01
3.500	3.0533E+01	2.5410E+02	2.2291E+01
3.800	2.8439E+01	2.3531E+02	2.1454E+01
4.000	2.7054E+01	2.2328E+02	2.0847E+01
4.300	2.5049E+01	2.0684E+02	1.9901E+01
4.600	2.3197E+01	1.9247E+02	1.8961E+01
4.900	2.1529E+01	1.7970E+02	1.8058E+01
5.200	2.0046E+01	1.6830E+02	1.7206E+01
5.500	1.8739E+01	1.5807E+02	1.6414E+01
5.800	1.7593E+01	1.4890E+02	1.5683E+01
6.100	1.6590E+01	1.4067E+02	1.5014E+01
6.400	1.5716E+01	1.3327E+02	1.4403E+01
6.700	1.4955E+01	1.2663E+02	1.3848E+01
7.000	1.4293E+01	1.2067E+02	1.3344E+01
7.300	1.3717E+01	1.1531E+02	1.2888E+01
7.600	1.3216E+01	1.1050E+02	1.2476E+01
7.900	1.2781E+01	1.0617E+02	1.2104E+01
8.000	1.2649E+01	1.0482E+02	1.1988E+01
8.300	1.2275E+01	1.0107E+02	1.1651E+01
8.600	1.1953E+01	9.7692E+01	1.1350E+01
8.900	1.1675E+01	9.4654E+01	1.1079E+01
9.200	1.1434E+01	9.1921E+01	1.0837E+01
9.500	1.1224E+01	8.9461E+01	1.0619E+01
9.800	1.1042E+01	8.7246E+01	1.0423E+01
10.100	1.0882E+01	8.5250E+01	1.0246E+01
10.400	1.0743E+01	8.3451E+01	1.0087E+01
24.000	9.4074E+00	6.4982E+01	8.3394E+00
48.000	8.4907E+00	5.9474E+01	7.5457E+00
72.000	7.5645E+00	5.4294E+01	6.6797E+00
96.000	6.6508E+00	4.9551E+01	5.8195E+00
240.000	3.6732E+00	2.8586E+01	3.1853E+00
720.000	5.2820E-01	4.5601E+00	4.5473E-01

Time (hr)	Environment I-131 (Curies)	Control Room I-131 (Curies)	Unsprayed Drywell I-131 (Curies)
0.000	0.0000E+00	0.0000E+00	1.6446E+00
0.033	0.0000E+00	0.0000E+00	5.6993E+03
0.167	3.0661E-01	3.2291E-04	1.2411E+05
0.500	5.1610E+00	4.4070E-03	2.6442E+05
0.667	9.5002E+00	7.3663E-03	3.3106E+05
1.000	2.3094E+01	6.7271E-03	4.5042E+05
1.160	3.2015E+01	6.6402E-03	4.8752E+05
1.410	4.8942E+01	6.7343E-03	5.2815E+05
1.660	6.9290E+01	7.0522E-03	5.5449E+05
1.910	9.2778E+01	7.5374E-03	5.7177E+05
2.000	1.0195E+02	7.7436E-03	5.7645E+05
2.200	1.1427E+02	7.3830E-03	4.5314E+05
2.300	1.2041E+02	7.2205E-03	3.8194E+05
2.600	1.3856E+02	6.7814E-03	2.5033E+05

2.900	1.5617E+02	6.3996E-03	1.8720E+05
3.200	1.7318E+02	6.0597E-03	1.4916E+05
3.500	1.8953E+02	5.7508E-03	1.2240E+05
3.800	2.0520E+02	5.4659E-03	1.0206E+05
4.000	2.1528E+02	5.2870E-03	9.1006E+04
4.300	2.2984E+02	5.0334E-03	8.1281E+04
4.600	2.4380E+02	4.7969E-03	7.7643E+04
4.900	2.5721E+02	4.5772E-03	7.6246E+04
5.200	2.7012E+02	4.3739E-03	7.5675E+04
5.500	2.8259E+02	4.1866E-03	7.5408E+04
5.800	2.9466E+02	4.0144E-03	7.5253E+04
6.100	3.0638E+02	3.8568E-03	7.5139E+04
6.400	3.1777E+02	3.7130E-03	7.5040E+04
6.700	3.2888E+02	3.5820E-03	7.4948E+04
7.000	3.3974E+02	3.4630E-03	7.4857E+04
7.300	3.5037E+02	3.3551E-03	7.4767E+04
7.600	3.6080E+02	3.2574E-03	7.4677E+04
7.900	3.7104E+02	3.1692E-03	7.4588E+04
8.000	3.7442E+02	3.1417E-03	7.4558E+04
8.300	3.8434E+02	2.7487E-03	7.4469E+04
8.600	3.9411E+02	2.4290E-03	7.4380E+04
8.900	4.0375E+02	2.1687E-03	7.4291E+04
9.200	4.1328E+02	1.9565E-03	7.4202E+04
9.500	4.2271E+02	1.7834E-03	7.4114E+04
9.800	4.3205E+02	1.6420E-03	7.4025E+04
10.100	4.4131E+02	1.5263E-03	7.3936E+04
10.400	4.5049E+02	1.4315E-03	7.3848E+04
24.000	8.3714E+02	9.3610E-04	6.9940E+04
48.000	1.1390E+03	2.6437E-04	6.3865E+04
72.000	1.3932E+03	2.2255E-04	5.8300E+04
96.000	1.6073E+03	1.8750E-04	5.3207E+04
240.000	2.5040E+03	6.2668E-05	3.0696E+04
720.000	3.4840E+03	9.5458E-06	4.8966E+03

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

Time (hr)	Exclusion Area Bounda		Low Population Zone		Control Room	
	Thyroid (rem)	TEDE (rem)	Thyroid (rem)	TEDE (rem)	Thyroid (rem)	TEDE (rem)
0.000	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.033	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.167	2.2423E-01	1.1137E-02	6.3973E-02	3.1772E-03	5.4671E-03	2.2521E-04
0.500	3.7627E+00	1.9730E-01	1.0735E+00	5.6287E-02	2.6893E-01	1.1015E-02
0.667	6.9239E+00	3.8458E-01	1.9753E+00	1.0972E-01	6.2873E-01	2.5831E-02
1.000	1.6887E+01	1.1555E+00	4.8177E+00	3.2964E-01	1.4884E+00	6.2114E-02
1.160	2.3434E+01	1.7728E+00	6.6857E+00	5.0578E-01	1.8812E+00	7.9330E-02
1.410	3.5858E+01	3.1210E+00	1.0230E+01	8.9039E-01	2.4940E+00	1.0762E-01
1.660	5.0779E+01	4.9714E+00	1.4487E+01	1.4183E+00	3.1260E+00	1.3911E-01
1.910	6.7973E+01	7.3399E+00	1.9392E+01	2.0940E+00	3.7954E+00	1.7519E-01
2.000	7.4676E+01	8.3193E+00	2.1305E+01	2.3734E+00	4.0481E+00	1.8952E-01
2.200	8.3675E+01	9.6888E+00	2.3290E+01	2.6755E+00	4.6039E+00	2.2184E-01
2.300	8.8156E+01	1.0395E+01	2.4278E+01	2.8313E+00	4.8720E+00	2.3770E-01
2.600	1.0135E+02	1.2570E+01	2.7188E+01	3.3112E+00	5.6414E+00	2.8425E-01
2.900	1.1410E+02	1.4799E+01	3.0002E+01	3.8028E+00	6.3642E+00	3.2952E-01
3.200	1.2637E+02	1.7045E+01	3.2708E+01	4.2983E+00	7.0458E+00	3.7364E-01
3.500	1.3811E+02	1.9282E+01	3.5298E+01	4.7916E+00	7.6902E+00	4.1667E-01
3.800	1.4933E+02	2.1486E+01	3.7772E+01	5.2780E+00	8.3005E+00	4.5858E-01
4.000	1.5651E+02	2.2931E+01	3.9356E+01	5.5966E+00	8.6897E+00	4.8587E-01
4.300	1.6685E+02	2.5052E+01	4.1638E+01	6.0645E+00	9.2484E+00	5.2580E-01
4.600	1.7673E+02	2.7112E+01	4.3817E+01	6.5189E+00	9.7789E+00	5.6446E-01
4.900	1.8618E+02	2.9106E+01	4.5902E+01	6.9587E+00	1.0283E+01	6.0182E-01

5.200	1.9525E+02	3.1032E+01	4.7902E+01	7.3836E+00	1.0763E+01	6.3788E-01
5.500	2.0397E+02	3.2889E+01	4.9825E+01	7.7933E+00	1.1221E+01	6.7263E-01
5.800	2.1238E+02	3.4678E+01	5.1681E+01	8.1878E+00	1.1657E+01	7.0608E-01
6.100	2.2051E+02	3.6398E+01	5.3474E+01	8.5674E+00	1.2075E+01	7.3828E-01
6.400	2.2839E+02	3.8053E+01	5.5213E+01	8.9324E+00	1.2475E+01	7.6925E-01
6.700	2.3605E+02	3.9644E+01	5.6903E+01	9.2834E+00	1.2860E+01	7.9904E-01
7.000	2.4351E+02	4.1174E+01	5.8548E+01	9.6208E+00	1.3230E+01	8.2770E-01
7.300	2.5079E+02	4.2644E+01	6.0154E+01	9.9451E+00	1.3587E+01	8.5529E-01
7.600	2.5791E+02	4.4058E+01	6.1724E+01	1.0257E+01	1.3932E+01	8.8185E-01
7.900	2.6488E+02	4.5419E+01	6.3262E+01	1.0557E+01	1.4266E+01	9.0745E-01
8.000	2.6718E+02	4.5861E+01	6.3768E+01	1.0655E+01	1.4376E+01	9.1578E-01
8.300	2.7390E+02	4.7151E+01	6.4083E+01	1.0760E+01	1.4680E+01	9.3883E-01
8.600	2.8050E+02	4.8394E+01	6.4393E+01	1.0862E+01	1.4947E+01	9.5879E-01
8.900	2.8700E+02	4.9592E+01	6.4697E+01	1.0959E+01	1.5184E+01	9.7626E-01
9.200	2.9340E+02	5.0747E+01	6.4998E+01	1.1053E+01	1.5395E+01	9.9173E-01
9.500	2.9972E+02	5.1862E+01	6.5294E+01	1.1144E+01	1.5587E+01	1.0056E+00
9.800	3.0596E+02	5.2939E+01	6.5587E+01	1.1231E+01	1.5761E+01	1.0181E+00
10.100	3.1213E+02	5.3981E+01	6.5876E+01	1.1315E+01	1.5923E+01	1.0295E+00
10.400	3.1824E+02	5.4988E+01	6.6162E+01	1.1397E+01	1.6073E+01	1.0401E+00
24.000	5.6497E+02	8.3969E+01	7.7731E+01	1.3619E+01	2.0558E+01	1.3073E+00
48.000	7.4238E+02	9.8562E+01	8.4581E+01	1.4336E+01	2.1920E+01	1.3767E+00
72.000	8.8330E+02	1.0970E+02	9.0022E+01	1.4873E+01	2.2869E+01	1.4254E+00
96.000	9.9862E+02	1.1916E+02	9.4474E+01	1.5327E+01	2.3645E+01	1.4671E+00
240.000	1.4697E+03	1.5901E+02	1.0556E+02	1.6470E+01	2.4940E+01	1.5429E+00
720.000	1.9845E+03	2.1341E+02	1.1767E+02	1.7902E+01	2.6342E+01	1.6663E+00

#####  
Worst Two-Hour Doses  
#####

Exclusion Area Boundary

Time (hr)	Whole Body (rem)	Thyroid (rem)	TEDE (rem)
1.5	1.0759E+01	9.6884E+01	1.5494E+01

#####  
RADTRAD Version 3.03 (Spring 2001) run on 1/28/2020 at 9:44:37  
#####

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

Plant file = D:\Projects\RabaioliBrosius\Exelon\_RAIs\QDC-0000-N-1481\Westinghouse\QDC39MS00\_350.psf  
Inventory file = D:\Projects\RabaioliBrosius\Exelon\_RAIs\QDC-0000-N-1481\Westinghouse\DQ39GWD\_DEF.nif  
Release file = c:\program files (x86)\radtrad3.03\defaults\bwr\_dba.rft  
Dose Conversion file = c:\program files (x86)\radtrad3.03\defaults\fgr11&12.inp

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

Radtrad 3.03 4/15/2001  
Quad Cities MSIV Leakeg - Optima Fuel With 39 GWD/MTU, MSIV Leakage = 125/125/100/0 scfh, 40% Aerosol Settling Velocity, CREV Initiated @ 40 Minutes, CR Unfiltered Inleakage = 4,000 cfm for <0.6667 hrs and 400 cfm >0.6667 hrs

Nuclide Inventory File:  
D:\Projects\RabaioliBrosius\Exelon\_RAIs\QDC-0000-N-1481\Westinghouse\DQ39GWD\_DEF.nif

Plant Power Level:

3.0161E+03

Compartments:

9

Compartment 1:  
Sprayed Drywell

3

9.5000E+04

1

0

0

0

0

Compartment 2:

MSIV Failed Control Vol 1

3

2.0024E+02

0

0

0

0

0

Compartment 3:

Intact Control Volume 2

3

1.5293E+02

0  
0  
0  
0  
0  
Compartment 4:  
Intact Control Volume 3  
3  
4.9110E+01  
0  
0  
0  
0  
0  
Compartment 5:  
Intact Control Volume 4  
3  
1.6375E+02  
0  
0  
0  
0  
0  
Compartment 6:  
Intact Control Volume 5  
3  
4.9110E+01  
0  
0  
0  
0  
0  
Compartment 7:  
Environment  
2  
0.0000E+00  
0  
0  
0  
0  
0  
Compartment 8:  
Control Room  
1  
1.8400E+05  
0  
0  
0  
0  
0  
Compartment 9:  
Unsprayed Drywell  
3  
6.3000E+04  
0  
0  
0  
0  
0  
Pathways:  
13  
Pathway 1:  
Drywell to MSIV Failed Control Vol 1



1  
2  
2  
Pathway 2:  
MSIV Failed Control Vol 1 to Environment  
2  
7  
2  
Pathway 3:  
Drywell to Intact Control Volume 2  
1  
3  
2  
Pathway 4:  
Intact Control Volume 2 to Intact Control Volume 3  
3  
4  
2  
Pathway 5:  
Intact Control Volume 3 to Environment  
4  
7  
2  
Pathway 6:  
Drywell to Intact Control Volume 4  
1  
5  
2  
Pathway 7:  
Intact Control Volume 4 to Intact Control Volume 5  
5  
6  
2  
Pathway 8:  
Intact Control Volume 5 to Environment  
6  
7  
2  
Pathway 9:  
Filtered Intake to Control Room  
7  
8  
2  
Pathway 10:  
Unfiltered Inleakage to Control Room  
7  
8  
2  
Pathway 11:  
Control Room Exhaust to Environment  
8  
7  
2  
Pathway 12:  
Sprayed Drywell to Unsprayed Drywell  
1  
9  
2  
Pathway 13:  
Unsprayed Drywell to Sprayed Drywell  
9  
1  
2

End of Plant Model File  
Scenario Description Name:

Plant Model Filename:

Source Term:

1  
1 1.0000E+00  
c:\program files (x86)\radtrad3.03\defaults\fgr11&12.inp  
c:\program files (x86)\radtrad3.03\defaults\bwr\_dba.rft  
0.0000E+00  
1  
9.5000E-01 4.8500E-02 1.5000E-03 1.0000E+00

Overlying Pool:

0  
0.0000E+00  
0  
0  
0  
0

Compartments:

9  
Compartment 1:

1  
1  
1  
0.0000E+00  
6  
0.0000E+00 0.0000E+00  
1.6670E-01 1.5000E+01  
2.2000E+00 1.5000E+00  
2.3000E+00 1.5000E+00  
4.0000E+00 0.0000E+00  
7.2000E+02 0.0000E+00

1  
0.0000E+00  
6  
0.0000E+00 0.0000E+00  
1.6670E-01 1.5000E+01  
2.2000E+00 1.5000E+01  
2.3000E+00 0.0000E+00  
4.0000E+00 0.0000E+00  
7.2000E+02 0.0000E+00

1  
0.0000E+00  
0  
0  
0  
0  
0

Compartment 2:

0  
1  
0  
0  
0  
0  
0  
0  
0

Compartment 3:

0  
1

0  
0  
0  
0  
0  
0  
0

Compartment 4:

0  
1  
0  
0  
0  
0  
0  
0  
0

Compartment 5:

0  
1  
0  
0  
0  
0  
0  
0  
0

Compartment 6:

0  
1  
0  
0  
0  
0  
0  
0  
0

Compartment 7:

0  
1  
0  
0  
0  
0  
0  
0  
0

Compartment 8:

0  
1  
0  
0  
0  
0  
0  
0  
0

Compartment 9:

0  
1  
0  
0  
0

```

0
0
0
0
Pathways:
13
Pathway 1:
0
0
0
0
0
1
5
0.0000E+00  0.0000E+00  0.0000E+00  0.0000E+00  0.0000E+00
3.3300E-02  7.4300E-01  0.0000E+00  0.0000E+00  0.0000E+00
2.0000E+00  4.3700E-01  0.0000E+00  0.0000E+00  0.0000E+00
2.4000E+01  2.1800E-01  0.0000E+00  0.0000E+00  0.0000E+00
7.2000E+02  0.0000E+00  0.0000E+00  0.0000E+00  0.0000E+00
0
0
0
0
0
0
Pathway 2:
0
0
0
0
0
1
10
0.0000E+00  0.0000E+00  0.0000E+00  0.0000E+00  0.0000E+00
3.3300E-02  2.0830E+00  8.5220E+01  6.8400E+00  0.0000E+00
2.0000E+00  1.2240E+00  8.5220E+01  6.8400E+00  0.0000E+00
8.0000E+00  1.2240E+00  8.5220E+01  9.1100E+00  0.0000E+00
2.4000E+01  6.1200E-01  8.5220E+01  1.5690E+01  0.0000E+00
4.8000E+01  6.1200E-01  8.5220E+01  3.1540E+01  0.0000E+00
7.2000E+01  6.1200E-01  8.5220E+01  5.2530E+01  0.0000E+00
9.6000E+01  6.1200E-01  8.5220E+01  7.2070E+01  0.0000E+00
2.4000E+02  6.1200E-01  8.5220E+01  9.7260E+01  0.0000E+00
7.2000E+02  0.0000E+00  0.0000E+00  0.0000E+00  0.0000E+00
0
0
0
0
0
0
Pathway 3:
0
0
0
0
0
1
5
0.0000E+00  0.0000E+00  0.0000E+00  0.0000E+00  0.0000E+00
3.3300E-02  7.4300E-01  0.0000E+00  0.0000E+00  0.0000E+00
2.0000E+00  4.3700E-01  0.0000E+00  0.0000E+00  0.0000E+00
2.4000E+01  2.1800E-01  0.0000E+00  0.0000E+00  0.0000E+00
7.2000E+02  0.0000E+00  0.0000E+00  0.0000E+00  0.0000E+00
0

```

0				
0				
0				
0				
0				
Pathway 4:				
0				
0				
0				
0				
0				
1				
10				
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	2.0830E+00	7.2540E+01	4.1600E+00	0.0000E+00
2.0000E+00	1.2240E+00	7.2540E+01	4.1600E+00	0.0000E+00
8.0000E+00	1.2240E+00	7.2540E+01	5.5700E+00	0.0000E+00
2.4000E+01	6.1200E-01	7.2540E+01	9.7400E+00	0.0000E+00
4.8000E+01	6.1200E-01	7.2540E+01	2.0390E+01	0.0000E+00
7.2000E+01	6.1200E-01	7.2540E+01	3.6240E+01	0.0000E+00
9.6000E+01	6.1200E-01	7.2540E+01	5.4010E+01	0.0000E+00
2.4000E+02	6.1200E-01	7.2540E+01	9.3310E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0				
0				
0				
0				
0				
Pathway 5:				
0				
0				
0				
0				
0				
1				
10				
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	2.0830E+00	7.6440E+01	1.4970E+01	0.0000E+00
2.0000E+00	1.2240E+00	7.6440E+01	1.4970E+01	0.0000E+00
8.0000E+00	1.2240E+00	7.6440E+01	1.9630E+01	0.0000E+00
2.4000E+01	6.1200E-01	7.6440E+01	3.2260E+01	0.0000E+00
4.8000E+01	6.1200E-01	7.6440E+01	5.7570E+01	0.0000E+00
7.2000E+01	6.1200E-01	7.6440E+01	8.0730E+01	0.0000E+00
9.6000E+01	6.1200E-01	7.6440E+01	9.2810E+01	0.0000E+00
2.4000E+02	6.1200E-01	7.6440E+01	9.7840E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0				
0				
0				
0				
0				
0				
Pathway 6:				
0				
0				
0				
0				
0				
1				
5				
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	5.9500E-01	0.0000E+00	0.0000E+00	0.0000E+00

2.0000E+00	3.4900E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	1.7500E-01	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0				
0				
0				
0				
0				
0				

Pathway 7:

0				
0				
0				
0				
0				
1				
10				
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	1.6670E+00	8.0190E+01	4.7500E+00	0.0000E+00
2.0000E+00	9.7900E-01	8.0190E+01	4.7500E+00	0.0000E+00
8.0000E+00	9.7900E-01	8.0190E+01	6.3500E+00	0.0000E+00
2.4000E+01	4.8900E-01	8.0190E+01	1.1060E+01	0.0000E+00
4.8000E+01	4.8900E-01	8.0190E+01	2.2950E+01	0.0000E+00
7.2000E+01	4.8900E-01	8.0190E+01	4.0200E+01	0.0000E+00
9.6000E+01	4.8900E-01	8.0190E+01	5.8780E+01	0.0000E+00
2.4000E+02	4.8900E-01	8.0190E+01	9.4930E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

0  
0  
0  
0  
0

Pathway 8:

0				
0				
0				
0				
0				
1				
10				
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	1.6670E+00	8.0220E+01	1.4970E+01	0.0000E+00
2.0000E+00	9.7900E-01	8.0220E+01	1.4970E+01	0.0000E+00
8.0000E+00	9.7900E-01	8.0220E+01	1.9630E+01	0.0000E+00
2.4000E+01	4.8900E-01	8.0220E+01	3.2260E+01	0.0000E+00
4.8000E+01	4.8900E-01	8.0220E+01	5.7570E+01	0.0000E+00
7.2000E+01	4.8900E-01	8.0220E+01	8.0730E+01	0.0000E+00
9.6000E+01	4.8900E-01	8.0220E+01	9.2810E+01	0.0000E+00
2.4000E+02	4.8900E-01	8.0220E+01	9.7840E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

0  
0  
0  
0  
0

Pathway 9:

0  
0  
0  
0  
0

1				
8				
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
2.0000E+00	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
8.0000E+00	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
2.4000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
9.6000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0				
0				
0				
0				
0				
Pathway 10:				
0				
0				
0				
0				
0				
1				
8				
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	4.0000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
8.0000E+00	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
9.6000E+01	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0				
0				
0				
0				
0				
0				
Pathway 11:				
0				
0				
0				
0				
0				
1				
8				
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	6.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
8.0000E+00	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
9.6000E+01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0				
0				
0				
0				
0				
0				
Pathway 12:				
0				
0				

```

0
0
0
1
2
0.0000E+00  2.1000E+03  0.0000E+00  0.0000E+00  0.0000E+00
7.2000E+02  0.0000E+00  0.0000E+00  0.0000E+00  0.0000E+00
0
0
0
0
0
0
Pathway 13:
0
0
0
0
0
1
2
0.0000E+00  2.1000E+03  0.0000E+00  0.0000E+00  0.0000E+00
7.2000E+02  0.0000E+00  0.0000E+00  0.0000E+00  0.0000E+00
0
0
0
0
0
Dose Locations:
3
Location 1:
Exclusion Area Boundary
7
1
2
0.0000E+00  1.3600E-03
7.2000E+02  0.0000E+00
1
2
0.0000E+00  3.5000E-04
7.2000E+02  0.0000E+00
0
Location 2:
Low Population Zone
7
1
6
0.0000E+00  1.0400E-04
2.0000E+00  4.1400E-05
8.0000E+00  2.6200E-05
2.4000E+01  9.9600E-06
9.6000E+01  2.5200E-06
7.2000E+02  0.0000E+00
1
4
0.0000E+00  3.5000E-04
8.0000E+00  1.8000E-04
2.4000E+01  2.3000E-04
7.2000E+02  0.0000E+00
0
Location 3:
Control Room

```



```

8
0
1
2
0.0000E+00    3.5000E-04
7.2000E+02    0.0000E+00
1
4
0.0000E+00    1.0000E+00
2.4000E+01    6.0000E-01
9.6000E+01    4.0000E-01
7.2000E+02    0.0000E+00
Effective Volume Location:
1
6
0.0000E+00    3.8800E-04
2.0000E+00    3.0000E-04
8.0000E+00    1.2400E-04
2.4000E+01    7.9900E-05
9.6000E+01    4.8700E-05
7.2000E+02    0.0000E+00
Simulation Parameters:
7
0.0000E+00    1.0000E-01
1.0000E+00    1.0000E-02
2.0000E+00    5.0000E-01
8.0000E+00    1.0000E+00
2.4000E+01    2.0000E+00
9.6000E+01    5.0000E+00
7.2000E+02    0.0000E+00
Output Filename:
D:\Projects\RabaioliBrosius\Exelon_RAIs\QDC-0000-N-
1481\Westinghouse\QDC39MS00_350.o0
1
1
1
0
0
End of Scenario File

#####
RADTRAD Version 3.03 (Spring 2001) run on 1/28/2020 at 9:44:37
#####

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

Number of Nuclides = 60

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

Number of compartments = 9

Compartment information

Compartment number 1 (Source term fraction = 1.0000E+00
)
Name: Sprayed Drywell
Compartment volume = 9.5000E+04 (Cubic feet)
Compartment type is Normal
Removal devices within compartment:

```

## Spray(s)

Pathways into and out of compartment 1

Inlet Pathway Number 13: Unsprayed Drywell to Sprayed Drywell  
Exit Pathway Number 1: Drywell to MSIV Failed Control Vol 1  
Exit Pathway Number 3: Drywell to Intact Control Volume 2  
Exit Pathway Number 6: Drywell to Intact Control Volume 4  
Exit Pathway Number 12: Sprayed Drywell to Unsprayed Drywell

Compartment number 2

Name: MSIV Failed Control Vol 1

Compartment volume = 2.0024E+02 (Cubic feet)

Compartment type is Normal

Pathways into and out of compartment 2

Inlet Pathway Number 1: Drywell to MSIV Failed Control Vol 1  
Exit Pathway Number 2: MSIV Failed Control Vol 1 to Environment

Compartment number 3

Name: Intact Control Volume 2

Compartment volume = 1.5293E+02 (Cubic feet)

Compartment type is Normal

Pathways into and out of compartment 3

Inlet Pathway Number 3: Drywell to Intact Control Volume 2  
Exit Pathway Number 4: Intact Control Volume 2 to Intact Control Volume

3

Compartment number 4

Name: Intact Control Volume 3

Compartment volume = 4.9110E+01 (Cubic feet)

Compartment type is Normal

Pathways into and out of compartment 4

Inlet Pathway Number 4: Intact Control Volume 2 to Intact Control Volume  
Exit Pathway Number 5: Intact Control Volume 3 to Environment

3

Compartment number 5

Name: Intact Control Volume 4

Compartment volume = 1.6375E+02 (Cubic feet)

Compartment type is Normal

Pathways into and out of compartment 5

Inlet Pathway Number 6: Drywell to Intact Control Volume 4  
Exit Pathway Number 7: Intact Control Volume 4 to Intact Control Volume

5

Compartment number 6

Name: Intact Control Volume 5

Compartment volume = 4.9110E+01 (Cubic feet)

Compartment type is Normal

Pathways into and out of compartment 6

Inlet Pathway Number 7: Intact Control Volume 4 to Intact Control Volume  
Exit Pathway Number 8: Intact Control Volume 5 to Environment

5

Compartment number 7

Name: Environment

Compartment type is Environment

Pathways into and out of compartment 7

Inlet Pathway Number 2: MSIV Failed Control Vol 1 to Environment  
Inlet Pathway Number 5: Intact Control Volume 3 to Environment  
Inlet Pathway Number 8: Intact Control Volume 5 to Environment  
Inlet Pathway Number 11: Control Room Exhaust to Environment  
Exit Pathway Number 9: Filtered Intake to Control Room  
Exit Pathway Number 10: Unfiltered Inleakage to Control Room

Compartment number 8  
Name: Control Room  
Compartment volume = 1.8400E+05 (Cubic feet)  
Compartment type is Control Room  
Pathways into and out of compartment 8  
    Inlet Pathway Number 9: Filtered Intake to Control Room  
    Inlet Pathway Number 10: Unfiltered Inleakage to Control Room  
    Exit Pathway Number 11: Control Room Exhaust to Environment

Compartment number 9  
Name: Unsprayed Drywell  
Compartment volume = 6.3000E+04 (Cubic feet)  
Compartment type is Normal  
Pathways into and out of compartment 9  
    Inlet Pathway Number 12: Sprayed Drywell to Unsprayed Drywell  
    Exit Pathway Number 13: Unsprayed Drywell to Sprayed Drywell

Total number of pathways = 13

```
#####
RADTRAD Version 3.03 (Spring 2001) run on 1/28/2020 at 9:44:37
#####

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

Radioactive Decay is enabled  
 Calculation of Daughters is enabled

Release Fractions and Timings

	GAP	EARLY IN-VESSEL	LATE RELEASE	RELEASE MASS
	0.500000 hr	1.5000 hrs	0.0000 hrs	(gm)
NOBLES	5.0000E-02	9.5000E-01	0.0000E+00	4.433E+03
IODINE	5.0000E-02	2.5000E-01	0.0000E+00	2.603E+02
CESIUM	5.0000E-02	2.0000E-01	0.0000E+00	4.865E+04
TELLURIUM	0.0000E+00	5.0000E-02	0.0000E+00	3.482E+01
STRONTIUM	0.0000E+00	2.0000E-02	0.0000E+00	1.714E+03
BARIUM	0.0000E+00	2.0000E-02	0.0000E+00	3.979E+01
RUTHENIUM	0.0000E+00	2.5000E-03	0.0000E+00	5.508E+01
CERIUM	0.0000E+00	5.0000E-04	0.0000E+00	5.379E+02
LANTHANUM	0.0000E+00	2.0000E-04	0.0000E+00	8.763E+00

Inventory Power = 3016. Mwt

Nuclide Name	Group	Specific Inventory (Ci/Mwt)	half life (s)	Whole Body DCF (Sv-m3/Bq-s)	Inhaled Thyroid (Sv/Bq)	Inhaled Effective (Sv/Bq)
Co-58	7	1.529E+02	6.117E+06	4.760E-14	8.720E-10	2.940E-09
Co-60	7	1.830E+02	1.663E+08	1.260E-13	1.620E-08	5.910E-08
Kr-85	1	4.609E+02	3.383E+08	1.190E-16	0.000E+00	0.000E+00
Kr-85m	1	7.427E+03	1.613E+04	7.480E-15	0.000E+00	0.000E+00
Kr-87	1	1.436E+04	4.578E+03	4.120E-14	0.000E+00	0.000E+00
Kr-88	1	2.022E+04	1.022E+04	1.020E-13	0.000E+00	0.000E+00
Rb-86	3	6.465E+01	1.612E+06	4.810E-15	1.330E-09	1.790E-09
Sr-89	5	2.715E+04	4.363E+06	7.730E-17	7.960E-12	1.120E-08
Sr-90	5	3.747E+03	9.190E+08	7.530E-18	2.690E-10	3.510E-07
Sr-91	5	3.382E+04	3.420E+04	4.924E-14	9.930E-12	4.547E-10
Sr-92	5	3.647E+04	9.756E+03	6.790E-14	3.920E-12	2.180E-10
Y-90	9	3.846E+03	2.304E+05	1.900E-16	5.170E-13	2.280E-09
Y-91	9	3.481E+04	5.055E+06	2.600E-16	8.500E-12	1.320E-08
Y-92	9	3.647E+04	1.274E+04	1.300E-14	1.050E-12	2.110E-10
Y-93	9	4.178E+04	3.636E+04	4.800E-15	9.260E-13	5.820E-10
Zr-95	9	4.609E+04	5.528E+06	3.600E-14	1.440E-09	6.390E-09
Zr-97	9	4.575E+04	6.084E+04	4.432E-14	2.315E-11	1.171E-09
Nb-95	9	4.642E+04	3.037E+06	3.740E-14	3.580E-10	1.570E-09
Mo-99	7	5.106E+04	2.376E+05	7.280E-15	1.520E-11	1.070E-09
Tc-99m	7	4.476E+04	2.167E+04	5.890E-15	5.010E-11	8.800E-12
Ru-103	7	4.310E+04	3.394E+06	2.251E-14	2.570E-10	2.421E-09
Ru-105	7	3.077E+04	1.598E+04	3.810E-14	4.150E-12	1.230E-10
Ru-106	7	1.890E+04	3.181E+07	1.040E-14	1.720E-09	1.290E-07
Rh-105	7	2.901E+04	1.273E+05	3.720E-15	2.880E-12	2.580E-10
Sb-127	4	2.974E+03	3.326E+05	3.330E-14	6.150E-11	1.630E-09
Sb-129	4	8.819E+03	1.555E+04	7.140E-14	9.720E-12	1.740E-10
Te-127	4	2.957E+03	3.366E+04	2.420E-16	1.840E-12	8.600E-11
Te-127m	4	3.979E+02	9.418E+06	1.470E-16	9.660E-11	5.810E-09
Te-129	4	8.687E+03	4.176E+03	2.750E-15	5.090E-13	2.090E-11
Te-129m	4	1.290E+03	2.903E+06	3.337E-15	1.563E-10	6.484E-09
Te-131m	4	3.945E+03	1.080E+05	7.463E-14	3.669E-08	1.758E-09
Te-132	4	3.846E+04	2.815E+05	1.030E-14	6.280E-08	2.550E-09
I-131	2	2.702E+04	6.947E+05	1.820E-14	2.920E-07	8.890E-09

I-132	2	3.912E+04	8.280E+03	1.120E-13	1.740E-09	1.030E-10
I-133	2	5.537E+04	7.488E+04	2.940E-14	4.860E-08	1.580E-09
I-134	2	6.101E+04	3.156E+03	1.300E-13	2.880E-10	3.550E-11
I-135	2	5.172E+04	2.380E+04	8.294E-14	8.460E-09	3.320E-10
Xe-133	1	5.305E+04	4.532E+05	1.560E-15	0.000E+00	0.000E+00
Xe-135	1	2.195E+04	3.272E+04	1.190E-14	0.000E+00	0.000E+00
Cs-134	3	7.990E+03	6.507E+07	7.570E-14	1.110E-08	1.250E-08
Cs-136	3	1.953E+03	1.132E+06	1.060E-13	1.730E-09	1.980E-09
Cs-137	3	5.073E+03	9.467E+08	2.725E-14	7.930E-09	8.630E-09
Ba-139	6	4.973E+04	4.962E+03	2.170E-15	2.400E-12	4.640E-11
Ba-140	6	4.807E+04	1.101E+06	8.580E-15	2.560E-10	1.010E-09
La-140	9	5.172E+04	1.450E+05	1.170E-13	6.870E-11	1.310E-09
La-141	9	4.542E+04	1.415E+04	2.390E-15	9.400E-12	1.570E-10
La-142	9	4.376E+04	5.550E+03	1.440E-13	8.740E-12	6.840E-11
Ce-141	8	4.542E+04	2.808E+06	3.430E-15	2.550E-11	2.420E-09
Ce-143	8	4.244E+04	1.188E+05	1.290E-14	6.230E-12	9.160E-10
Ce-144	8	3.780E+04	2.456E+07	2.773E-15	2.920E-10	1.010E-07
Pr-143	9	4.111E+04	1.172E+06	2.100E-17	1.680E-18	2.190E-09
Nd-147	9	1.814E+04	9.487E+05	6.190E-15	1.820E-11	1.850E-09
Np-239	8	5.404E+05	2.035E+05	7.690E-15	7.620E-12	6.780E-10
Pu-238	8	2.105E+02	2.769E+09	4.880E-18	3.860E-10	7.790E-05
Pu-239	8	1.247E+01	7.594E+11	4.240E-18	3.750E-10	8.330E-05
Pu-240	8	1.257E+01	2.063E+11	4.750E-18	3.760E-10	8.330E-05
Pu-241	8	7.493E+03	4.544E+08	7.250E-20	9.150E-12	1.340E-06
Am-241	9	1.326E+01	1.364E+10	8.180E-16	1.600E-09	1.200E-04
Cm-242	9	2.606E+03	1.407E+07	5.690E-18	9.410E-10	4.670E-06
Cm-244	9	3.349E+02	5.715E+08	4.910E-18	1.010E-09	6.700E-05

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

Pu-240	U-236	1.00	none	0.00	none	0.00
Pu-241	U-237	0.00	Am-241	1.00	none	0.00
Am-241	Np-237	1.00	none	0.00	none	0.00
Cm-242	Pu-238	1.00	none	0.00	none	0.00
Cm-244	Pu-240	1.00	none	0.00	none	0.00

Iodine fractions  
 Aerosol = 9.5000E-01  
 Elemental = 4.8500E-02  
 Organic = 1.5000E-03

COMPARTMENT DATA

Compartment number 1: Sprayed Drywell

Sprays: Aerosol Removal Data

Time (hr)	Removal Coef. (hr <sup>-1</sup> )
0.0000E+00	0.0000E+00
1.6670E-01	1.5000E+01
2.2000E+00	1.5000E+00
2.3000E+00	1.5000E+00
4.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00

Sprays: Elemental Removal Data

Time (hr)	Removal Coef. (hr <sup>-1</sup> )
0.0000E+00	0.0000E+00
1.6670E-01	1.5000E+01
2.2000E+00	1.5000E+01
2.3000E+00	0.0000E+00
4.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00

Compartment number 2: MSIV Failed Control Vol 1

Compartment number 3: Intact Control Volume 2

Compartment number 4: Intact Control Volume 3

Compartment number 5: Intact Control Volume 4

Compartment number 6: Intact Control Volume 5

Compartment number 7: Environment

Compartment number 8: Control Room

Compartment number 9: Unsprayed Drywell

PATHWAY DATA

Pathway number 1: Drywell to MSIV Failed Control Vol 1

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	7.4300E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	4.3700E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	2.1800E-01	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 2: MSIV Failed Control Vol 1 to Environment

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	2.0830E+00	8.5220E+01	6.8400E+00	0.0000E+00
2.0000E+00	1.2240E+00	8.5220E+01	6.8400E+00	0.0000E+00
8.0000E+00	1.2240E+00	8.5220E+01	9.1100E+00	0.0000E+00
2.4000E+01	6.1200E-01	8.5220E+01	1.5690E+01	0.0000E+00
4.8000E+01	6.1200E-01	8.5220E+01	3.1540E+01	0.0000E+00
7.2000E+01	6.1200E-01	8.5220E+01	5.2530E+01	0.0000E+00
9.6000E+01	6.1200E-01	8.5220E+01	7.2070E+01	0.0000E+00
2.4000E+02	6.1200E-01	8.5220E+01	9.7260E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 3: Drywell to Intact Control Volume 2

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	7.4300E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	4.3700E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	2.1800E-01	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 4: Intact Control Volume 2 to Intact Control Volume 3

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	2.0830E+00	7.2540E+01	4.1600E+00	0.0000E+00
2.0000E+00	1.2240E+00	7.2540E+01	4.1600E+00	0.0000E+00
8.0000E+00	1.2240E+00	7.2540E+01	5.5700E+00	0.0000E+00
2.4000E+01	6.1200E-01	7.2540E+01	9.7400E+00	0.0000E+00
4.8000E+01	6.1200E-01	7.2540E+01	2.0390E+01	0.0000E+00
7.2000E+01	6.1200E-01	7.2540E+01	3.6240E+01	0.0000E+00
9.6000E+01	6.1200E-01	7.2540E+01	5.4010E+01	0.0000E+00
2.4000E+02	6.1200E-01	7.2540E+01	9.3310E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 5: Intact Control Volume 3 to Environment

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	2.0830E+00	7.6440E+01	1.4970E+01	0.0000E+00
2.0000E+00	1.2240E+00	7.6440E+01	1.4970E+01	0.0000E+00
8.0000E+00	1.2240E+00	7.6440E+01	1.9630E+01	0.0000E+00
2.4000E+01	6.1200E-01	7.6440E+01	3.2260E+01	0.0000E+00
4.8000E+01	6.1200E-01	7.6440E+01	5.7570E+01	0.0000E+00
7.2000E+01	6.1200E-01	7.6440E+01	8.0730E+01	0.0000E+00
9.6000E+01	6.1200E-01	7.6440E+01	9.2810E+01	0.0000E+00
2.4000E+02	6.1200E-01	7.6440E+01	9.7840E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 6: Drywell to Intact Control Volume 4

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	5.9500E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	3.4900E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	1.7500E-01	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 7: Intact Control Volume 4 to Intact Control Volume 5

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	1.6670E+00	8.0190E+01	4.7500E+00	0.0000E+00
2.0000E+00	9.7900E-01	8.0190E+01	4.7500E+00	0.0000E+00
8.0000E+00	9.7900E-01	8.0190E+01	6.3500E+00	0.0000E+00
2.4000E+01	4.8900E-01	8.0190E+01	1.1060E+01	0.0000E+00
4.8000E+01	4.8900E-01	8.0190E+01	2.2950E+01	0.0000E+00
7.2000E+01	4.8900E-01	8.0190E+01	4.0200E+01	0.0000E+00
9.6000E+01	4.8900E-01	8.0190E+01	5.8780E+01	0.0000E+00
2.4000E+02	4.8900E-01	8.0190E+01	9.4930E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 8: Intact Control Volume 5 to Environment

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	1.6670E+00	8.0220E+01	1.4970E+01	0.0000E+00
2.0000E+00	9.7900E-01	8.0220E+01	1.4970E+01	0.0000E+00
8.0000E+00	9.7900E-01	8.0220E+01	1.9630E+01	0.0000E+00
2.4000E+01	4.8900E-01	8.0220E+01	3.2260E+01	0.0000E+00
4.8000E+01	4.8900E-01	8.0220E+01	5.7570E+01	0.0000E+00
7.2000E+01	4.8900E-01	8.0220E+01	8.0730E+01	0.0000E+00
9.6000E+01	4.8900E-01	8.0220E+01	9.2810E+01	0.0000E+00
2.4000E+02	4.8900E-01	8.0220E+01	9.7840E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 9: Filtered Intake to Control Room

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
2.0000E+00	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
8.0000E+00	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
2.4000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
9.6000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 10: Unfiltered Inleakage to Control Room



Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	4.0000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
8.0000E+00	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
9.6000E+01	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 11: Control Room Exhaust to Environment

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	6.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
8.0000E+00	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
9.6000E+01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 12: Sprayed Drywell to Unsprayed Drywell

Pathway Filter: Removal Data

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

Pathway number 13: Unsprayed Drywell to Sprayed Drywell

Pathway Filter: Removal Data

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

LOCATION DATA

Location Exclusion Area Boundary is in compartment 7

Location X/Q Data

Time (hr)	X/Q (s * m <sup>-3</sup> )
0.0000E+00	1.3600E-03
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 Low Population Zone is in compartment 7

Location X/Q Data

Time (hr)	X/Q (s * m <sup>-3</sup> )
0.0000E+00	1.0400E-04

2.0000E+00	4.1400E-05
8.0000E+00	2.6200E-05
2.4000E+01	9.9600E-06
9.6000E+01	2.5200E-06
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
8.0000E+00	1.8000E-04
2.4000E+01	2.3000E-04
7.2000E+02	0.0000E+00

Location Control Room is in compartment 8

## Location X/Q Data

Time (hr)	X/Q (s * m <sup>-3</sup> )
0.0000E+00	3.8800E-04
2.0000E+00	3.0000E-04
8.0000E+00	1.2400E-04
2.4000E+01	7.9900E-05
9.6000E+01	4.8700E-05
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 Occupancy Factor Data

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

## USER SPECIFIED TIME STEP DATA - SUPPLEMENTAL TIME STEPS

Time	Time step
0.0000E+00	1.0000E-01
1.0000E+00	1.0000E-02
2.0000E+00	5.0000E-01
8.0000E+00	1.0000E+00
2.4000E+01	2.0000E+00
9.6000E+01	5.0000E+00
7.2000E+02	0.0000E+00

#####  
 RADTRAD Version 3.03 (Spring 2001) run on 1/28/2020 at 9:44:37  
 #####

```

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

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

Exclusion Area Boundary Doses:

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

Low Population Zone Doses:

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

Control Room Doses:

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

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =	0.0333	Ci	kg	Atoms	Decay
------------	--------	----	----	-------	-------

Sprayed Drywell Transport Group Inventory:

Time (h) =	0.0333	Atmosphere	Sump	
Noble gases (atoms)	9.5010E+22	0.0000E+00		
Elemental I (atoms)	6.2714E+20	0.0000E+00		
Organic I (atoms)	1.9396E+19	0.0000E+00		
Aerosols (kg)	6.3695E-01	0.0000E+00		
Dose Effective (Ci/cc)	I-131 (Thyroid)			1.3887E-04
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)			1.7722E-04
Total I (Ci)				2.2808E+06

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

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

## Drywell to Intact Control Volume 2 Transport Group Inventory:

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

## Drywell to Intact Control Volume 4 Transport Group Inventory:

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

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

Time (h) = 0.0333	Pathway	
	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.1133E+21
Elemental I (atoms)	0.0000E+00	1.3960E+19
Organic I (atoms)	0.0000E+00	4.3176E+17
Aerosols (kg)	0.0000E+00	1.4168E-02

## Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

Time (h) = 0.0333	Pathway	
	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.5936E+19
Elemental I (atoms)	0.0000E+00	3.0345E+17
Organic I (atoms)	0.0000E+00	9.3849E+15
Aerosols (kg)	0.0000E+00	3.0796E-04

## Exclusion Area Boundary Doses:

Time (h) = 0.1667	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.0859E-03	2.2680E-01	1.1503E-02
Accumulated dose (rem)	2.0859E-03	2.2680E-01	1.1503E-02

## Low Population Zone Doses:

Time (h) = 0.1667	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.5951E-04	1.7343E-02	8.7966E-04
Accumulated dose (rem)	1.5951E-04	1.7343E-02	8.7966E-04

## Control Room Doses:

Time (h) = 0.1667	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.5968E-06	5.5296E-03	2.3232E-04
Accumulated dose (rem)	2.5968E-06	5.5296E-03	2.3232E-04

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 0.1667	Ci	kg	Atoms	Decay
Kr-85	2.1024E+04	5.3587E-02	3.7966E+23	3.2237E+17
Kr-85m	3.3016E+05	4.0118E-05	2.8423E+20	5.1133E+18
Kr-87	5.9814E+05	2.1116E-05	1.4617E+20	9.5017E+18
Kr-88	8.8556E+05	7.0623E-05	4.8330E+20	1.3795E+19
Rb-86	2.9482E+03	3.6234E-05	2.5373E+20	4.5212E+16
I-131	1.2318E+06	9.9359E-03	4.5676E+22	1.8892E+19

I-132	1.7255E+06	1.6716E-04	7.6264E+20	2.6856E+19
I-133	2.5117E+06	2.2172E-03	1.0039E+22	3.8596E+19
I-134	2.4393E+06	9.1440E-05	4.1094E+20	3.9379E+19
I-135	2.3183E+06	6.6014E-04	2.9448E+21	3.5789E+19
Xe-133	2.4199E+06	1.2928E-02	5.8537E+22	3.7099E+19
Xe-135	1.0138E+06	3.9698E-04	1.7708E+21	1.5396E+19
Cs-134	3.6446E+05	2.8169E-01	1.2660E+24	5.5885E+18
Cs-136	8.9053E+04	1.2151E-03	5.3804E+21	1.3657E+18
Cs-137	2.3140E+05	2.6604E+00	1.1694E+25	3.5483E+18

## Sprayed Drywell Transport Group Inventory:

Time (h) =	0.1667	Atmosphere	Sump	
Noble gases (atoms)	4.4088E+23	0.0000E+00		
Elemental I (atoms)	2.9019E+21	0.0000E+00		
Organic I (atoms)	8.9751E+19	0.0000E+00		
Aerosols (kg)	2.9557E+00	0.0000E+00		
Dose Effective (Ci/cc) I-131 (Thyroid)				6.4299E-04
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)				8.1777E-04
Total I (Ci)				1.0227E+07

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

		Pathway	
Time (h) =	0.1667	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.7035E+19	
Elemental I (atoms)	0.0000E+00	1.1235E+17	
Organic I (atoms)	0.0000E+00	3.4746E+15	
Aerosols (kg)	0.0000E+00	1.1420E-04	

## Drywell to Intact Control Volume 2 Transport Group Inventory:

		Pathway	
Time (h) =	0.1667	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.7035E+19	
Elemental I (atoms)	0.0000E+00	1.1235E+17	
Organic I (atoms)	0.0000E+00	3.4746E+15	
Aerosols (kg)	0.0000E+00	1.1420E-04	

## Drywell to Intact Control Volume 4 Transport Group Inventory:

		Pathway	
Time (h) =	0.1667	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.3642E+19	
Elemental I (atoms)	0.0000E+00	8.9967E+16	
Organic I (atoms)	0.0000E+00	2.7825E+15	
Aerosols (kg)	0.0000E+00	9.1455E-05	

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

		Pathway	
Time (h) =	0.1667	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.0260E+22	
Elemental I (atoms)	0.0000E+00	3.3149E+20	
Organic I (atoms)	0.0000E+00	1.0252E+19	
Aerosols (kg)	0.0000E+00	3.3695E-01	

## Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

		Pathway	
Time (h) =	0.1667	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.2156E+21	
Elemental I (atoms)	0.0000E+00	3.4389E+19	
Organic I (atoms)	0.0000E+00	1.0636E+18	

Aerosols (kg) 0.0000E+00 3.4966E-02

Exclusion Area Boundary Doses:

Time (h) =	0.5000	Whole Body	Thyroid	TEDE
Delta dose (rem)	4.5979E-02	4.5979E-02	3.5789E+00	1.9288E-01
Accumulated dose (rem)	4.8064E-02	4.8064E-02	3.8057E+00	2.0438E-01

Low Population Zone Doses:

Time (h) =	0.5000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.5160E-03	3.5160E-03	2.7368E-01	1.4750E-02
Accumulated dose (rem)	3.6755E-03	3.6755E-03	2.9102E-01	1.5629E-02

Control Room Doses:

Time (h) =	0.5000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.5388E-04	1.5388E-04	2.6648E-01	1.1128E-02
Accumulated dose (rem)	1.5648E-04	1.5648E-04	2.7201E-01	1.1360E-02

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =	Ci	kg	Atoms	Decay
Kr-85	5.5281E+04	1.4090E-01	9.9828E+23	2.2513E+18
Kr-85m	8.2449E+05	1.0019E-04	7.0981E+20	3.4542E+19
Kr-87	1.3115E+06	4.6300E-05	3.2049E+20	5.9115E+19
Kr-88	2.1466E+06	1.7119E-04	1.1715E+21	9.1431E+19
Rb-86	1.2753E+03	1.5674E-05	1.0975E+20	1.0863E+17
I-131	5.3660E+05	4.3283E-03	1.9897E+22	4.5513E+19
I-132	7.4557E+05	7.2231E-05	3.2953E+20	6.4369E+19
I-133	1.0832E+06	9.5623E-04	4.3297E+21	9.2625E+19
I-134	8.1732E+05	3.0638E-05	1.3769E+20	8.6218E+19
I-135	9.7627E+05	2.7799E-04	1.2401E+21	8.5114E+19
Xe-133	6.3564E+06	3.3959E-02	1.5376E+23	2.5899E+20
Xe-135	2.6556E+06	1.0399E-03	4.6388E+21	1.0819E+20
Cs-134	1.5773E+05	1.2191E-01	5.4789E+23	1.3430E+19
Cs-136	3.8513E+04	5.2549E-04	2.3269E+21	3.2811E+18
Cs-137	1.0015E+05	1.1514E+00	5.0612E+24	8.5272E+18

Sprayed Drywell Transport Group Inventory:

Time (h) =	0.5000	Atmosphere	Sump
Noble gases (atoms)	1.1589E+24	0.0000E+00	
Elemental I (atoms)	1.2483E+21	7.6313E+21	
Organic I (atoms)	2.3443E+20	0.0000E+00	
Aerosols (kg)	1.2792E+00	7.7862E+00	
Dose Effective (Ci/cc) I-131 (Thyroid)			2.7896E-04
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			3.5247E-04
Total I (Ci)			4.1590E+06

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.4407E+20
Elemental I (atoms)	0.0000E+00	3.5108E+17
Organic I (atoms)	0.0000E+00	2.9268E+16
Aerosols (kg)	0.0000E+00	3.5779E-04

Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.4407E+20

Elemental I (atoms)	0.0000E+00	3.5108E+17
Organic I (atoms)	0.0000E+00	2.9268E+16
Aerosols (kg)	0.0000E+00	3.5779E-04

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 0.5000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.1537E+20
Elemental I (atoms)	0.0000E+00	2.8115E+17
Organic I (atoms)	0.0000E+00	2.3438E+16
Aerosols (kg)	0.0000E+00	2.8652E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 0.5000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.0931E+23
Elemental I (atoms)	0.0000E+00	1.0063E+21
Organic I (atoms)	0.0000E+00	8.3153E+19
Aerosols (kg)	0.0000E+00	1.0254E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 0.5000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.1135E+23
Elemental I (atoms)	0.0000E+00	3.8187E+20
Organic I (atoms)	0.0000E+00	2.2602E+19
Aerosols (kg)	0.0000E+00	3.8987E-01

Exclusion Area Boundary Doses:

Time (h) = 0.6667	Whole Body	Thyroid	TEDE
Delta dose (rem)	6.0755E-02	3.1970E+00	1.9507E-01
Accumulated dose (rem)	1.0882E-01	7.0027E+00	3.9945E-01

Low Population Zone Doses:

Time (h) = 0.6667	Whole Body	Thyroid	TEDE
Delta dose (rem)	4.6460E-03	2.4448E-01	1.4917E-02
Accumulated dose (rem)	8.3215E-03	5.3550E-01	3.0546E-02

Control Room Doses:

Time (h) = 0.6667	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.6805E-04	3.6391E-01	1.5283E-02
Accumulated dose (rem)	4.2453E-04	6.3591E-01	2.6643E-02

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 0.6667	Ci	kg	Atoms	Decay
Co-58	4.4404E+01	1.3965E-06	1.4499E+19	9.0093E+14
Co-60	5.3160E+01	4.7028E-05	4.7202E+20	1.0785E+15
Kr-85	1.8268E+05	4.6561E-01	3.2988E+24	5.6625E+18
Kr-85m	2.6551E+06	3.2264E-04	2.2858E+21	8.4718E+19
Kr-87	3.9574E+06	1.3971E-04	9.6707E+20	1.3621E+20
Kr-88	6.8106E+06	5.4314E-04	3.7169E+21	2.2103E+20
Rb-86	1.6517E+03	2.0299E-05	1.4214E+20	1.4456E+17
Sr-89	6.3071E+04	2.1710E-03	1.4690E+22	1.2797E+18
Sr-90	8.7078E+03	6.3837E-02	4.2715E+23	1.7667E+17
Sr-91	7.4864E+04	2.0652E-05	1.3667E+20	1.5278E+18
Sr-92	7.1467E+04	5.6858E-06	3.7218E+19	1.4801E+18

Y-90	9.8348E+01	1.8076E-07	1.2095E+18	1.8368E+15
Y-91	8.1029E+02	3.3041E-05	2.1866E+20	1.6414E+16
Y-92	2.1881E+03	2.2740E-07	1.4885E+18	2.0672E+16
Y-93	9.2752E+02	2.7801E-07	1.8002E+18	1.8922E+16
Zr-95	1.0708E+03	4.9844E-05	3.1596E+20	2.1726E+16
Zr-97	1.0345E+03	5.4116E-07	3.3598E+18	2.1058E+16
Nb-95	1.0788E+03	2.7588E-05	1.7488E+20	2.1886E+16
Mo-99	1.4729E+04	3.0710E-05	1.8681E+20	2.9908E+17
Tc-99m	1.3007E+04	2.4737E-06	1.5048E+19	2.6260E+17
Ru-103	1.2514E+04	3.8775E-04	2.2671E+21	2.5391E+17
Ru-105	8.0549E+03	1.1983E-06	6.8726E+18	1.6549E+17
Ru-106	5.4900E+03	1.6410E-03	9.3229E+21	1.1139E+17
Rh-105	8.4281E+03	9.9853E-06	5.7269E+19	1.7086E+17
Sb-127	1.7192E+04	6.4378E-05	3.0527E+20	3.4902E+17
Sb-129	4.6039E+04	8.1871E-06	3.8220E+19	9.4620E+17
Te-127	1.7145E+04	6.4964E-06	3.0805E+19	3.4687E+17
Te-127m	2.3119E+03	2.4510E-04	1.1622E+21	4.6904E+16
Te-129	4.8090E+04	2.2963E-06	1.0720E+19	9.6084E+17
Te-129m	7.4966E+03	2.4885E-04	1.1617E+21	1.5208E+17
Te-131m	2.2570E+04	2.8304E-05	1.3011E+20	4.5876E+17
Te-132	2.2213E+05	7.3167E-04	3.3381E+21	4.5099E+18
I-131	8.5231E+05	6.8749E-03	3.1604E+22	6.3819E+19
I-132	1.1990E+06	1.1616E-04	5.2995E+20	9.0282E+19
I-133	1.7119E+06	1.5112E-03	6.8426E+21	1.2949E+20
I-134	1.1385E+06	4.2677E-05	1.9179E+20	1.1233E+20
I-135	1.5246E+06	4.3412E-04	1.9366E+21	1.1814E+20
Xe-133	2.1006E+07	1.1222E-01	5.0814E+23	6.5133E+20
Xe-135	8.8885E+06	3.4806E-03	1.5526E+22	2.7429E+20
Cs-134	2.0433E+05	1.5793E-01	7.0975E+23	1.7875E+19
Cs-136	4.9873E+04	6.8048E-04	3.0132E+21	4.3662E+18
Cs-137	1.2974E+05	1.4916E+00	6.5565E+24	1.1349E+19
Ba-139	8.2649E+04	5.0528E-06	2.1891E+19	1.7464E+18
Ba-140	1.1154E+05	1.5236E-03	6.5540E+21	2.2635E+18
La-140	1.3839E+03	2.4898E-06	1.0710E+19	2.4851E+16
La-141	9.3844E+02	1.6594E-07	7.0872E+17	1.9312E+16
La-142	7.5357E+02	5.2642E-08	2.2325E+17	1.5854E+16
Ce-141	2.6386E+03	9.2605E-05	3.9552E+20	5.3535E+16
Ce-143	2.4314E+03	3.6613E-06	1.5419E+19	4.9413E+16
Ce-144	2.1960E+03	6.8851E-04	2.8794E+21	4.4554E+16
Pr-143	9.5571E+02	1.4193E-05	5.9769E+19	1.9383E+16
Nd-147	4.2083E+02	5.2019E-06	2.1311E+19	8.5398E+15
Np-239	3.1141E+04	1.3423E-04	3.3823E+20	6.3243E+17
Pu-238	1.2230E+01	7.1437E-04	1.8076E+21	2.4813E+14
Pu-239	7.2456E-01	1.1657E-02	2.9372E+22	1.4700E+13
Pu-240	7.3030E-01	3.2049E-03	8.0419E+21	1.4817E+13
Pu-241	4.3533E+02	4.2260E-03	1.0560E+22	8.8323E+15
Am-241	3.0818E-01	8.9792E-05	2.2437E+20	6.2524E+12
Cm-242	6.0555E+01	1.8271E-05	4.5467E+19	1.2286E+15
Cm-244	7.7829E+00	9.6201E-05	2.3743E+20	1.5790E+14

## Sprayed Drywell Transport Group Inventory:

Time (h) =	0.6667	Atmosphere	Sump	
Noble gases (atoms)	3.8295E+24	0.0000E+00		
Elemental I (atoms)	1.9792E+21	1.2075E+22		
Organic I (atoms)	3.5758E+20	0.0000E+00		
Aerosols (kg)	1.7507E+00	1.1831E+01		
Dose Effective (Ci/cc) I-131 (Thyroid)			4.4224E-04	
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			5.5737E-04	
Total I (Ci)			6.4263E+06	

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

Pathway



Time (h) =	0.6667	Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.4220E+20	
Elemental I (atoms)	0.0000E+00	4.9009E+17	
Organic I (atoms)	0.0000E+00	5.2543E+16	
Aerosols (kg)	0.0000E+00	4.8434E-04	

Drywell to Intact Control Volume 2 Transport Group Inventory:

		Pathway	
Time (h) =	0.6667	Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.4220E+20	
Elemental I (atoms)	0.0000E+00	4.9009E+17	
Organic I (atoms)	0.0000E+00	5.2543E+16	
Aerosols (kg)	0.0000E+00	4.8434E-04	

Drywell to Intact Control Volume 4 Transport Group Inventory:

		Pathway	
Time (h) =	0.6667	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.7404E+20	
Elemental I (atoms)	0.0000E+00	3.9247E+17	
Organic I (atoms)	0.0000E+00	4.2077E+16	
Aerosols (kg)	0.0000E+00	3.8786E-04	

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

		Pathway	
Time (h) =	0.6667	Filtered	Transported
Noble gases (atoms)	0.0000E+00	9.6930E+23	
Elemental I (atoms)	0.0000E+00	1.3992E+21	
Organic I (atoms)	0.0000E+00	1.4894E+20	
Aerosols (kg)	0.0000E+00	1.3831E+00	

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

		Pathway	
Time (h) =	0.6667	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.6546E+23	
Elemental I (atoms)	0.0000E+00	6.1352E+20	
Organic I (atoms)	0.0000E+00	4.8849E+19	
Aerosols (kg)	0.0000E+00	6.2253E-01	

Exclusion Area Boundary Doses:

Time (h) =	2.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		5.0426E+00	6.8487E+01	8.4310E+00
Accumulated dose (rem)		5.1514E+00	7.5490E+01	8.8304E+00

Low Population Zone Doses:

Time (h) =	2.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		3.8561E-01	5.2372E+00	6.4472E-01
Accumulated dose (rem)		3.9393E-01	5.7727E+00	6.7527E-01

Control Room Doses:

Time (h) =	2.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		1.8045E-02	3.4580E+00	1.7000E-01
Accumulated dose (rem)		1.8470E-02	4.0940E+00	1.9664E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =	2.0000	Ci	kg	Atoms	Decay
------------	--------	----	----	-------	-------

Co-58	5.0850E+01	1.5991E-06	1.6604E+19	9.7344E+15
Co-60	6.0908E+01	5.3882E-05	5.4081E+20	1.1657E+16
Kr-85	9.4001E+05	2.3959E+00	1.6975E+25	1.0968E+20
Kr-85m	1.1116E+07	1.3507E-03	9.5696E+21	1.4222E+21
Kr-87	9.8453E+06	3.4757E-04	2.4059E+21	1.6204E+21
Kr-88	2.5311E+07	2.0185E-03	1.3813E+22	3.4220E+21
Rb-86	1.7228E+03	2.1174E-05	1.4827E+20	4.4809E+17
Sr-89	7.2210E+04	2.4855E-03	1.6818E+22	1.3825E+19
Sr-90	9.9771E+03	7.3142E-02	4.8941E+23	1.9094E+18
Sr-91	7.7826E+04	2.1469E-05	1.4208E+20	1.5715E+19
Sr-92	5.8223E+04	4.6321E-06	3.0321E+19	1.3506E+19
Y-90	1.1338E+02	2.0839E-07	1.3944E+18	2.0939E+16
Y-91	9.2800E+02	3.7841E-05	2.5042E+20	1.7753E+17
Y-92	2.0810E+03	2.1627E-07	1.4157E+18	3.4678E+17
Y-93	9.6980E+02	2.9068E-07	1.8823E+18	1.9520E+17
Zr-95	1.2261E+03	5.7075E-05	3.6180E+20	2.3473E+17
Zr-97	1.1223E+03	5.8705E-07	3.6446E+18	2.2133E+17
Nb-95	1.2360E+03	3.1609E-05	2.0037E+20	2.3654E+17
Mo-99	1.6642E+04	3.4698E-05	2.1106E+20	3.2093E+18
Tc-99m	1.4885E+04	2.8307E-06	1.7219E+19	2.8453E+18
Ru-103	1.4324E+04	4.4383E-04	2.5950E+21	2.7428E+18
Ru-105	7.4948E+03	1.1150E-06	6.3948E+18	1.6108E+18
Ru-106	6.2897E+03	1.8800E-03	1.0681E+22	1.2038E+18
Rh-105	9.6225E+03	1.1400E-05	6.5385E+19	1.8451E+18
Sb-127	1.9502E+04	7.3029E-05	3.4629E+20	3.7528E+18
Sb-129	4.2591E+04	7.5739E-06	3.5357E+19	9.1837E+18
Te-127	1.9554E+04	7.4092E-06	3.5133E+19	3.7470E+18
Te-127m	2.6492E+03	2.8086E-04	1.3318E+21	5.0696E+17
Te-129	4.7890E+04	2.2867E-06	1.0675E+19	9.8473E+18
Te-129m	8.5915E+03	2.8519E-04	1.3314E+21	1.6440E+18
Te-131m	2.5075E+04	3.1446E-05	1.4456E+20	4.8806E+18
Te-132	2.5152E+05	8.2848E-04	3.7797E+21	4.8448E+19
I-131	9.1928E+05	7.4151E-03	3.4088E+22	2.2415E+20
I-132	1.2944E+06	1.2540E-04	5.7209E+20	3.1679E+20
I-133	1.7737E+06	1.5658E-03	7.0896E+21	4.4507E+20
I-134	4.2973E+05	1.6109E-05	7.2395E+19	2.4435E+20
I-135	1.4359E+06	4.0887E-04	1.8239E+21	3.8618E+20
Xe-133	1.0775E+08	5.7564E-01	2.6064E+24	1.2591E+22
Xe-135	4.5732E+07	1.7908E-02	7.9885E+22	5.3515E+21
Cs-134	2.1357E+05	1.6507E-01	7.4183E+23	5.5463E+19
Cs-136	5.1977E+04	7.0919E-04	3.1403E+21	1.3527E+19
Cs-137	1.3561E+05	1.5590E+00	6.8531E+24	3.5216E+19
Ba-139	4.8433E+04	2.9610E-06	1.2828E+19	1.3683E+19
Ba-140	1.2742E+05	1.7405E-03	7.4867E+21	2.4425E+19
La-140	1.5974E+03	2.8739E-06	1.2362E+19	2.9052E+17
La-141	8.4991E+02	1.5028E-07	6.4187E+17	1.8549E+17
La-142	4.7411E+02	3.3119E-08	1.4046E+17	1.2825E+17
Ce-141	3.0225E+03	1.0608E-04	4.5306E+20	5.7853E+17
Ce-143	2.7089E+03	4.0792E-06	1.7179E+19	5.2645E+17
Ce-144	2.5157E+03	7.8876E-04	3.2986E+21	4.8149E+17
Pr-143	1.0951E+03	1.6262E-05	6.8483E+19	2.0954E+17
Nd-147	4.8048E+02	5.9393E-06	2.4331E+19	9.2130E+16
Np-239	3.5102E+04	1.5131E-04	3.8125E+20	6.7781E+18
Pu-238	1.4013E+01	8.1852E-04	2.0711E+21	2.6817E+15
Pu-239	8.3033E-01	1.3359E-02	3.3660E+22	1.5889E+14
Pu-240	8.3676E-01	3.6721E-03	9.2142E+21	1.6014E+14
Pu-241	4.9879E+02	4.8420E-03	1.2099E+22	9.5457E+16
Am-241	3.5315E-01	1.0290E-04	2.5712E+20	6.7580E+13
Cm-242	6.9366E+01	2.0929E-05	5.2082E+19	1.3277E+16
Cm-244	8.9173E+00	1.1022E-04	2.7204E+20	1.7066E+15

Sprayed Drywell Transport Group Inventory:

Time (h) = 2.0000 Atmosphere Sump

Noble gases (atoms)	1.9687E+25	0.0000E+00	
Elemental I (atoms)	2.0641E+21	5.3235E+22	
Organic I (atoms)	1.1510E+21	0.0000E+00	
Aerosols (kg)	1.8391E+00	4.8223E+01	
Dose Effective (Ci/cc) I-131 (Thyroid)			4.6996E-04
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			5.8244E-04
Total I (Ci)			5.8530E+06

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 2.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	7.8977E+21
Elemental I (atoms)	0.0000E+00	1.7778E+18
Organic I (atoms)	0.0000E+00	5.3239E+17
Aerosols (kg)	0.0000E+00	1.6228E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 2.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	7.8977E+21
Elemental I (atoms)	0.0000E+00	1.7778E+18
Organic I (atoms)	0.0000E+00	5.3239E+17
Aerosols (kg)	0.0000E+00	1.6228E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 2.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	6.3246E+21
Elemental I (atoms)	0.0000E+00	1.4236E+18
Organic I (atoms)	0.0000E+00	4.2634E+17
Aerosols (kg)	0.0000E+00	1.2996E-03

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 2.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.2324E+25
Elemental I (atoms)	0.0000E+00	5.0386E+21
Organic I (atoms)	0.0000E+00	1.5052E+21
Aerosols (kg)	0.0000E+00	4.6009E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 2.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.2911E+25
Elemental I (atoms)	0.0000E+00	3.6876E+21
Organic I (atoms)	0.0000E+00	9.2387E+20
Aerosols (kg)	0.0000E+00	3.4219E+00

Exclusion Area Boundary Doses:

Time (h) = 2.2000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.0003E+00	9.0959E+00	1.4627E+00
Accumulated dose (rem)	6.1517E+00	8.4586E+01	1.0293E+01

Low Population Zone Doses:

Time (h) = 2.2000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.0450E-02	2.7689E-01	4.4526E-02

Accumulated dose (rem) 4.2438E-01 6.0496E+00 7.1979E-01

## Control Room Doses:

Time (h) =	2.2000	Whole Body	Thyroid	TEDE
Delta dose (rem)		7.3278E-03	5.6191E-01	3.3823E-02
Accumulated dose (rem)		2.5797E-02	4.6559E+00	2.3047E-01

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =	2.2000	Ci	kg	Atoms	Decay
Co-58		5.1069E+00	1.6061E-07	1.6676E+18	9.9744E+15
Co-60		6.1176E+00	5.4120E-06	5.4319E+19	1.1944E+16
Kr-85		8.8897E+05	2.2659E+00	1.6053E+25	1.3365E+20
Kr-85m		1.0192E+07	1.2385E-03	8.7743E+21	1.7013E+21
Kr-87		8.3491E+06	2.9475E-04	2.0403E+21	1.8583E+21
Kr-88		2.2796E+07	1.8180E-03	1.2441E+22	4.0519E+21
Rb-86		1.7699E+02	2.1752E-06	1.5232E+19	4.5632E+17
Sr-89		7.2520E+03	2.4962E-04	1.6890E+21	1.4166E+19
Sr-90		1.0021E+03	7.3465E-03	4.9157E+22	1.9565E+18
Sr-91		7.7036E+03	2.1251E-06	1.4064E+19	1.6081E+19
Sr-92		5.5564E+03	4.4205E-07	2.8936E+18	1.3776E+19
Y-90		1.5908E+01	2.9239E-08	1.9565E+17	2.1551E+16
Y-91		9.3890E+01	3.8285E-06	2.5336E+19	1.8192E+17
Y-92		6.7156E+02	6.9792E-08	4.5684E+17	3.6464E+17
Y-93		9.6080E+01	2.8798E-08	1.8648E+17	1.9976E+17
Zr-95		1.2314E+02	5.7321E-06	3.6337E+19	2.4052E+17
Zr-97		1.1180E+02	5.8482E-08	3.6308E+17	2.2661E+17
Nb-95		1.2414E+02	3.1748E-06	2.0125E+19	2.4237E+17
Mo-99		1.6680E+03	3.4777E-06	2.1155E+19	3.2878E+18
Tc-99m		1.4946E+03	2.8424E-07	1.7290E+18	2.9152E+18
Ru-103		1.4385E+03	4.4572E-05	2.6060E+20	2.8104E+18
Ru-105		7.2965E+02	1.0855E-07	6.2255E+17	1.6457E+18
Ru-106		6.3173E+02	1.8882E-04	1.0728E+21	1.2335E+18
Rh-105		9.6561E+02	1.1440E-06	6.5613E+18	1.8905E+18
Sb-127		1.9559E+03	7.3240E-06	3.4729E+19	3.8448E+18
Sb-129		4.1428E+03	7.3670E-07	3.4392E+18	9.3822E+18
Te-127		1.9626E+03	7.4368E-07	3.5264E+18	3.8390E+18
Te-127m		2.6609E+02	2.8210E-05	1.3377E+20	5.1947E+17
Te-129		4.7094E+03	2.2488E-07	1.0498E+18	1.0066E+19
Te-129m		8.6294E+02	2.8645E-05	1.3372E+20	1.6845E+18
Te-131m		2.5069E+03	3.1439E-06	1.4453E+19	4.9987E+18
Te-132		2.5218E+04	8.3066E-05	3.7897E+20	4.9634E+19
I-131		1.1455E+05	9.2397E-04	4.2475E+21	2.2903E+20
I-132		1.4638E+05	1.4182E-05	6.4699E+19	3.2333E+20
I-133		2.1972E+05	1.9396E-04	8.7823E+20	4.5448E+20
I-134		4.5750E+04	1.7150E-06	7.7074E+18	2.4650E+20
I-135		1.7535E+05	4.9930E-05	2.2273E+20	3.9376E+20
Xe-133		1.0177E+08	5.4371E-01	2.4619E+24	1.5336E+22
Xe-135		4.2466E+07	1.6629E-02	7.4180E+22	6.5059E+21
Cs-134		2.1947E+04	1.6963E-02	7.6233E+22	5.6484E+19
Cs-136		5.3390E+03	7.2846E-05	3.2257E+20	1.3776E+19
Cs-137		1.3936E+04	1.6021E-01	7.0425E+23	3.5864E+19
Ba-139		4.3991E+03	2.6895E-07	1.1652E+18	1.3903E+19
Ba-140		1.2792E+04	1.7473E-04	7.5162E+20	2.5027E+19
La-140		2.5196E+02	4.5331E-07	1.9499E+18	2.9961E+17
La-141		8.2407E+01	1.4572E-08	6.2235E+16	1.8945E+17
La-142		4.3524E+01	3.0405E-09	1.2894E+16	1.3041E+17
Ce-141		3.0352E+02	1.0652E-05	4.5496E+19	5.9280E+17
Ce-143		2.7094E+02	4.0800E-07	1.7182E+18	5.3921E+17
Ce-144		2.5268E+02	7.9222E-05	3.3131E+20	4.9337E+17
Pr-143		1.1013E+02	1.6355E-06	6.8877E+18	2.1471E+17
Nd-147		4.8234E+01	5.9623E-07	2.4426E+18	9.4397E+16

Np-239	3.5170E+03	1.5160E-05	3.8199E+19	6.9436E+18
Pu-238	1.4075E+00	8.2213E-05	2.0802E+20	2.7479E+15
Pu-239	8.3402E-02	1.3418E-03	3.3810E+21	1.6281E+14
Pu-240	8.4044E-02	3.6883E-04	9.2548E+20	1.6409E+14
Pu-241	5.0098E+01	4.8633E-04	1.2153E+21	9.7811E+16
Am-241	3.5474E-02	1.0336E-05	2.5827E+19	6.9247E+13
Cm-242	6.9669E+00	2.1021E-06	5.2310E+18	1.3604E+16
Cm-244	8.9566E-01	1.1071E-05	2.7324E+19	1.7487E+15

## Sprayed Drywell Transport Group Inventory:

Time (h) =	2.2000	Atmosphere	Sump	
Noble gases (atoms)	1.8613E+25	0.0000E+00		
Elemental I (atoms)	2.1029E+20	5.5264E+22		
Organic I (atoms)	1.0915E+21	0.0000E+00		
Aerosols (kg)	1.8874E-01	5.0033E+01		
Dose Effective (Ci/cc) I-131 (Thyroid)			5.8405E-05	
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			7.2087E-05	
Total I (Ci)			7.0175E+05	

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
2.2000		
Noble gases (atoms)	0.0000E+00	8.9516E+21
Elemental I (atoms)	0.0000E+00	1.8151E+18
Organic I (atoms)	0.0000E+00	5.9416E+17
Aerosols (kg)	0.0000E+00	1.6561E-03

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
2.2000		
Noble gases (atoms)	0.0000E+00	8.9516E+21
Elemental I (atoms)	0.0000E+00	1.8151E+18
Organic I (atoms)	0.0000E+00	5.9416E+17
Aerosols (kg)	0.0000E+00	1.6561E-03

## Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
2.2000		
Noble gases (atoms)	0.0000E+00	7.1662E+21
Elemental I (atoms)	0.0000E+00	1.4535E+18
Organic I (atoms)	0.0000E+00	4.7568E+17
Aerosols (kg)	0.0000E+00	1.3262E-03

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
2.2000		
Noble gases (atoms)	0.0000E+00	2.7388E+25
Elemental I (atoms)	0.0000E+00	5.2179E+21
Organic I (atoms)	0.0000E+00	1.8020E+21
Aerosols (kg)	0.0000E+00	4.7609E+00

## Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
2.2000		
Noble gases (atoms)	0.0000E+00	1.6909E+25
Elemental I (atoms)	0.0000E+00	4.1677E+21
Organic I (atoms)	0.0000E+00	1.1651E+21
Aerosols (kg)	0.0000E+00	3.8527E+00

## Exclusion Area Boundary Doses:

Time (h) =	2.3000	Whole Body	Thyroid	TEDE
Delta dose (rem)	5.2527E-01	4.5285E+00	7.5469E-01	
Accumulated dose (rem)	6.6769E+00	8.9114E+01	1.1048E+01	

## Low Population Zone Doses:

Time (h) =	2.3000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.5990E-02	1.3785E-01	2.2974E-02	
Accumulated dose (rem)	4.4037E-01	6.1875E+00	7.4277E-01	

## Control Room Doses:

Time (h) =	2.3000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.7438E-03	2.7107E-01	1.6602E-02	
Accumulated dose (rem)	2.9541E-02	4.9269E+00	2.4707E-01	

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =	Ci	kg	Atoms	Decay
Co-58	3.1728E+00	9.9781E-08	1.0360E+18	1.0017E+16
Co-60	3.8009E+00	3.3625E-06	3.3749E+19	1.1995E+16
Kr-85	8.7368E+05	2.2269E+00	1.5777E+25	1.4529E+20
Kr-85m	9.8627E+06	1.1985E-03	8.4909E+21	1.8337E+21
Kr-87	7.7701E+06	2.7431E-04	1.8988E+21	1.9646E+21
Kr-88	2.1864E+07	1.7436E-03	1.1932E+22	4.3467E+21
Rb-86	1.1094E+02	1.3635E-06	9.5477E+18	4.5780E+17
Sr-89	4.5054E+03	1.5508E-04	1.0493E+21	1.4226E+19
Sr-90	6.2261E+02	4.5644E-03	3.0542E+22	1.9648E+18
Sr-91	4.7515E+03	1.3108E-06	8.6743E+18	1.6144E+19
Sr-92	3.3650E+03	2.6771E-07	1.7524E+18	1.3821E+19
Y-90	1.1137E+01	2.0470E-08	1.3697E+17	2.1690E+16
Y-91	5.8522E+01	2.3863E-06	1.5792E+19	1.8270E+17
Y-92	5.3667E+02	5.5773E-08	3.6508E+17	3.7096E+17
Y-93	5.9286E+01	1.7770E-08	1.1507E+17	2.0055E+17
Zr-95	7.6506E+01	3.5612E-06	2.2575E+19	2.4154E+17
Zr-97	6.9177E+01	3.6187E-08	2.2466E+17	2.2753E+17
Nb-95	7.7131E+01	1.9725E-06	1.2504E+19	2.4340E+17
Mo-99	1.0352E+03	2.1585E-06	1.3130E+19	3.3016E+18
Tc-99m	9.2848E+02	1.7658E-07	1.0741E+18	2.9275E+18
Ru-103	8.9370E+02	2.7691E-05	1.6190E+20	2.8223E+18
Ru-105	4.4631E+02	6.6395E-08	3.8080E+17	1.6517E+18
Ru-106	3.9249E+02	1.1732E-04	6.6651E+20	1.2387E+18
Rh-105	5.9964E+02	7.1043E-07	4.0746E+18	1.8985E+18
Sb-127	1.2143E+03	4.5470E-06	2.1561E+19	3.8610E+18
Sb-129	2.5330E+03	4.5043E-07	2.1028E+18	9.4163E+18
Te-127	1.2190E+03	4.6189E-07	2.1902E+18	3.8552E+18
Te-127m	1.6533E+02	1.7527E-05	8.3111E+19	5.2167E+17
Te-129	2.8946E+03	1.3822E-07	6.4524E+17	1.0104E+19
Te-129m	5.3615E+02	1.7797E-05	8.3084E+19	1.6917E+18
Te-131m	1.5540E+03	1.9488E-06	8.9587E+18	5.0194E+18
Te-132	1.5654E+04	5.1563E-05	2.3524E+20	4.9843E+19
I-131	7.9938E+04	6.4480E-04	2.9642E+21	2.3010E+20
I-132	9.7773E+04	9.4722E-06	4.3214E+19	3.2464E+20
I-133	1.5288E+05	1.3496E-04	6.1107E+20	4.5652E+20
I-134	2.9511E+04	1.1063E-06	4.9716E+18	2.4691E+20
I-135	1.2114E+05	3.4493E-05	1.5387E+20	3.9538E+20
Xe-133	9.9962E+07	5.3404E-01	2.4181E+24	1.6668E+22
Xe-135	4.1379E+07	1.6203E-02	7.2281E+22	7.0591E+21
Cs-134	1.3759E+04	1.0634E-02	4.7792E+22	5.6667E+19
Cs-136	3.3464E+03	4.5659E-05	2.0218E+20	1.3820E+19

Cs-137	8.7365E+03	1.0044E-01	4.4151E+23	3.5980E+19
Ba-139	2.5992E+03	1.5890E-07	6.8844E+17	1.3938E+19
Ba-140	7.9460E+03	1.0854E-04	4.6688E+20	2.5132E+19
La-140	1.8187E+02	3.2721E-07	1.4075E+18	3.0185E+17
La-141	5.0305E+01	8.8951E-09	3.7991E+16	1.9013E+17
La-142	2.5853E+01	1.8060E-09	7.6591E+15	1.3076E+17
Ce-141	1.8856E+02	6.6176E-06	2.8264E+19	5.9531E+17
Ce-143	1.6799E+02	2.5296E-07	1.0653E+18	5.4145E+17
Ce-144	1.5699E+02	4.9221E-05	2.0584E+20	4.9546E+17
Pr-143	6.8468E+01	1.0168E-06	4.2819E+18	2.1562E+17
Nd-147	2.9960E+01	3.7035E-07	1.5172E+18	9.4796E+16
Np-239	2.1824E+03	9.4074E-06	2.3704E+19	6.9727E+18
Pu-238	8.7446E-01	5.1079E-05	1.2925E+20	2.7595E+15
Pu-239	5.1818E-02	8.3368E-04	2.1006E+21	1.6350E+14
Pu-240	5.2217E-02	2.2916E-04	5.7501E+20	1.6478E+14
Pu-241	3.1126E+01	3.0216E-04	7.5504E+20	9.8226E+16
Am-241	2.2041E-02	6.4219E-06	1.6047E+19	6.9541E+13
Cm-242	4.3285E+00	1.3060E-06	3.2500E+18	1.3662E+16
Cm-244	5.5648E-01	6.8784E-06	1.6976E+19	1.7561E+15

## Sprayed Drywell Transport Group Inventory:

Time (h) =	2.3000	Atmosphere	Sump	
Noble gases (atoms)	1.8290E+25	0.0000E+00		
Elemental I (atoms)	1.3135E+20	5.5505E+22		
Organic I (atoms)	1.0731E+21	0.0000E+00		
Aerosols (kg)	1.1827E-01	5.0250E+01		
Dose Effective (Ci/cc) I-131 (Thyroid)				4.0707E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)				5.0150E-05
Total I (Ci)				4.8124E+05

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	9.4606E+21
Elemental I (atoms)	0.0000E+00	1.8195E+18
Organic I (atoms)	0.0000E+00	6.2405E+17
Aerosols (kg)	0.0000E+00	1.6601E-03

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	9.4606E+21
Elemental I (atoms)	0.0000E+00	1.8195E+18
Organic I (atoms)	0.0000E+00	6.2405E+17
Aerosols (kg)	0.0000E+00	1.6601E-03

## Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	7.5727E+21
Elemental I (atoms)	0.0000E+00	1.4570E+18
Organic I (atoms)	0.0000E+00	4.9954E+17
Aerosols (kg)	0.0000E+00	1.3293E-03

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.9835E+25
Elemental I (atoms)	0.0000E+00	5.2393E+21

Organic I (atoms)	0.0000E+00	1.9456E+21
Aerosols (kg)	0.0000E+00	4.7801E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 2.3000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.9037E+25
Elemental I (atoms)	0.0000E+00	4.3556E+21
Organic I (atoms)	0.0000E+00	1.2922E+21
Aerosols (kg)	0.0000E+00	4.0218E+00

Exclusion Area Boundary Doses:

Time (h) = 4.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.0031E+01	6.9091E+01	1.3444E+01
Accumulated dose (rem)	1.6708E+01	1.5821E+02	2.4492E+01

Low Population Zone Doses:

Time (h) = 4.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.0536E-01	2.1032E+00	4.0926E-01
Accumulated dose (rem)	7.4573E-01	8.2907E+00	1.1520E+00

Control Room Doses:

Time (h) = 4.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	7.4163E-02	3.8600E+00	2.6078E-01
Accumulated dose (rem)	1.0370E-01	8.7869E+00	5.0784E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 4.0000	Ci	kg	Atoms	Decay
Co-58	3.8626E+00	1.2147E-07	1.2613E+18	1.1426E+16
Co-60	4.6303E+00	4.0962E-06	4.1113E+19	1.3684E+16
Kr-85	8.3450E+05	2.1270E+00	1.5070E+25	3.3559E+20
Kr-85m	7.2417E+06	8.7996E-04	6.2344E+21	3.7238E+21
Kr-87	2.9381E+06	1.0373E-04	7.1800E+20	3.0705E+21
Kr-88	1.3791E+07	1.0998E-03	7.5265E+21	8.2483E+21
Rb-86	1.3530E+02	1.6628E-06	1.1644E+19	5.0722E+17
Sr-89	5.4834E+03	1.8874E-04	1.2771E+21	1.6228E+19
Sr-90	7.5849E+02	5.5605E-03	3.7207E+22	2.2415E+18
Sr-91	5.1132E+03	1.4105E-06	9.3346E+18	1.8143E+19
Sr-92	2.6539E+03	2.1114E-07	1.3821E+18	1.5061E+19
Y-90	2.7455E+01	5.0464E-08	3.3767E+17	2.8821E+16
Y-91	7.3197E+01	2.9847E-06	1.9752E+19	2.0902E+17
Y-92	1.4297E+03	1.4859E-07	9.7261E+17	7.5293E+17
Y-93	6.4272E+01	1.9264E-08	1.2474E+17	2.2557E+17
Zr-95	9.3131E+01	4.3351E-06	2.7481E+19	2.7553E+17
Zr-97	7.8598E+01	4.1115E-08	2.5526E+17	2.5733E+17
Nb-95	9.3962E+01	2.4029E-06	1.5232E+19	2.7768E+17
Mo-99	1.2388E+03	2.5830E-06	1.5712E+19	3.7581E+18
Tc-99m	1.1266E+03	2.1426E-07	1.3034E+18	3.3372E+18
Ru-103	1.0874E+03	3.3692E-05	1.9699E+20	3.2193E+18
Ru-105	4.1698E+02	6.2031E-08	3.5577E+17	1.8283E+18
Ru-106	4.7809E+02	1.4290E-04	8.1186E+20	1.4131E+18
Rh-105	7.2222E+02	8.5566E-07	4.9075E+18	2.1636E+18
Sb-127	1.4606E+03	5.4692E-06	2.5934E+19	4.3976E+18
Sb-129	2.3491E+03	4.1773E-07	1.9501E+18	1.0415E+19
Te-127	1.4759E+03	5.5923E-07	2.6518E+18	4.3936E+18
Te-127m	2.0143E+02	2.1355E-05	1.0126E+20	5.9515E+17
Te-129	2.8917E+03	1.3808E-07	6.4459E+17	1.1257E+19
Te-129m	6.5308E+02	2.1679E-05	1.0120E+20	1.9300E+18



Te-131m	1.8202E+03	2.2827E-06	1.0494E+19	5.6981E+18
Te-132	1.8785E+04	6.1877E-05	2.8230E+20	5.6754E+19
I-131	1.0027E+05	8.0882E-04	3.7182E+21	2.6177E+20
I-132	8.2141E+04	7.9577E-06	3.6305E+19	3.5664E+20
I-133	1.8230E+05	1.6093E-04	7.2867E+20	5.1569E+20
I-134	9.7115E+03	3.6404E-07	1.6361E+18	2.5363E+20
I-135	1.2791E+05	3.6422E-05	1.6247E+20	4.3974E+20
Xe-133	9.4582E+07	5.0529E-01	2.2879E+24	3.8339E+22
Xe-135	3.4655E+07	1.3570E-02	6.0535E+22	1.5500E+22
Cs-134	1.6822E+04	1.3002E-02	5.8433E+22	6.2803E+19
Cs-136	4.0764E+03	5.5620E-05	2.4629E+20	1.5310E+19
Cs-137	1.0682E+04	1.2281E-01	5.3985E+23	3.9877E+19
Ba-139	1.3467E+03	8.2334E-08	3.5671E+17	1.4747E+19
Ba-140	9.6429E+03	1.3172E-04	5.6659E+20	2.8658E+19
La-140	4.9983E+02	8.9925E-07	3.8681E+18	4.2649E+17
La-141	4.5407E+01	8.0291E-09	3.4292E+16	2.0974E+17
La-142	1.4666E+01	1.0245E-09	4.3448E+15	1.3910E+17
Ce-141	2.2944E+02	8.0524E-06	3.4392E+19	6.7907E+17
Ce-143	1.9747E+02	2.9736E-07	1.2522E+18	6.1493E+17
Ce-144	1.9122E+02	5.9952E-05	2.5072E+20	5.6523E+17
Pr-143	8.3845E+01	1.2451E-06	5.2436E+18	2.4611E+17
Nd-147	3.6336E+01	4.4916E-07	1.8401E+18	1.0809E+17
Np-239	2.6039E+03	1.1224E-05	2.8282E+19	7.9337E+18
Pu-238	1.0653E+00	6.2227E-05	1.5745E+20	3.1482E+15
Pu-239	6.3142E-02	1.0159E-03	2.5597E+21	1.8653E+14
Pu-240	6.3613E-02	2.7917E-04	7.0050E+20	1.8799E+14
Pu-241	3.7919E+01	3.6810E-04	9.1981E+20	1.1206E+17
Am-241	2.6863E-02	7.8269E-06	1.9558E+19	7.9339E+13
Cm-242	5.2715E+00	1.5905E-06	3.9581E+18	1.5585E+16
Cm-244	6.7792E-01	8.3795E-06	2.0681E+19	2.0034E+15

## Sprayed Drywell Transport Group Inventory:

Time (h) =	4.0000	Atmosphere	Sump	
Noble gases (atoms)	1.7433E+25	0.0000E+00		
Elemental I (atoms)	5.7743E+20	5.5505E+22		
Organic I (atoms)	1.0047E+21	0.0000E+00		
Aerosols (kg)	1.4456E-01	5.0843E+01		
Dose Effective (Ci/cc)	I-131 (Thyroid)		5.0117E-05	
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		6.0507E-05	
Total I (Ci)			5.0233E+05	

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) =	4.0000	
	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.7718E+22
Elemental I (atoms)	0.0000E+00	2.0568E+18
Organic I (atoms)	0.0000E+00	1.1052E+18
Aerosols (kg)	0.0000E+00	1.7693E-03

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) =	4.0000	
	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.7718E+22
Elemental I (atoms)	0.0000E+00	2.0568E+18
Organic I (atoms)	0.0000E+00	1.1052E+18
Aerosols (kg)	0.0000E+00	1.7693E-03

## Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) =	4.0000	
	Filtered	Transported

Noble gases (atoms)	0.0000E+00	1.4167E+22
Elemental I (atoms)	0.0000E+00	1.6465E+18
Organic I (atoms)	0.0000E+00	8.8382E+17
Aerosols (kg)	0.0000E+00	1.4166E-03

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 4.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	6.9514E+25
Elemental I (atoms)	0.0000E+00	6.3794E+21
Organic I (atoms)	0.0000E+00	4.2579E+21
Aerosols (kg)	0.0000E+00	5.3050E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 4.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.7919E+25
Elemental I (atoms)	0.0000E+00	5.9552E+21
Organic I (atoms)	0.0000E+00	3.5633E+21
Aerosols (kg)	0.0000E+00	5.1665E+00

Exclusion Area Boundary Doses:

Time (h) = 8.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.9743E+01	1.1189E+02	2.4718E+01
Accumulated dose (rem)	3.6451E+01	2.7010E+02	4.9210E+01

Low Population Zone Doses:

Time (h) = 8.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	6.0099E-01	3.4061E+00	7.5244E-01
Accumulated dose (rem)	1.3467E+00	1.1697E+01	1.9045E+00

Control Room Doses:

Time (h) = 8.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.8557E-01	5.7492E+00	4.5461E-01
Accumulated dose (rem)	2.8927E-01	1.4536E+01	9.6246E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 8.0000	Ci	kg	Atoms	Decay
Co-58	4.7469E+00	1.4928E-07	1.5500E+18	1.3929E+16
Co-60	5.6993E+00	5.0419E-06	5.0605E+19	1.6687E+16
Kr-85	8.3283E+05	2.1227E+00	1.5039E+25	7.7973E+20
Kr-85m	3.8921E+06	4.7294E-04	3.3507E+21	6.5978E+21
Kr-87	3.3137E+05	1.1699E-05	8.0977E+19	3.7069E+21
Kr-88	5.1848E+06	4.1349E-04	2.8296E+21	1.2935E+22
Rb-86	1.6552E+02	2.0342E-06	1.4244E+19	5.9470E+17
Sr-89	6.7343E+03	2.3180E-04	1.5685E+21	1.9780E+19
Sr-90	9.3365E+02	6.8446E-03	4.5799E+22	2.7334E+18
Sr-91	4.7010E+03	1.2968E-06	8.5820E+18	2.1015E+19
Sr-92	1.1744E+03	9.3429E-08	6.1157E+17	1.6132E+19
Y-90	7.1969E+01	1.3228E-07	8.8513E+17	5.6592E+16
Y-91	9.4447E+01	3.8512E-06	2.5486E+19	2.5768E+17
Y-92	1.8539E+03	1.9267E-07	1.2612E+18	1.7681E+18
Y-93	6.0123E+01	1.8021E-08	1.1669E+17	2.6197E+17
Zr-95	1.1443E+02	5.3267E-06	3.3766E+19	3.3588E+17
Zr-97	8.2111E+01	4.2953E-08	2.6667E+17	3.0431E+17
Nb-95	1.1565E+02	2.9577E-06	1.8749E+19	3.3862E+17
Mo-99	1.4622E+03	3.0487E-06	1.8545E+19	4.5447E+18

Tc-99m	1.3620E+03	2.5903E-07	1.5757E+18	4.0579E+18
Ru-103	1.3346E+03	4.1352E-05	2.4177E+20	3.9235E+18
Ru-105	2.7489E+02	4.0893E-08	2.3454E+17	2.0288E+18
Ru-106	5.8832E+02	1.7585E-04	9.9905E+20	1.7231E+18
Rh-105	8.5068E+02	1.0078E-06	5.7804E+18	2.6223E+18
Sb-127	1.7447E+03	6.5333E-06	3.0980E+19	5.3307E+18
Sb-129	1.5220E+03	2.7065E-07	1.2635E+18	1.1536E+19
Te-127	1.7869E+03	6.7710E-07	3.2107E+18	5.3397E+18
Te-127m	2.4803E+02	2.6295E-05	1.2469E+20	7.2582E+17
Te-129	2.1779E+03	1.0400E-07	4.8549E+17	1.2699E+19
Te-129m	8.0276E+02	2.6647E-05	1.2440E+20	2.3533E+18
Te-131m	2.0428E+03	2.5618E-06	1.1777E+19	6.8252E+18
Te-132	2.2319E+04	7.3515E-05	3.3539E+20	6.8722E+19
I-131	1.1389E+05	9.1867E-04	4.2232E+21	3.2241E+20
I-132	4.4485E+04	4.3097E-06	1.9662E+19	3.9059E+20
I-133	1.8380E+05	1.6225E-04	7.3467E+20	6.1960E+20
I-134	4.7339E+02	1.7745E-08	7.9750E+16	2.5539E+20
I-135	9.6869E+04	2.7583E-05	1.2305E+20	5.0328E+20
Xe-133	9.2339E+07	4.9331E-01	2.2337E+24	8.8128E+22
Xe-135	2.5520E+07	9.9932E-03	4.4578E+22	3.1405E+22
Cs-134	2.0705E+04	1.6003E-02	7.1917E+22	7.3713E+19
Cs-136	4.9739E+03	6.7865E-05	3.0051E+20	1.7942E+19
Cs-137	1.3149E+04	1.5117E-01	6.6452E+23	4.6805E+19
Ba-139	2.2178E+02	1.3559E-08	5.8742E+16	1.5119E+19
Ba-140	1.1763E+04	1.6067E-04	6.9115E+20	3.4883E+19
La-140	1.3611E+03	2.4488E-06	1.0534E+19	9.4636E+17
La-141	2.7604E+01	4.8811E-09	2.0847E+16	2.3079E+17
La-142	2.9887E+00	2.0878E-10	8.8544E+14	1.4346E+17
Ce-141	2.8157E+02	9.8819E-06	4.2206E+19	8.2765E+17
Ce-143	2.2349E+02	3.3653E-07	1.4172E+18	7.3772E+17
Ce-144	2.3528E+02	7.3768E-05	3.0850E+20	6.8922E+17
Pr-143	1.0431E+02	1.5491E-06	6.5235E+18	3.0078E+17
Nd-147	4.4260E+01	5.4710E-07	2.2413E+18	1.3153E+17
Np-239	3.0518E+03	1.3155E-05	3.3147E+19	9.5813E+18
Pu-238	1.3114E+00	7.6599E-05	1.9382E+20	3.8391E+15
Pu-239	7.7766E-02	1.2511E-03	3.1525E+21	2.2750E+14
Pu-240	7.8305E-02	3.4364E-04	8.6228E+20	2.2925E+14
Pu-241	4.6675E+01	4.5310E-04	1.1322E+21	1.3665E+17
Am-241	3.3102E-02	9.6445E-06	2.4100E+19	9.6770E+13
Cm-242	6.4844E+00	1.9565E-06	4.8687E+18	1.9003E+16
Cm-244	8.3447E-01	1.0315E-05	2.5457E+19	2.4431E+15

## Sprayed Drywell Transport Group Inventory:

Time (h) =	8.0000	Atmosphere	Sump	
Noble gases (atoms)		1.7324E+25	0.0000E+00	
Elemental I (atoms)		5.5062E+20	5.5505E+22	
Organic I (atoms)		9.5528E+20	0.0000E+00	
Aerosols (kg)		1.7789E-01	5.0843E+01	
Dose Effective (Ci/cc)	I-131 (Thyroid)			5.4851E-05
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)			6.4195E-05
Total I (Ci)				4.3952E+05

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway		
Time (h) =	8.0000	Filtered	Transported
Noble gases (atoms)		0.0000E+00	3.6902E+22
Elemental I (atoms)		0.0000E+00	2.6799E+18
Organic I (atoms)		0.0000E+00	2.1865E+18
Aerosols (kg)		0.0000E+00	1.9631E-03

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
	Filtered	Transported
Time (h) = 8.0000		
Noble gases (atoms)	0.0000E+00	3.6902E+22
Elemental I (atoms)	0.0000E+00	2.6799E+18
Organic I (atoms)	0.0000E+00	2.1865E+18
Aerosols (kg)	0.0000E+00	1.9631E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
	Filtered	Transported
Time (h) = 8.0000		
Noble gases (atoms)	0.0000E+00	2.9488E+22
Elemental I (atoms)	0.0000E+00	2.1441E+18
Organic I (atoms)	0.0000E+00	1.7473E+18
Aerosols (kg)	0.0000E+00	1.5714E-03

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
	Filtered	Transported
Time (h) = 8.0000		
Noble gases (atoms)	0.0000E+00	1.6170E+26
Elemental I (atoms)	0.0000E+00	9.3736E+21
Organic I (atoms)	0.0000E+00	9.4538E+21
Aerosols (kg)	0.0000E+00	6.2363E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
	Filtered	Transported
Time (h) = 8.0000		
Noble gases (atoms)	0.0000E+00	1.5013E+26
Elemental I (atoms)	0.0000E+00	8.9517E+21
Organic I (atoms)	0.0000E+00	8.7603E+21
Aerosols (kg)	0.0000E+00	6.1318E+00

Exclusion Area Boundary Doses:

Time (h) = 24.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.8996E+01	3.0124E+02	4.0817E+01
Accumulated dose (rem)	6.5447E+01	5.7134E+02	9.0027E+01

Low Population Zone Doses:

Time (h) = 24.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	5.5860E-01	2.9846E+00	6.7572E-01
Accumulated dose (rem)	1.9053E+00	1.4681E+01	2.5802E+00

Control Room Doses:

Time (h) = 24.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.5897E-01	6.2539E+00	4.1186E-01
Accumulated dose (rem)	4.4824E-01	2.0790E+01	1.3743E+00

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 24.0000	Ci	kg	Atoms	Decay
Co-58	4.6811E+00	1.4721E-07	1.5285E+18	2.3974E+16
Co-60	5.6557E+00	5.0034E-06	5.0218E+19	2.8785E+16
Kr-85	8.2660E+05	2.1069E+00	1.4927E+25	2.5477E+21
Kr-85m	3.2498E+05	3.9489E-05	2.7977E+20	9.6592E+21
Kr-87	5.3648E+01	1.8940E-09	1.3110E+16	3.7878E+21
Kr-88	1.0365E+05	8.2659E-06	5.6567E+19	1.5703E+22
Rb-86	1.6027E+02	1.9697E-06	1.3793E+19	9.4177E+17
Sr-89	6.6236E+03	2.2799E-04	1.5427E+21	3.4011E+19

Sr-90	9.2670E+02	6.7937E-03	4.5458E+22	4.7155E+18
Sr-91	1.4520E+03	4.0055E-07	2.6507E+18	2.6908E+19
Sr-92	1.9466E+01	1.5487E-09	1.0137E+16	1.6732E+19
Y-90	2.0811E+02	3.8251E-07	2.5595E+18	3.5159E+17
Y-91	1.0210E+02	4.1634E-06	2.7552E+19	4.6860E+17
Y-92	1.8936E+02	1.9679E-08	1.2882E+17	3.4964E+18
Y-93	1.9904E+01	5.9658E-09	3.8631E+16	3.3950E+17
Zr-95	1.1277E+02	5.2492E-06	3.3275E+19	5.7794E+17
Zr-97	4.2284E+01	2.2119E-08	1.3732E+17	4.3219E+17
Nb-95	1.1476E+02	2.9349E-06	1.8604E+19	5.8404E+17
Mo-99	1.2269E+03	2.5581E-06	1.5561E+19	7.4025E+18
Tc-99m	1.2285E+03	2.3363E-07	1.4211E+18	6.7161E+18
Ru-103	1.3092E+03	4.0566E-05	2.3718E+20	6.7402E+18
Ru-105	2.2446E+01	3.3391E-09	1.9151E+16	2.2435E+18
Ru-106	5.8323E+02	1.7433E-04	9.9041E+20	2.9713E+18
Rh-105	6.4260E+02	7.6132E-07	4.3665E+18	4.2130E+18
Sb-127	1.5359E+03	5.7515E-06	2.7273E+19	8.8213E+18
Sb-129	1.1595E+02	2.0619E-08	9.6254E+16	1.2700E+19
Te-127	1.6616E+03	6.2959E-07	2.9854E+18	8.9204E+18
Te-127m	2.4640E+02	2.6122E-05	1.2387E+20	1.2526E+18
Te-129	8.4388E+02	4.0296E-08	1.8811E+17	1.4992E+19
Te-129m	7.8756E+02	2.6143E-05	1.2204E+20	4.0482E+18
Te-131m	1.4010E+03	1.7570E-06	8.0770E+18	1.0451E+19
Te-132	1.9224E+04	6.3322E-05	2.8889E+20	1.1290E+20
I-131	1.0681E+05	8.6153E-04	3.9605E+21	5.5747E+20
I-132	2.3005E+04	2.2287E-06	1.0168E+19	4.4417E+20
I-133	1.0704E+05	9.4495E-05	4.2787E+20	9.2215E+20
I-134	1.5063E-03	5.6465E-14	2.5376E+11	2.5547E+20
I-135	1.7959E+04	5.1139E-06	2.2812E+19	6.0306E+20
Xe-133	8.3937E+07	4.4843E-01	2.0304E+24	2.7579E+23
Xe-135	7.5023E+06	2.9378E-03	1.3105E+22	6.2768E+22
Cs-134	2.0539E+04	1.5874E-02	7.1341E+22	1.1765E+20
Cs-136	4.7659E+03	6.5028E-05	2.8794E+20	2.8318E+19
Cs-137	1.3052E+04	1.5005E-01	6.5957E+23	7.4720E+19
Ba-139	7.0513E-02	4.3109E-12	1.8677E+13	1.5177E+19
Ba-140	1.1260E+04	1.5380E-04	6.6159E+20	5.9408E+19
La-140	3.8016E+03	6.8395E-06	2.9420E+19	6.4354E+18
La-141	1.6300E+00	2.8822E-10	1.2310E+15	2.5035E+17
La-142	2.2287E-03	1.5569E-13	6.6028E+11	1.4435E+17
Ce-141	2.7567E+02	9.6748E-06	4.1321E+19	1.4214E+18
Ce-143	1.5851E+02	2.3870E-07	1.0052E+18	1.1408E+18
Ce-144	2.3316E+02	7.3103E-05	3.0572E+20	1.1883E+18
Pr-143	1.0638E+02	1.5798E-06	6.6530E+18	5.2537E+17
Nd-147	4.2122E+01	5.2067E-07	2.1330E+18	2.2354E+17
Np-239	2.4895E+03	1.0731E-05	2.7039E+19	1.5465E+19
Pu-238	1.3017E+00	7.6037E-05	1.9240E+20	6.6231E+15
Pu-239	7.7335E-02	1.2442E-03	3.1350E+21	3.9274E+14
Pu-240	7.7725E-02	3.4110E-04	8.5590E+20	3.9548E+14
Pu-241	4.6326E+01	4.4971E-04	1.1237E+21	2.3574E+17
Am-241	3.2992E-02	9.6126E-06	2.4020E+19	1.6718E+14
Cm-242	6.4182E+00	1.9365E-06	4.8190E+18	3.2750E+16
Cm-244	8.2824E-01	1.0237E-05	2.5267E+19	4.2146E+15

## Sprayed Drywell Transport Group Inventory:

Time (h) = 24.0000	Atmosphere	Sump	
Noble gases (atoms)	1.6971E+25	0.0000E+00	
Elemental I (atoms)	4.7729E+20	5.5505E+22	
Organic I (atoms)	8.2806E+20	0.0000E+00	
Aerosols (kg)	1.7644E-01	5.0843E+01	
Dose Effective (Ci/cc) I-131 (Thyroid)			4.6571E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			5.1205E-05
Total I (Ci)			2.5482E+05

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

Time (h) = 24.0000	Pathway	
	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.1262E+23
Elemental I (atoms)	0.0000E+00	4.9410E+18
Organic I (atoms)	0.0000E+00	6.1093E+18
Aerosols (kg)	0.0000E+00	2.7455E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

Time (h) = 24.0000	Pathway	
	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.1262E+23
Elemental I (atoms)	0.0000E+00	4.9410E+18
Organic I (atoms)	0.0000E+00	6.1093E+18
Aerosols (kg)	0.0000E+00	2.7455E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

Time (h) = 24.0000	Pathway	
	Filtered	Transported
Noble gases (atoms)	0.0000E+00	8.9958E+22
Elemental I (atoms)	0.0000E+00	3.9499E+18
Organic I (atoms)	0.0000E+00	4.8802E+18
Aerosols (kg)	0.0000E+00	2.1962E-03

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

Time (h) = 24.0000	Pathway	
	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.2556E+26
Elemental I (atoms)	0.0000E+00	2.0239E+22
Organic I (atoms)	0.0000E+00	2.8305E+22
Aerosols (kg)	0.0000E+00	9.9959E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

Time (h) = 24.0000	Pathway	
	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.1407E+26
Elemental I (atoms)	0.0000E+00	1.9820E+22
Organic I (atoms)	0.0000E+00	2.7616E+22
Aerosols (kg)	0.0000E+00	9.8923E+00

Exclusion Area Boundary Doses:

Time (h) = 48.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	7.9563E+00	1.7957E+02	1.5146E+01
Accumulated dose (rem)	7.3403E+01	7.5091E+02	1.0517E+02

Low Population Zone Doses:

Time (h) = 48.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	5.8268E-02	8.6418E-01	9.2868E-02
Accumulated dose (rem)	1.9636E+00	1.5546E+01	2.6731E+00

Control Room Doses:

Time (h) = 48.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.6647E-02	1.3783E+00	7.1648E-02
Accumulated dose (rem)	4.6489E-01	2.2168E+01	1.4460E+00

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 48.0000	Ci	kg	Atoms	Decay
Co-58	4.6100E+00	1.4498E-07	1.5053E+18	3.8823E+16
Co-60	5.6226E+00	4.9740E-06	4.9924E+19	4.6810E+16
Kr-85	8.2191E+05	2.0949E+00	1.4842E+25	5.1824E+21
Kr-85m	7.8848E+03	9.5811E-07	6.7881E+18	9.9318E+21
Kr-87	1.1114E-04	3.9235E-15	2.7158E+10	3.7878E+21
Kr-88	2.9461E+02	2.3495E-08	1.6079E+17	1.5759E+22
Rb-86	1.5358E+02	1.8875E-06	1.3217E+19	1.4433E+18
Sr-89	6.4973E+03	2.2364E-04	1.5133E+21	5.4981E+19
Sr-90	9.2154E+02	6.7558E-03	4.5205E+22	7.6694E+18
Sr-91	2.5065E+02	6.9145E-08	4.5758E+17	2.9094E+19
Sr-92	4.1776E-02	3.3236E-12	2.1756E+13	1.6742E+19
Y-90	3.7168E+02	6.8315E-07	4.5711E+18	1.2741E+18
Y-91	1.0371E+02	4.2289E-06	2.7986E+19	7.9883E+17
Y-92	2.1993E+00	2.2856E-10	1.4961E+15	3.6337E+18
Y-93	3.8126E+00	1.1427E-09	7.3998E+15	3.7062E+17
Zr-95	1.1094E+02	5.1641E-06	3.2735E+19	9.3547E+17
Zr-97	1.5714E+01	8.2199E-09	5.1033E+16	5.1799E+17
Nb-95	1.1406E+02	2.9169E-06	1.8490E+19	9.4962E+17
Mo-99	9.4830E+02	1.9772E-06	1.2027E+19	1.0860E+19
Tc-99m	9.7040E+02	1.8455E-07	1.1226E+18	1.0050E+19
Ru-103	1.2792E+03	3.9636E-05	2.3174E+20	1.0877E+19
Ru-105	5.2668E-01	7.8351E-11	4.4937E+14	2.2622E+18
Ru-106	5.7893E+02	1.7304E-04	9.8310E+20	4.8287E+18
Rh-105	4.0117E+02	4.7529E-07	2.7260E+18	5.8527E+18
Sb-127	1.2758E+03	4.7774E-06	2.2654E+19	1.3302E+19
Sb-129	2.4517E+00	4.3598E-10	2.0353E+15	1.2794E+19
Te-127	1.4497E+03	5.4930E-07	2.6047E+18	1.3730E+19
Te-127m	2.4508E+02	2.5982E-05	1.2320E+20	2.0380E+18
Te-129	6.6700E+02	3.1849E-08	1.4868E+17	1.6718E+19
Te-129m	7.6736E+02	2.5472E-05	1.1891E+20	6.5333E+18
Te-131m	8.0025E+02	1.0036E-06	4.6135E+18	1.3881E+19
Te-132	1.5455E+04	5.0906E-05	2.3225E+20	1.6811E+20
I-131	9.7515E+04	7.8657E-04	3.6159E+21	8.8381E+20
I-132	1.8447E+04	1.7871E-06	8.1532E+18	5.0135E+20
I-133	4.7844E+04	4.2235E-05	1.9123E+20	1.1571E+21
I-135	1.4418E+03	4.1054E-07	1.8314E+18	6.2399E+20
Xe-133	7.3150E+07	3.9080E-01	1.7695E+24	5.2647E+23
Xe-135	1.2001E+06	4.6993E-04	2.0963E+21	7.3760E+22
Cs-134	2.0407E+04	1.5772E-02	7.0883E+22	1.8310E+20
Cs-136	4.4954E+03	6.1337E-05	2.7160E+20	4.3116E+19
Cs-137	1.2979E+04	1.4921E-01	6.5590E+23	1.1632E+20
Ba-139	4.0201E-07	2.4577E-17	1.0648E+08	1.5177E+19
Ba-140	1.0605E+04	1.4486E-04	6.2311E+20	9.4343E+19
La-140	6.2142E+03	1.1180E-05	4.8091E+19	2.2482E+19
La-141	2.3520E-02	4.1588E-12	1.7762E+13	2.5156E+17
La-142	4.5641E-08	3.1883E-18	1.3521E+07	1.4435E+17
Ce-141	2.6837E+02	9.4188E-06	4.0228E+19	2.2908E+18
Ce-143	9.5223E+01	1.4339E-07	6.0386E+17	1.5377E+18
Ce-144	2.3131E+02	7.2524E-05	3.0330E+20	1.9307E+18
Pr-143	1.0669E+02	1.5843E-06	6.6721E+18	8.6634E+17
Nd-147	3.9327E+01	4.8613E-07	1.9915E+18	3.5367E+17
Np-239	1.8446E+03	7.9509E-06	2.0034E+19	2.2340E+19
Pu-238	1.2947E+00	7.5624E-05	1.9135E+20	1.0773E+16
Pu-239	7.7078E-02	1.2401E-03	3.1246E+21	6.3953E+14
Pu-240	7.7297E-02	3.3922E-04	8.5118E+20	6.4325E+14
Pu-241	4.6065E+01	4.4718E-04	1.1174E+21	3.8340E+17
Am-241	3.3012E-02	9.6185E-06	2.4035E+19	2.7266E+14
Cm-242	6.3557E+00	1.9177E-06	4.7721E+18	5.3165E+16
Cm-244	8.2359E-01	1.0180E-05	2.5125E+19	6.8546E+15

## Sprayed Drywell Transport Group Inventory:

Time (h) = 48.0000	Atmosphere	Sump	
Noble gases (atoms)	1.6614E+25	0.0000E+00	
Elemental I (atoms)	4.1206E+20	5.5505E+22	
Organic I (atoms)	7.1490E+20	0.0000E+00	
Aerosols (kg)	1.7533E-01	5.0843E+01	
Dose Effective (Ci/cc) I-131 (Thyroid)			3.9266E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			4.1295E-05
Total I (Ci)			1.6525E+05

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 48.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.6811E+23
Elemental I (atoms)	0.0000E+00	6.4068E+18
Organic I (atoms)	0.0000E+00	8.6524E+18
Aerosols (kg)	0.0000E+00	3.3267E-03

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 48.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.6811E+23
Elemental I (atoms)	0.0000E+00	6.4068E+18
Organic I (atoms)	0.0000E+00	8.6524E+18
Aerosols (kg)	0.0000E+00	3.3267E-03

## Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 48.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.3451E+23
Elemental I (atoms)	0.0000E+00	5.1266E+18
Organic I (atoms)	0.0000E+00	6.9217E+18
Aerosols (kg)	0.0000E+00	2.6627E-03

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 48.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.0601E+27
Elemental I (atoms)	0.0000E+00	3.4360E+22
Organic I (atoms)	0.0000E+00	5.2803E+22
Aerosols (kg)	0.0000E+00	1.5595E+01

## Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 48.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.0487E+27
Elemental I (atoms)	0.0000E+00	3.3942E+22
Organic I (atoms)	0.0000E+00	5.2116E+22
Aerosols (kg)	0.0000E+00	1.5492E+01

## Exclusion Area Boundary Doses:

Time (h) = 72.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	5.3881E+00	1.4267E+02	1.1411E+01
Accumulated dose (rem)	7.8791E+01	8.9358E+02	1.1658E+02

## Low Population Zone Doses:



Time (h) = 72.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.9460E-02	6.8661E-01	6.8447E-02
Accumulated dose (rem)	2.0030E+00	1.6232E+01	2.7415E+00

## Control Room Doses:

Time (h) = 72.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	9.6345E-03	9.6073E-01	5.0133E-02
Accumulated dose (rem)	4.7452E-01	2.3129E+01	1.4961E+00

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 72.0000	Ci	kg	Atoms	Decay
Co-58	4.5397E+00	1.4277E-07	1.4824E+18	5.3446E+16
Co-60	5.5893E+00	4.9446E-06	4.9629E+19	6.4729E+16
Kr-85	8.1720E+05	2.0829E+00	1.4757E+25	7.8021E+21
Kr-85m	1.9130E+02	2.3245E-08	1.6469E+17	9.9384E+21
Kr-87	2.3022E-10	8.1275E-21	5.6258E+04	3.7878E+21
Kr-88	8.3737E-01	6.6780E-11	4.5700E+14	1.5759E+22
Rb-86	1.4716E+02	1.8085E-06	1.2664E+19	1.9239E+18
Sr-89	6.3732E+03	2.1937E-04	1.4844E+21	7.5550E+19
Sr-90	9.1636E+02	6.7179E-03	4.4951E+22	1.0607E+19
Sr-91	4.3267E+01	1.1936E-08	7.8987E+16	2.9471E+19
Sr-92	8.9652E-05	7.1326E-15	4.6688E+10	1.6742E+19
Y-90	4.9591E+02	9.1149E-07	6.0990E+18	2.6539E+18
Y-91	1.0250E+02	4.1796E-06	2.7660E+19	1.1286E+18
Y-92	2.0947E-02	2.1770E-12	1.4250E+13	3.6352E+18
Y-93	7.3027E-01	2.1888E-10	1.4174E+15	3.7658E+17
Zr-95	1.0913E+02	5.0800E-06	3.2203E+19	1.2872E+18
Zr-97	5.8394E+00	3.0546E-09	1.8964E+16	5.4987E+17
Nb-95	1.1333E+02	2.8983E-06	1.8373E+19	1.3129E+18
Mo-99	7.3293E+02	1.5282E-06	9.2958E+18	1.3532E+19
Tc-99m	7.5132E+02	1.4288E-07	8.6916E+17	1.2650E+19
Ru-103	1.2499E+03	3.8727E-05	2.2643E+20	1.4919E+19
Ru-105	1.2358E-02	1.8384E-12	1.0544E+13	2.2626E+18
Ru-106	5.7463E+02	1.7176E-04	9.7580E+20	6.6724E+18
Rh-105	2.4927E+02	2.9533E-07	1.6938E+18	6.8731E+18
Sb-127	1.0597E+03	3.9681E-06	1.8816E+19	1.7024E+19
Sb-129	5.1840E-02	9.2186E-12	4.3035E+13	1.2796E+19
Te-127	1.2496E+03	4.7348E-07	2.2452E+18	1.7893E+19
Te-127m	2.4350E+02	2.5815E-05	1.2241E+20	2.8189E+18
Te-129	6.4646E+02	3.0869E-08	1.4411E+17	1.8297E+19
Te-129m	7.4752E+02	2.4814E-05	1.1584E+20	8.9543E+18
Te-131m	4.5707E+02	5.7320E-07	2.6350E+18	1.5839E+19
Te-132	1.2424E+04	4.0923E-05	1.8670E+20	2.1249E+20
I-131	8.9002E+04	7.1791E-04	3.3003E+21	1.1817E+21
I-132	1.4829E+04	1.4366E-06	6.5542E+18	5.4728E+20
I-133	2.1383E+04	1.8876E-05	8.5468E+19	1.2622E+21
I-135	1.1574E+02	3.2957E-08	1.4701E+17	6.2567E+20
Xe-133	6.3743E+07	3.4054E-01	1.5419E+24	7.4491E+23
Xe-135	1.9169E+05	7.5064E-05	3.3485E+20	7.5517E+22
Cs-134	2.0275E+04	1.5670E-02	7.0425E+22	2.4811E+20
Cs-136	4.2401E+03	5.7853E-05	2.5617E+20	5.7073E+19
Cs-137	1.2906E+04	1.4838E-01	6.5222E+23	1.5769E+20
Ba-140	9.9875E+03	1.3642E-04	5.8684E+20	1.2724E+20
La-140	7.5853E+03	1.3647E-05	5.8702E+19	4.4473E+19
La-141	3.3936E-04	6.0007E-14	2.5629E+11	2.5158E+17
Ce-141	2.6125E+02	9.1688E-06	3.9160E+19	3.1373E+18
Ce-143	5.7199E+01	8.6133E-08	3.6273E+17	1.7762E+18
Ce-144	2.2947E+02	7.1945E-05	3.0088E+20	2.6671E+18
Pr-143	1.0451E+02	1.5520E-06	6.5359E+18	1.2041E+18
Nd-147	3.6716E+01	4.5385E-07	1.8593E+18	4.7515E+17
Np-239	1.3666E+03	5.8908E-06	1.4843E+19	2.7434E+19

Pu-238	1.2876E+00	7.5211E-05	1.9031E+20	1.4900E+16
Pu-239	7.6775E-02	1.2352E-03	3.1124E+21	8.8543E+14
Pu-240	7.6868E-02	3.3734E-04	8.4646E+20	8.8964E+14
Pu-241	4.5803E+01	4.4463E-04	1.1111E+21	5.3023E+17
Am-241	3.3030E-02	9.6237E-06	2.4048E+19	3.7820E+14
Cm-242	6.2936E+00	1.8989E-06	4.7254E+18	7.3381E+16
Cm-244	8.1893E-01	1.0122E-05	2.4983E+19	9.4797E+15

## Sprayed Drywell Transport Group Inventory:

Time (h) = 72.0000	Atmosphere	Sump	
Noble gases (atoms)	1.6299E+25	0.0000E+00	
Elemental I (atoms)	3.6622E+20	5.5505E+22	
Organic I (atoms)	6.3536E+20	0.0000E+00	
Aerosols (kg)	1.7424E-01	5.0843E+01	
Dose Effective (Ci/cc) I-131 (Thyroid)			3.4442E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			3.5412E-05
Total I (Ci)			1.2533E+05

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 72.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.2250E+23
Elemental I (atoms)	0.0000E+00	7.6922E+18
Organic I (atoms)	0.0000E+00	1.0883E+19
Aerosols (kg)	0.0000E+00	3.9043E-03

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 72.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.2250E+23
Elemental I (atoms)	0.0000E+00	7.6922E+18
Organic I (atoms)	0.0000E+00	1.0883E+19
Aerosols (kg)	0.0000E+00	3.9043E-03

## Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 72.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.7816E+23
Elemental I (atoms)	0.0000E+00	6.1584E+18
Organic I (atoms)	0.0000E+00	8.7119E+18
Aerosols (kg)	0.0000E+00	3.1264E-03

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 72.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.5840E+27
Elemental I (atoms)	0.0000E+00	4.6742E+22
Organic I (atoms)	0.0000E+00	7.4285E+22
Aerosols (kg)	0.0000E+00	2.1158E+01

## Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 72.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.5727E+27
Elemental I (atoms)	0.0000E+00	4.6326E+22
Organic I (atoms)	0.0000E+00	7.3602E+22
Aerosols (kg)	0.0000E+00	2.1056E+01

## Exclusion Area Boundary Doses:

Time (h) = 96.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	4.4605E+00	1.1676E+02	9.6695E+00
Accumulated dose (rem)	8.3252E+01	1.0103E+03	1.2625E+02

## Low Population Zone Doses:

Time (h) = 96.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.2666E-02	5.6192E-01	5.7735E-02
Accumulated dose (rem)	2.0357E+00	1.6794E+01	2.7992E+00

## Control Room Doses:

Time (h) = 96.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	7.9838E-03	7.8619E-01	4.2999E-02
Accumulated dose (rem)	4.8251E-01	2.3915E+01	1.5391E+00

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 96.0000	Ci	kg	Atoms	Decay
Co-58	4.4705E+00	1.4059E-07	1.4598E+18	6.7847E+16
Co-60	5.5563E+00	4.9154E-06	4.9335E+19	8.2542E+16
Kr-85	8.1252E+05	2.0710E+00	1.4673E+25	1.0407E+22
Kr-85m	4.6412E+00	5.6397E-10	3.9957E+15	9.9386E+21
Kr-88	2.3800E-03	1.8981E-13	1.2989E+12	1.5759E+22
Rb-86	1.4100E+02	1.7329E-06	1.2135E+19	2.3843E+18
Sr-89	6.2514E+03	2.1518E-04	1.4560E+21	9.5727E+19
Sr-90	9.1122E+02	6.6801E-03	4.4698E+22	1.3528E+19
Sr-91	7.4686E+00	2.0603E-09	1.3635E+16	2.9536E+19
Sr-92	1.9239E-07	1.5307E-17	1.0019E+08	1.6742E+19
Y-90	5.8998E+02	1.0844E-06	7.2560E+18	4.3805E+18
Y-91	1.0083E+02	4.1115E-06	2.7209E+19	1.4536E+18
Y-92	1.9183E-04	1.9936E-14	1.3050E+11	3.6352E+18
Y-93	1.3988E-01	4.1925E-11	2.7148E+14	3.7772E+17
Zr-95	1.0736E+02	4.9974E-06	3.1679E+19	1.6332E+18
Zr-97	2.1699E+00	1.1351E-09	7.0472E+15	5.6172E+17
Nb-95	1.1259E+02	2.8793E-06	1.8252E+19	1.6738E+18
Mo-99	5.6647E+02	1.1811E-06	7.1846E+18	1.5597E+19
Tc-99m	5.8077E+02	1.1045E-07	6.7186E+17	1.4660E+19
Ru-103	1.2212E+03	3.7838E-05	2.2123E+20	1.8868E+19
Ru-105	2.8996E-04	4.3135E-14	2.4740E+11	2.2626E+18
Ru-106	5.7036E+02	1.7048E-04	9.6856E+20	8.5023E+18
Rh-105	1.5486E+02	1.8347E-07	1.0523E+18	7.5071E+18
Sb-127	8.8018E+02	3.2959E-06	1.5629E+19	2.0116E+19
Sb-129	1.0961E-03	1.9492E-13	9.0995E+11	1.2796E+19
Te-127	1.0790E+03	4.0884E-07	1.9386E+18	2.1483E+19
Te-127m	2.4171E+02	2.5625E-05	1.2151E+20	3.5943E+18
Te-129	6.2968E+02	3.0067E-08	1.4036E+17	1.9833E+19
Te-129m	7.2819E+02	2.4172E-05	1.1284E+20	1.1313E+19
Te-131m	2.6106E+02	3.2739E-07	1.5050E+18	1.6958E+19
Te-132	9.9873E+03	3.2897E-05	1.5008E+20	2.4816E+20
I-131	8.1220E+04	6.5513E-04	3.0117E+21	1.4536E+21
I-132	1.1921E+04	1.1549E-06	5.2689E+18	5.8421E+20
I-133	9.5566E+03	8.4362E-06	3.8198E+19	1.3091E+21
I-135	9.2910E+00	2.6456E-09	1.1802E+16	6.2581E+20
Xe-133	5.5543E+07	2.9673E-01	1.3436E+24	9.3525E+23
Xe-135	3.0598E+04	1.1982E-05	5.3449E+19	7.5798E+22
Cs-134	2.0144E+04	1.5569E-02	6.9969E+22	3.1271E+20
Cs-136	3.9992E+03	5.4566E-05	2.4162E+20	7.0237E+19
Cs-137	1.2834E+04	1.4754E-01	6.4856E+23	1.9883E+20
Ba-140	9.4061E+03	1.2848E-04	5.5267E+20	1.5823E+20
La-140	8.2838E+03	1.4904E-05	6.4108E+19	6.9710E+19

La-141	4.8966E-06	8.6583E-16	3.6980E+09	2.5158E+17
Ce-141	2.5432E+02	8.9255E-06	3.8121E+19	3.9612E+18
Ce-143	3.4359E+01	5.1739E-08	2.1789E+17	1.9194E+18
Ce-144	2.2764E+02	7.1372E-05	2.9848E+20	3.3976E+18
Pr-143	1.0097E+02	1.4995E-06	6.3148E+18	1.5326E+18
Nd-147	3.4279E+01	4.2372E-07	1.7359E+18	5.8857E+17
Np-239	1.0125E+03	4.3645E-06	1.0997E+19	3.1209E+19
Pu-238	1.2805E+00	7.4799E-05	1.8927E+20	1.9004E+16
Pu-239	7.6442E-02	1.2298E-03	3.0988E+21	1.1303E+15
Pu-240	7.6442E-02	3.3547E-04	8.4176E+20	1.1347E+15
Pu-241	4.5543E+01	4.4211E-04	1.1047E+21	6.7621E+17
Am-241	3.3047E-02	9.6285E-06	2.4060E+19	4.8379E+14
Cm-242	6.2320E+00	1.8803E-06	4.6792E+18	9.3400E+16
Cm-244	8.1430E-01	1.0065E-05	2.4842E+19	1.2090E+16

## Sprayed Drywell Transport Group Inventory:

Time (h) = 96.0000	Atmosphere	Sump	
Noble gases (atoms)	1.6016E+25	0.0000E+00	
Elemental I (atoms)	3.2981E+20	5.5505E+22	
Organic I (atoms)	5.7219E+20	0.0000E+00	
Aerosols (kg)	1.7318E-01	5.0843E+01	
Dose Effective (Ci/cc) I-131 (Thyroid)			3.0810E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			3.1302E-05
Total I (Ci)			1.0271E+05

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.7590E+23
Elemental I (atoms)	0.0000E+00	8.8427E+18
Organic I (atoms)	0.0000E+00	1.2878E+19
Aerosols (kg)	0.0000E+00	4.4783E-03

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.7590E+23
Elemental I (atoms)	0.0000E+00	8.8427E+18
Organic I (atoms)	0.0000E+00	1.2878E+19
Aerosols (kg)	0.0000E+00	4.4783E-03

## Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.2103E+23
Elemental I (atoms)	0.0000E+00	7.0820E+18
Organic I (atoms)	0.0000E+00	1.0314E+19
Aerosols (kg)	0.0000E+00	3.5872E-03

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.0984E+27
Elemental I (atoms)	0.0000E+00	5.7825E+22
Organic I (atoms)	0.0000E+00	9.3512E+22
Aerosols (kg)	0.0000E+00	2.6688E+01

## Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.0871E+27
Elemental I (atoms)	0.0000E+00	5.7410E+22
Organic I (atoms)	0.0000E+00	9.2831E+22
Aerosols (kg)	0.0000E+00	2.6586E+01

## Exclusion Area Boundary Doses:

Time (h) = 240.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.6814E+01	4.7709E+02	4.0920E+01
Accumulated dose (rem)	1.0007E+02	1.4874E+03	1.6717E+02

## Low Population Zone Doses:

Time (h) = 240.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.1156E-02	5.8092E-01	6.0508E-02
Accumulated dose (rem)	2.0669E+00	1.7375E+01	2.8597E+00

## Control Room Doses:

Time (h) = 240.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.2344E-02	1.3111E+00	7.8512E-02
Accumulated dose (rem)	4.9485E-01	2.5226E+01	1.6176E+00

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 240.0000	Ci	kg	Atoms	Decay
Co-58	4.0770E+00	1.2822E-07	1.3313E+18	1.4975E+17
Co-60	5.3621E+00	4.7436E-06	4.7611E+19	1.8723E+17
Kr-85	7.8498E+05	2.0008E+00	1.4175E+25	2.5724E+22
Kr-85m	9.4658E-10	1.1502E-19	8.1492E+05	9.9386E+21
Rb-86	1.0913E+02	1.3411E-06	9.3913E+18	4.7699E+18
Sr-89	5.5680E+03	1.9166E-04	1.2968E+21	2.0894E+20
Sr-90	8.8093E+02	6.4581E-03	4.3213E+22	3.0711E+19
Sr-91	1.9758E-04	5.4505E-14	3.6070E+11	2.9550E+19
Y-90	8.1957E+02	1.5064E-06	1.0080E+19	1.8438E+19
Y-91	9.0846E+01	3.7044E-06	2.4515E+19	3.2902E+18
Y-93	6.9075E-06	2.0704E-15	1.3407E+10	3.7799E+17
Zr-95	9.7296E+01	4.5290E-06	2.8710E+19	3.5941E+18
Zr-97	5.7141E-03	2.9891E-12	1.8557E+13	5.6871E+17
Nb-95	1.0784E+02	2.7579E-06	1.7483E+19	3.7876E+18
Mo-99	1.2075E+02	2.5176E-07	1.5314E+18	2.1128E+19
Tc-99m	1.2380E+02	2.3543E-08	1.4321E+17	2.0044E+19
Ru-103	1.0624E+03	3.2918E-05	1.9247E+20	4.0731E+19
Ru-106	5.4543E+02	1.6303E-04	9.2621E+20	1.9200E+19
Rh-105	8.9026E+00	1.0547E-08	6.0493E+16	8.4872E+18
Sb-127	2.8902E+02	1.0823E-06	5.1319E+18	3.0297E+19
Te-127	5.0655E+02	1.9194E-07	9.1015E+17	3.5239E+19
Te-127m	2.2852E+02	2.4226E-05	1.1488E+20	8.1081E+18
Te-129	5.3809E+02	2.5694E-08	1.1995E+17	2.8249E+19
Te-129m	6.2228E+02	2.0656E-05	9.6430E+19	2.4236E+19
Te-131m	9.0633E+00	1.1366E-08	5.2250E+16	1.8396E+19
Te-132	2.6953E+03	8.8781E-06	4.0504E+19	3.5494E+20
I-131	4.6848E+04	3.7788E-04	1.7372E+21	2.6517E+21
I-132	3.2172E+03	3.1168E-07	1.4219E+18	6.9473E+20
I-133	7.6162E+01	6.7233E-08	3.0443E+17	1.3467E+21
I-135	2.4863E-06	7.0799E-16	3.1582E+09	6.2582E+20
Xe-133	2.4309E+07	1.2987E-01	5.8804E+23	1.6602E+24
Xe-135	5.0431E-01	1.9748E-10	8.8093E+14	7.5851E+22
Cs-134	1.9374E+04	1.4975E-02	6.7298E+22	6.9161E+20
Cs-136	2.8157E+03	3.8418E-05	1.7012E+20	1.3493E+20
Cs-137	1.2407E+04	1.4264E-01	6.2701E+23	4.4085E+20

Ba-140	6.5634E+03	8.9653E-05	3.8564E+20	3.0973E+20
La-140	7.4099E+03	1.3331E-05	5.7345E+19	2.2585E+20
Ce-141	2.1642E+02	7.5954E-06	3.2440E+19	8.4655E+18
Ce-143	1.6142E+00	2.4307E-09	1.0236E+16	2.1248E+18
Ce-144	2.1696E+02	6.8024E-05	2.8448E+20	7.6602E+18
Pr-143	7.4443E+01	1.1055E-06	4.6556E+18	3.2139E+18
Nd-147	2.2699E+01	2.8059E-07	1.1495E+18	1.1273E+18
Np-239	1.6747E+02	7.2188E-07	1.8189E+18	4.0215E+19
Pu-238	1.2391E+00	7.2377E-05	1.8314E+20	4.3163E+16
Pu-239	7.4148E-02	1.1929E-03	3.0058E+21	2.5748E+15
Pu-240	7.3931E-02	3.2445E-04	8.1412E+20	2.5765E+15
Pu-241	4.4011E+01	4.2724E-04	1.0676E+21	1.5349E+18
Am-241	3.3120E-02	9.6498E-06	2.4113E+19	1.1183E+15
Cm-242	5.8752E+00	1.7727E-06	4.4113E+18	2.0947E+17
Cm-244	7.8705E-01	9.7283E-06	2.4010E+19	2.7444E+16

## Sprayed Drywell Transport Group Inventory:

Time (h) = 240.0000	Atmosphere	Sump	
Noble gases (atoms)	1.4763E+25	0.0000E+00	
Elemental I (atoms)	1.8771E+20	5.5505E+22	
Organic I (atoms)	3.2567E+20	0.0000E+00	
Aerosols (kg)	1.6706E-01	5.0843E+01	
Dose Effective (Ci/cc) I-131 (Thyroid)			1.7427E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			1.7466E-05
Total I (Ci)			5.0141E+04

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 240.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.8003E+23
Elemental I (atoms)	0.0000E+00	1.3833E+19
Organic I (atoms)	0.0000E+00	2.1536E+19
Aerosols (kg)	0.0000E+00	7.8506E-03

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 240.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.8003E+23
Elemental I (atoms)	0.0000E+00	1.3833E+19
Organic I (atoms)	0.0000E+00	2.1536E+19
Aerosols (kg)	0.0000E+00	7.8506E-03

## Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 240.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.6517E+23
Elemental I (atoms)	0.0000E+00	1.1088E+19
Organic I (atoms)	0.0000E+00	1.7264E+19
Aerosols (kg)	0.0000E+00	6.2943E-03

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 240.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.0281E+27
Elemental I (atoms)	0.0000E+00	1.0590E+23
Organic I (atoms)	0.0000E+00	1.7691E+23
Aerosols (kg)	0.0000E+00	5.9173E+01

## Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 240.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.0171E+27
Elemental I (atoms)	0.0000E+00	1.0549E+23
Organic I (atoms)	0.0000E+00	1.7624E+23
Aerosols (kg)	0.0000E+00	5.9075E+01

## Exclusion Area Boundary Doses:

Time (h) = 720.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.2458E+01	5.2178E+02	5.7093E+01
Accumulated dose (rem)	1.1252E+02	2.0092E+03	2.2427E+02

## Low Population Zone Doses:

Time (h) = 720.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.3083E-02	6.3534E-01	7.7434E-02
Accumulated dose (rem)	2.0900E+00	1.8010E+01	2.9372E+00

## Control Room Doses:

Time (h) = 720.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	8.9736E-03	1.4208E+00	1.3050E-01
Accumulated dose (rem)	5.0383E-01	2.6647E+01	1.7481E+00

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 720.0000	Ci	kg	Atoms	Decay
Co-58	2.9987E+00	9.4306E-08	9.7918E+17	3.7416E+17
Co-60	4.7626E+00	4.2133E-06	4.2288E+19	5.1048E+17
Kr-85	6.9977E+05	1.7836E+00	1.2637E+25	7.3131E+22
Rb-86	4.6442E+01	5.7077E-07	3.9968E+18	9.4606E+18
Sr-89	3.7854E+03	1.3030E-04	8.8165E+20	5.0426E+20
Sr-90	7.8706E+02	5.7700E-03	3.8608E+22	8.3971E+19
Y-90	7.9120E+02	1.4542E-06	9.7308E+18	7.0916E+19
Y-91	6.4127E+01	2.6149E-06	1.7305E+19	8.1943E+18
Zr-95	7.0086E+01	3.2624E-06	2.0681E+19	8.8969E+18
Zr-97	1.4409E-11	7.5371E-21	4.6793E+04	5.6873E+17
Nb-95	9.0116E+01	2.3046E-06	1.4609E+19	1.0122E+19
Mo-99	6.9856E-01	1.4565E-09	8.8598E+15	2.2617E+19
Tc-99m	7.1619E-01	1.3620E-10	8.2852E+14	2.1494E+19
Ru-103	6.6781E+02	2.0692E-05	1.2098E+20	9.5063E+19
Ru-106	4.6992E+02	1.4046E-04	7.9798E+20	5.1595E+19
Rh-105	6.5279E-04	7.7339E-13	4.4357E+12	8.5470E+18
Sb-127	7.0594E+00	2.6435E-08	1.2535E+17	3.5152E+19
Te-127	1.9186E+02	7.2697E-08	3.4472E+17	5.2541E+19
Te-127m	1.8147E+02	1.9239E-05	9.1228E+19	2.1181E+19
Te-129	3.1864E+02	1.5215E-08	7.1029E+16	4.8415E+19
Te-129m	3.6850E+02	1.2232E-05	5.7103E+19	5.5200E+19
Te-131m	1.2372E-04	1.5515E-13	7.1325E+11	1.8448E+19
Te-132	3.4237E+01	1.1277E-07	5.1449E+17	3.9390E+20
I-131	7.4732E+03	6.0280E-05	2.7711E+20	4.0230E+21
I-132	4.0865E+01	3.9590E-09	1.8062E+16	7.3507E+20
I-133	7.7006E-06	6.7978E-15	3.0780E+10	1.3470E+21
Xe-133	1.5472E+06	8.2655E-03	3.7426E+22	2.1885E+24
Cs-134	1.7017E+04	1.3152E-02	5.9107E+22	1.8532E+21
Cs-136	8.7425E+02	1.1928E-05	5.2820E+19	2.4104E+20
Cs-137	1.1085E+04	1.2745E-01	5.6022E+23	1.1910E+21
Ba-140	1.9778E+03	2.7016E-05	1.1621E+20	5.5412E+20
La-140	2.2975E+03	4.1334E-06	1.7780E+19	5.0600E+20
Ce-141	1.2638E+02	4.4355E-06	1.8944E+19	1.9166E+19
Ce-143	6.0390E-05	9.0937E-14	3.8296E+11	2.1349E+18

Ce-144	1.8486E+02	5.7959E-05	2.4239E+20	2.0477E+19
Pr-143	2.4017E+01	3.5666E-07	1.5020E+18	6.0665E+18
Nd-147	5.7455E+00	7.1021E-08	2.9095E+17	1.9162E+18
Np-239	4.1596E-01	1.7930E-09	4.5179E+15	4.1996E+19
Pu-238	1.1102E+00	6.4849E-05	1.6409E+20	1.1818E+17
Pu-239	6.6373E-02	1.0678E-03	2.6907E+21	7.0628E+15
Pu-240	6.6143E-02	2.9027E-04	7.2836E+20	7.0493E+15
Pu-241	3.9269E+01	3.8121E-04	9.5257E+20	4.1940E+18
Am-241	3.3080E-02	9.6381E-06	2.4084E+19	3.2362E+15
Cm-242	4.8270E+00	1.4564E-06	3.6243E+18	5.5046E+17
Cm-244	7.0263E-01	8.6849E-06	2.1435E+19	7.5010E+16

## Sprayed Drywell Transport Group Inventory:

Time (h) = 720.0000	Atmosphere	Sump	
Noble gases (atoms)	1.2674E+25	0.0000E+00	
Elemental I (atoms)	2.9916E+19	5.5505E+22	
Organic I (atoms)	5.1903E+19	0.0000E+00	
Aerosols (kg)	1.4868E-01	5.0843E+01	
Dose Effective (Ci/cc) I-131 (Thyroid)			2.7781E-06
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			2.7786E-06
Total I (Ci)			7.5141E+03

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.4783E+24
Elemental I (atoms)	0.0000E+00	1.9520E+19
Organic I (atoms)	0.0000E+00	3.1403E+19
Aerosols (kg)	0.0000E+00	1.8269E-02

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.4783E+24
Elemental I (atoms)	0.0000E+00	1.9520E+19
Organic I (atoms)	0.0000E+00	3.1403E+19
Aerosols (kg)	0.0000E+00	1.8269E-02

## Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.1863E+24
Elemental I (atoms)	0.0000E+00	1.5653E+19
Organic I (atoms)	0.0000E+00	2.5185E+19
Aerosols (kg)	0.0000E+00	1.4658E-02

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.3681E+28
Elemental I (atoms)	0.0000E+00	1.6068E+23
Organic I (atoms)	0.0000E+00	2.7196E+23
Aerosols (kg)	0.0000E+00	1.5954E+02

## Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.3671E+28



Elemental I (atoms) 0.0000E+00 1.6028E+23  
 Organic I (atoms) 0.0000E+00 2.7130E+23  
 Aerosols (kg) 0.0000E+00 1.5945E+02

930

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

Time (hr)	Sprayed Drywell I-131 (Curies)	MSIV Failed Control I-131 (Curies)	V Intact Control I-131 (Curies)	Volume
0.000	4.5258E+03	0.0000E+00	0.0000E+00	
0.033	2.6557E+05	0.0000E+00	0.0000E+00	
0.167	1.2318E+06	4.6062E+01	4.5604E+01	
0.500	5.3660E+05	1.2884E+02	1.2304E+02	
0.667	8.5231E+05	1.7240E+02	1.6284E+02	
1.000	8.9298E+05	2.6414E+02	2.4440E+02	
1.160	8.9971E+05	3.0295E+02	2.7741E+02	
1.410	9.0757E+05	3.5710E+02	3.2182E+02	
1.660	9.1337E+05	4.0411E+02	3.5871E+02	
1.910	9.1788E+05	4.4486E+02	3.8930E+02	
2.000	9.1928E+05	4.5814E+02	3.9898E+02	
2.200	1.1455E+05	4.4294E+02	3.7943E+02	
2.300	7.9938E+04	4.2938E+02	3.6404E+02	
2.600	1.6513E+05	3.9486E+02	3.2532E+02	
2.900	1.6702E+05	3.6660E+02	2.9442E+02	
3.200	1.4892E+05	3.4047E+02	2.6685E+02	
3.500	1.2861E+05	3.1553E+02	2.4147E+02	
3.800	1.1058E+05	2.9169E+02	2.1803E+02	
4.000	1.0027E+05	2.7647E+02	2.0346E+02	
4.300	1.0990E+05	2.5571E+02	1.8415E+02	
4.600	1.1336E+05	2.3760E+02	1.6790E+02	
4.900	1.1454E+05	2.2156E+02	1.5401E+02	
5.200	1.1489E+05	2.0725E+02	1.4205E+02	
5.500	1.1493E+05	1.9447E+02	1.3172E+02	
5.800	1.1486E+05	1.8303E+02	1.2278E+02	
6.100	1.1475E+05	1.7278E+02	1.1504E+02	
6.400	1.1462E+05	1.6360E+02	1.0834E+02	
6.700	1.1448E+05	1.5538E+02	1.0254E+02	
7.000	1.1435E+05	1.4801E+02	9.7502E+01	
7.300	1.1421E+05	1.4140E+02	9.3139E+01	
7.600	1.1407E+05	1.3548E+02	8.9354E+01	
7.900	1.1394E+05	1.3017E+02	8.6070E+01	
8.000	1.1389E+05	1.2852E+02	8.5074E+01	
8.300	1.1375E+05	1.2393E+02	8.2354E+01	
8.600	1.1362E+05	1.1981E+02	7.9991E+01	
8.900	1.1348E+05	1.1611E+02	7.7937E+01	
9.200	1.1335E+05	1.1279E+02	7.6149E+01	
9.500	1.1321E+05	1.0981E+02	7.4593E+01	
9.800	1.1307E+05	1.0713E+02	7.3236E+01	
10.100	1.1294E+05	1.0472E+02	7.2052E+01	
10.400	1.1280E+05	1.0256E+02	7.1017E+01	
24.000	1.0681E+05	8.0593E+01	6.1454E+01	
48.000	9.7515E+04	7.3311E+01	5.5972E+01	
72.000	8.9002E+04	6.6909E+01	5.1085E+01	
96.000	8.1220E+04	6.1058E+01	4.6618E+01	
240.000	4.6848E+04	3.5219E+01	2.6890E+01	
720.000	7.4732E+03	5.6181E+00	4.2894E+00	

Time (hr)	Intact Control Volume I-131 (Curies)	Intact Control Volume I-131 (Curies)	Intact Control Volume I-131 (Curies)
0.000	0.0000E+00	0.0000E+00	0.0000E+00

0.033	0.0000E+00	0.0000E+00	0.0000E+00
0.167	5.5635E-01	3.6912E+01	2.6119E-01
0.500	5.7650E+00	1.0350E+02	2.9249E+00
0.667	8.7104E+00	1.3861E+02	4.5707E+00
1.000	1.5823E+01	2.1269E+02	8.7256E+00
1.160	1.9374E+01	2.4412E+02	1.0917E+01
1.410	2.4669E+01	2.8809E+02	1.4355E+01
1.660	2.9464E+01	3.2638E+02	1.7667E+01
1.910	3.3687E+01	3.5967E+02	2.0763E+01
2.000	3.5068E+01	3.7055E+02	2.1817E+01
2.200	3.6408E+01	3.5864E+02	2.2973E+01
2.300	3.6679E+01	3.4792E+02	2.3358E+01
2.600	3.6278E+01	3.2058E+02	2.3871E+01
2.900	3.4873E+01	2.9817E+02	2.3767E+01
3.200	3.3008E+01	2.7739E+02	2.3294E+01
3.500	3.0942E+01	2.5750E+02	2.2590E+01
3.800	2.8819E+01	2.3845E+02	2.1741E+01
4.000	2.7415E+01	2.2626E+02	2.1125E+01
4.300	2.5384E+01	2.0960E+02	2.0167E+01
4.600	2.3507E+01	1.9504E+02	1.9215E+01
4.900	2.1816E+01	1.8210E+02	1.8299E+01
5.200	2.0313E+01	1.7054E+02	1.7436E+01
5.500	1.8989E+01	1.6018E+02	1.6633E+01
5.800	1.7827E+01	1.5088E+02	1.5892E+01
6.100	1.6811E+01	1.4254E+02	1.5214E+01
6.400	1.5925E+01	1.3505E+02	1.4595E+01
6.700	1.5154E+01	1.2832E+02	1.4032E+01
7.000	1.4482E+01	1.2227E+02	1.3522E+01
7.300	1.3899E+01	1.1684E+02	1.3060E+01
7.600	1.3391E+01	1.1196E+02	1.2642E+01
7.900	1.2950E+01	1.0757E+02	1.2264E+01
8.000	1.2816E+01	1.0621E+02	1.2147E+01
8.300	1.2438E+01	1.0241E+02	1.1805E+01
8.600	1.2111E+01	9.8985E+01	1.1500E+01
8.900	1.1829E+01	9.5907E+01	1.1226E+01
9.200	1.1585E+01	9.3137E+01	1.0980E+01
9.500	1.1372E+01	9.0643E+01	1.0759E+01
9.800	1.1188E+01	8.8398E+01	1.0561E+01
10.100	1.1026E+01	8.6376E+01	1.0382E+01
10.400	1.0885E+01	8.4553E+01	1.0220E+01
24.000	9.5296E+00	6.5825E+01	8.4477E+00
48.000	8.5986E+00	6.0229E+01	7.6417E+00
72.000	7.6593E+00	5.4973E+01	6.7634E+00
96.000	6.7334E+00	5.0166E+01	5.8918E+00
240.000	3.7182E+00	2.8936E+01	3.2243E+00
720.000	5.3467E-01	4.6159E+00	4.6030E-01

Time (hr)	Environment I-131 (Curies)	Control Room I-131 (Curies)	Unsprayed Drywell I-131 (Curies)
0.000	0.0000E+00	0.0000E+00	1.6670E+00
0.033	0.0000E+00	0.0000E+00	5.7769E+03
0.167	3.1078E-01	3.2731E-04	1.2580E+05
0.500	5.2312E+00	4.4669E-03	2.6802E+05
0.667	9.6294E+00	7.4664E-03	3.3555E+05
1.000	2.3408E+01	6.8185E-03	4.5651E+05
1.160	3.2450E+01	6.7304E-03	4.9410E+05
1.410	4.9605E+01	6.8257E-03	5.3526E+05
1.660	7.0227E+01	7.1478E-03	5.6194E+05
1.910	9.4031E+01	7.6394E-03	5.7942E+05
2.000	1.0332E+02	7.8483E-03	5.8416E+05
2.200	1.1581E+02	7.4828E-03	4.5919E+05
2.300	1.2204E+02	7.3180E-03	3.8705E+05
2.600	1.4042E+02	6.8729E-03	2.5368E+05

2.900	1.5828E+02	6.4858E-03	1.8970E+05
3.200	1.7551E+02	6.1412E-03	1.5114E+05
3.500	1.9208E+02	5.8281E-03	1.2403E+05
3.800	2.0796E+02	5.5393E-03	1.0342E+05
4.000	2.1817E+02	5.3580E-03	9.2219E+04
4.300	2.3293E+02	5.1008E-03	8.2364E+04
4.600	2.4708E+02	4.8611E-03	7.8677E+04
4.900	2.6066E+02	4.6384E-03	7.7261E+04
5.200	2.7375E+02	4.4324E-03	7.6682E+04
5.500	2.8639E+02	4.2425E-03	7.6410E+04
5.800	2.9862E+02	4.0680E-03	7.6253E+04
6.100	3.1049E+02	3.9083E-03	7.6137E+04
6.400	3.2203E+02	3.7625E-03	7.6036E+04
6.700	3.3329E+02	3.6297E-03	7.5942E+04
7.000	3.4429E+02	3.5091E-03	7.5849E+04
7.300	3.5506E+02	3.3997E-03	7.5758E+04
7.600	3.6563E+02	3.3007E-03	7.5667E+04
7.900	3.7601E+02	3.2113E-03	7.5576E+04
8.000	3.7944E+02	3.1834E-03	7.5546E+04
8.300	3.8948E+02	2.7852E-03	7.5455E+04
8.600	3.9938E+02	2.4613E-03	7.5364E+04
8.900	4.0915E+02	2.1975E-03	7.5274E+04
9.200	4.1881E+02	1.9825E-03	7.5183E+04
9.500	4.2836E+02	1.8071E-03	7.5093E+04
9.800	4.3783E+02	1.6637E-03	7.5003E+04
10.100	4.4721E+02	1.5465E-03	7.4912E+04
10.400	4.5651E+02	1.4505E-03	7.4822E+04
24.000	8.4823E+02	9.4828E-04	7.0847E+04
48.000	1.1540E+03	2.6773E-04	6.4675E+04
72.000	1.4113E+03	2.2534E-04	5.9029E+04
96.000	1.6281E+03	1.8984E-04	5.3868E+04
240.000	2.5359E+03	6.3436E-05	3.1071E+04
720.000	3.5279E+03	9.6628E-06	4.9565E+03

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

Time (hr)	Exclusion Area Bounda		Low Population Zone		Control Room	
	Thyroid (rem)	TEDE (rem)	Thyroid (rem)	TEDE (rem)	Thyroid (rem)	TEDE (rem)
0.000	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.033	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.167	2.2680E-01	1.1503E-02	1.7343E-02	8.7966E-04	5.5296E-03	2.3232E-04
0.500	3.8057E+00	2.0438E-01	2.9102E-01	1.5629E-02	2.7201E-01	1.1360E-02
0.667	7.0027E+00	3.9945E-01	5.3550E-01	3.0546E-02	6.3591E-01	2.6643E-02
1.000	1.7076E+01	1.2097E+00	1.3058E+00	9.2508E-02	1.5054E+00	6.4114E-02
1.160	2.3695E+01	1.8623E+00	1.8120E+00	1.4241E-01	1.9027E+00	8.1925E-02
1.410	3.6253E+01	3.2921E+00	2.7723E+00	2.5175E-01	2.5224E+00	1.1126E-01
1.660	5.1335E+01	5.2604E+00	3.9256E+00	4.0227E-01	3.1616E+00	1.4402E-01
1.910	6.8714E+01	7.7852E+00	5.2546E+00	5.9534E-01	3.8384E+00	1.8166E-01
2.000	7.5490E+01	8.8304E+00	5.7727E+00	6.7527E-01	4.0940E+00	1.9664E-01
2.200	8.4586E+01	1.0293E+01	6.0496E+00	7.1979E-01	4.6559E+00	2.3047E-01
2.300	8.9114E+01	1.1048E+01	6.1875E+00	7.4277E-01	4.9269E+00	2.4707E-01
2.600	1.0245E+02	1.3375E+01	6.5933E+00	8.1361E-01	5.7050E+00	2.9586E-01
2.900	1.1534E+02	1.5762E+01	6.9858E+00	8.8628E-01	6.4357E+00	3.4335E-01
3.200	1.2774E+02	1.8171E+01	7.3633E+00	9.5960E-01	7.1249E+00	3.8971E-01
3.500	1.3961E+02	2.0571E+01	7.7247E+00	1.0327E+00	7.7764E+00	4.3496E-01
3.800	1.5095E+02	2.2939E+01	8.0697E+00	1.1048E+00	8.3935E+00	4.7909E-01
4.000	1.5821E+02	2.4492E+01	8.2907E+00	1.1520E+00	8.7869E+00	5.0784E-01
4.300	1.6867E+02	2.6773E+01	8.6091E+00	1.2215E+00	9.3519E+00	5.4994E-01
4.600	1.7865E+02	2.8990E+01	8.9131E+00	1.2889E+00	9.8883E+00	5.9074E-01
4.900	1.8821E+02	3.1137E+01	9.2039E+00	1.3543E+00	1.0398E+01	6.3020E-01

5.200	1.9737E+02	3.3212E+01	9.4830E+00	1.4175E+00	1.0883E+01	6.6830E-01
5.500	2.0619E+02	3.5213E+01	9.7514E+00	1.4784E+00	1.1346E+01	7.0504E-01
5.800	2.1469E+02	3.7142E+01	1.0010E+01	1.5371E+00	1.1787E+01	7.4043E-01
6.100	2.2291E+02	3.8998E+01	1.0260E+01	1.5936E+00	1.2210E+01	7.7450E-01
6.400	2.3088E+02	4.0783E+01	1.0503E+01	1.6479E+00	1.2615E+01	8.0728E-01
6.700	2.3863E+02	4.2500E+01	1.0739E+01	1.7002E+00	1.3003E+01	8.3882E-01
7.000	2.4617E+02	4.4150E+01	1.0968E+01	1.7504E+00	1.3378E+01	8.6917E-01
7.300	2.5353E+02	4.5738E+01	1.1192E+01	1.7988E+00	1.3739E+01	8.9838E-01
7.600	2.6073E+02	4.7264E+01	1.1412E+01	1.8452E+00	1.4088E+01	9.2652E-01
7.900	2.6778E+02	4.8733E+01	1.1626E+01	1.8899E+00	1.4426E+01	9.5363E-01
8.000	2.7010E+02	4.9210E+01	1.1697E+01	1.9045E+00	1.4536E+01	9.6246E-01
8.300	2.7689E+02	5.0603E+01	1.1764E+01	1.9287E+00	1.4844E+01	9.8687E-01
8.600	2.8357E+02	5.1945E+01	1.1830E+01	1.9520E+00	1.5114E+01	1.0080E+00
8.900	2.9014E+02	5.3238E+01	1.1895E+01	1.9744E+00	1.5353E+01	1.0265E+00
9.200	2.9662E+02	5.4485E+01	1.1960E+01	1.9959E+00	1.5567E+01	1.0429E+00
9.500	3.0301E+02	5.5689E+01	1.2023E+01	2.0167E+00	1.5761E+01	1.0575E+00
9.800	3.0932E+02	5.6851E+01	1.2085E+01	2.0367E+00	1.5938E+01	1.0707E+00
10.100	3.1556E+02	5.7974E+01	1.2147E+01	2.0560E+00	1.6101E+01	1.0828E+00
10.400	3.2174E+02	5.9061E+01	1.2208E+01	2.0747E+00	1.6253E+01	1.0940E+00
24.000	5.7134E+02	9.0027E+01	1.4681E+01	2.5802E+00	2.0790E+01	1.3743E+00
48.000	7.5091E+02	1.0517E+02	1.5546E+01	2.6731E+00	2.2168E+01	1.4460E+00
72.000	8.9358E+02	1.1658E+02	1.6232E+01	2.7415E+00	2.3129E+01	1.4961E+00
96.000	1.0103E+03	1.2625E+02	1.6794E+01	2.7992E+00	2.3915E+01	1.5391E+00
240.000	1.4874E+03	1.6717E+02	1.7375E+01	2.8597E+00	2.5226E+01	1.6176E+00
720.000	2.0092E+03	2.2427E+02	1.8010E+01	2.9372E+00	2.6647E+01	1.7481E+00

#####  
Worst Two-Hour Doses  
#####

Exclusion Area Boundary

Time (hr)	Whole Body (rem)	Thyroid (rem)	TEDE (rem)
1.6	1.1776E+01	9.5674E+01	1.6572E+01

#####  
 RADTRAD Version 3.03 (Spring 2001) run on 1/28/2020 at 9:49:10  
 #####

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

Plant file = D:\Projects\RabaioliBrosius\Exelon\_RAIs\QDC-0000-N-1481\Westinghouse\QDC39MS02\_350.psf  
 Inventory file = D:\Projects\RabaioliBrosius\Exelon\_RAIs\QDC-0000-N-1481\Westinghouse\DQ39GWD\_DEF.nif  
 Release file = c:\program files (x86)\radtrad3.03\defaults\bwr\_dba.rft  
 Dose Conversion file = c:\program files (x86)\radtrad3.03\defaults\fgr11&12.inp

```

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

Radtrad 3.03 4/15/2001  
 Quad Cities MSIV Leakeg - Optima Fuel With 39 GWD/MTU, MSIV Leakage = 125/125/100/0 scfh, 40% Aerosol Settling Velocity, CREV Initiated @ 40 Minutes, CR Unfiltered Inleakage = 4,000 cfm for <0.6667 hrs and 400 cfm >0.6667 hrs

Nuclide Inventory File:  
 D:\Projects\RabaioliBrosius\Exelon\_RAIs\QDC-0000-N-1481\Westinghouse\DQ39GWD\_DEF.nif

Plant Power Level:  
 3.0161E+03

Compartments:  
 9

Compartment 1:  
 Sprayed Drywell  
 3

9.5000E+04  
 1  
 0  
 0  
 0  
 0

Compartment 2:  
 MSIV Failed Control Vol 1  
 3

2.0024E+02  
 0  
 0  
 0  
 0  
 0

Compartment 3:  
 Intact Control Volume 2  
 3

1.5293E+02

0  
0  
0  
0  
0  
Compartment 4:  
Intact Control Volume 3  
3  
4.9110E+01  
0  
0  
0  
0  
0  
Compartment 5:  
Intact Control Volume 4  
3  
1.6375E+02  
0  
0  
0  
0  
0  
Compartment 6:  
Intact Control Volume 5  
3  
4.9110E+01  
0  
0  
0  
0  
0  
Compartment 7:  
Environment  
2  
0.0000E+00  
0  
0  
0  
0  
0  
Compartment 8:  
Control Room  
1  
1.8400E+05  
0  
0  
0  
0  
0  
Compartment 9:  
Unsprayed Drywell  
3  
6.3000E+04  
0  
0  
0  
0  
0  
Pathways:  
13  
Pathway 1:  
Drywell to MSIV Failed Control Vol 1

1  
2  
2  
Pathway 2:  
MSIV Failed Control Vol 1 to Environment  
2  
7  
2  
Pathway 3:  
Drywell to Intact Control Volume 2  
1  
3  
2  
Pathway 4:  
Intact Control Volume 2 to Intact Control Volume 3  
3  
4  
2  
Pathway 5:  
Intact Control Volume 3 to Environment  
4  
7  
2  
Pathway 6:  
Drywell to Intact Control Volume 4  
1  
5  
2  
Pathway 7:  
Intact Control Volume 4 to Intact Control Volume 5  
5  
6  
2  
Pathway 8:  
Intact Control Volume 5 to Environment  
6  
7  
2  
Pathway 9:  
Filtered Intake to Control Room  
7  
8  
2  
Pathway 10:  
Unfiltered Inleakage to Control Room  
7  
8  
2  
Pathway 11:  
Control Room Exhaust to Environment  
8  
7  
2  
Pathway 12:  
Sprayed Drywell to Unsprayed Drywell  
1  
9  
2  
Pathway 13:  
Unsprayed Drywell to Sprayed Drywell  
9  
1  
2

End of Plant Model File  
Scenario Description Name:

Plant Model Filename:

Source Term:

```
1
1 1.0000E+00
c:\program files (x86)\radtrad3.03\defaults\fgr11&12.inp
c:\program files (x86)\radtrad3.03\defaults\bwr_dba.rft
0.0000E+00
1
9.5000E-01 4.8500E-02 1.5000E-03 1.0000E+00
```

Overlying Pool:

```
0
0.0000E+00
0
0
0
0
```

Compartments:

```
9
Compartment 1:
```

```
1
1
1
0.0000E+00
6
0.0000E+00 0.0000E+00
1.6670E-01 1.5000E+01
2.2000E+00 1.5000E+00
2.3000E+00 1.5000E+00
4.0000E+00 0.0000E+00
7.2000E+02 0.0000E+00
```

```
1
0.0000E+00
6
0.0000E+00 0.0000E+00
1.6670E-01 1.5000E+01
2.2000E+00 1.5000E+01
2.3000E+00 0.0000E+00
4.0000E+00 0.0000E+00
7.2000E+02 0.0000E+00
```

```
1
0.0000E+00
0
0
0
0
0
```

Compartment 2:

```
0
1
0
0
0
0
0
0
0
```

Compartment 3:

```
0
1
```



0  
0  
0  
0  
0  
0  
0

Compartment 4:

0  
1  
0  
0  
0  
0  
0  
0  
0

Compartment 5:

0  
1  
0  
0  
0  
0  
0  
0  
0

Compartment 6:

0  
1  
0  
0  
0  
0  
0  
0  
0

Compartment 7:

0  
1  
0  
0  
0  
0  
0  
0  
0

Compartment 8:

0  
1  
0  
0  
0  
0  
0  
0  
0

Compartment 9:

0  
1  
0  
0  
0

```

0
0
0
0
Pathways:
13
Pathway 1:
0
0
0
0
0
1
5
0.0000E+00  0.0000E+00  0.0000E+00  0.0000E+00  0.0000E+00
3.3300E-02  7.4300E-01  0.0000E+00  0.0000E+00  0.0000E+00
2.0000E+00  4.3700E-01  0.0000E+00  0.0000E+00  0.0000E+00
2.4000E+01  2.1800E-01  0.0000E+00  0.0000E+00  0.0000E+00
7.2000E+02  0.0000E+00  0.0000E+00  0.0000E+00  0.0000E+00
0
0
0
0
0
0
Pathway 2:
0
0
0
0
0
1
10
0.0000E+00  0.0000E+00  0.0000E+00  0.0000E+00  0.0000E+00
3.3300E-02  2.0830E+00  8.5220E+01  6.8400E+00  0.0000E+00
2.0000E+00  1.2240E+00  8.5220E+01  6.8400E+00  0.0000E+00
8.0000E+00  1.2240E+00  8.5220E+01  9.1100E+00  0.0000E+00
2.4000E+01  6.1200E-01  8.5220E+01  1.5690E+01  0.0000E+00
4.8000E+01  6.1200E-01  8.5220E+01  3.1540E+01  0.0000E+00
7.2000E+01  6.1200E-01  8.5220E+01  5.2530E+01  0.0000E+00
9.6000E+01  6.1200E-01  8.5220E+01  7.2070E+01  0.0000E+00
2.4000E+02  6.1200E-01  8.5220E+01  9.7260E+01  0.0000E+00
7.2000E+02  0.0000E+00  0.0000E+00  0.0000E+00  0.0000E+00
0
0
0
0
0
0
Pathway 3:
0
0
0
0
0
1
5
0.0000E+00  0.0000E+00  0.0000E+00  0.0000E+00  0.0000E+00
3.3300E-02  7.4300E-01  0.0000E+00  0.0000E+00  0.0000E+00
2.0000E+00  4.3700E-01  0.0000E+00  0.0000E+00  0.0000E+00
2.4000E+01  2.1800E-01  0.0000E+00  0.0000E+00  0.0000E+00
7.2000E+02  0.0000E+00  0.0000E+00  0.0000E+00  0.0000E+00
0

```

0				
0				
0				
0				
0				
Pathway 4:				
0				
0				
0				
0				
0				
1				
10				
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	2.0830E+00	7.2540E+01	4.1600E+00	0.0000E+00
2.0000E+00	1.2240E+00	7.2540E+01	4.1600E+00	0.0000E+00
8.0000E+00	1.2240E+00	7.2540E+01	5.5700E+00	0.0000E+00
2.4000E+01	6.1200E-01	7.2540E+01	9.7400E+00	0.0000E+00
4.8000E+01	6.1200E-01	7.2540E+01	2.0390E+01	0.0000E+00
7.2000E+01	6.1200E-01	7.2540E+01	3.6240E+01	0.0000E+00
9.6000E+01	6.1200E-01	7.2540E+01	5.4010E+01	0.0000E+00
2.4000E+02	6.1200E-01	7.2540E+01	9.3310E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0				
0				
0				
0				
0				
Pathway 5:				
0				
0				
0				
0				
0				
1				
10				
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	2.0830E+00	7.6440E+01	1.4970E+01	0.0000E+00
2.0000E+00	1.2240E+00	7.6440E+01	1.4970E+01	0.0000E+00
8.0000E+00	1.2240E+00	7.6440E+01	1.9630E+01	0.0000E+00
2.4000E+01	6.1200E-01	7.6440E+01	3.2260E+01	0.0000E+00
4.8000E+01	6.1200E-01	7.6440E+01	5.7570E+01	0.0000E+00
7.2000E+01	6.1200E-01	7.6440E+01	8.0730E+01	0.0000E+00
9.6000E+01	6.1200E-01	7.6440E+01	9.2810E+01	0.0000E+00
2.4000E+02	6.1200E-01	7.6440E+01	9.7840E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0				
0				
0				
0				
0				
0				
Pathway 6:				
0				
0				
0				
0				
0				
1				
5				
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	5.9500E-01	0.0000E+00	0.0000E+00	0.0000E+00

2.0000E+00	3.4900E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	1.7500E-01	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0				
0				
0				
0				
0				
0				

Pathway 7:

0				
0				
0				
0				
0				
1				
10				
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	1.6670E+00	8.0190E+01	4.7500E+00	0.0000E+00
2.0000E+00	9.7900E-01	8.0190E+01	4.7500E+00	0.0000E+00
8.0000E+00	9.7900E-01	8.0190E+01	6.3500E+00	0.0000E+00
2.4000E+01	4.8900E-01	8.0190E+01	1.1060E+01	0.0000E+00
4.8000E+01	4.8900E-01	8.0190E+01	2.2950E+01	0.0000E+00
7.2000E+01	4.8900E-01	8.0190E+01	4.0200E+01	0.0000E+00
9.6000E+01	4.8900E-01	8.0190E+01	5.8780E+01	0.0000E+00
2.4000E+02	4.8900E-01	8.0190E+01	9.4930E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0				
0				
0				
0				
0				

Pathway 8:

0				
0				
0				
0				
0				
1				
10				
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	1.6670E+00	8.0220E+01	1.4970E+01	0.0000E+00
2.0000E+00	9.7900E-01	8.0220E+01	1.4970E+01	0.0000E+00
8.0000E+00	9.7900E-01	8.0220E+01	1.9630E+01	0.0000E+00
2.4000E+01	4.8900E-01	8.0220E+01	3.2260E+01	0.0000E+00
4.8000E+01	4.8900E-01	8.0220E+01	5.7570E+01	0.0000E+00
7.2000E+01	4.8900E-01	8.0220E+01	8.0730E+01	0.0000E+00
9.6000E+01	4.8900E-01	8.0220E+01	9.2810E+01	0.0000E+00
2.4000E+02	4.8900E-01	8.0220E+01	9.7840E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0				
0				
0				
0				
0				

Pathway 9:

0
0
0
0
0

1				
8				
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
2.0000E+00	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
8.0000E+00	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
2.4000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
9.6000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0				
0				
0				
0				
0				
Pathway 10:				
0				
0				
0				
0				
0				
1				
8				
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	4.0000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
8.0000E+00	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
9.6000E+01	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0				
0				
0				
0				
0				
0				
Pathway 11:				
0				
0				
0				
0				
0				
1				
8				
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	6.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
8.0000E+00	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
9.6000E+01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0				
0				
0				
0				
0				
0				
Pathway 12:				
0				
0				

```

0
0
0
1
2
0.0000E+00  2.1000E+03  0.0000E+00  0.0000E+00  0.0000E+00
7.2000E+02  0.0000E+00  0.0000E+00  0.0000E+00  0.0000E+00
0
0
0
0
0
0
Pathway 13:
0
0
0
0
0
1
2
0.0000E+00  2.1000E+03  0.0000E+00  0.0000E+00  0.0000E+00
7.2000E+02  0.0000E+00  0.0000E+00  0.0000E+00  0.0000E+00
0
0
0
0
0
Dose Locations:
3
Location 1:
Exclusion Area Boundary
7
1
2
0.0000E+00  1.3600E-03
7.2000E+02  0.0000E+00
1
2
0.0000E+00  3.5000E-04
7.2000E+02  0.0000E+00
0
Location 2:
Low Population Zone
7
1
6
0.0000E+00  3.8800E-04
2.0000E+00  3.0000E-04
8.0000E+00  1.2400E-04
2.4000E+01  7.9900E-05
9.6000E+01  4.8700E-05
7.2000E+02  0.0000E+00
1
4
0.0000E+00  3.5000E-04
8.0000E+00  1.8000E-04
2.4000E+01  2.3000E-04
7.2000E+02  0.0000E+00
0
Location 3:
Control Room

```

```

8
0
1
2
0.0000E+00  3.5000E-04
7.2000E+02  0.0000E+00
1
4
0.0000E+00  1.0000E+00
2.4000E+01  6.0000E-01
9.6000E+01  4.0000E-01
7.2000E+02  0.0000E+00
Effective Volume Location:
1
6
0.0000E+00  3.8800E-04
2.0000E+00  3.0000E-04
8.0000E+00  1.2400E-04
2.4000E+01  7.9900E-05
9.6000E+01  4.8700E-05
7.2000E+02  0.0000E+00
Simulation Parameters:
7
0.0000E+00  1.0000E-01
1.0000E+00  1.0000E-02
2.0000E+00  5.0000E-01
8.0000E+00  1.0000E+00
2.4000E+01  2.0000E+00
9.6000E+01  5.0000E+00
7.2000E+02  0.0000E+00
Output Filename:
D:\Projects\RabaioliBrosius\Exelon_RAIs\QDC-0000-N-
1481\Westinghouse\QDC39MS02_350.o0
1
1
1
0
0
End of Scenario File

#####
RADTRAD Version 3.03 (Spring 2001) run on 1/28/2020 at 9:49:10
#####

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

Number of Nuclides = 60

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

Number of compartments = 9

Compartment information

Compartment number 1 (Source term fraction = 1.0000E+00
)
Name: Sprayed Drywell
Compartment volume = 9.5000E+04 (Cubic feet)
Compartment type is Normal
Removal devices within compartment:

```

## Spray(s)

Pathways into and out of compartment 1

Inlet Pathway Number 13: Unsprayed Drywell to Sprayed Drywell  
Exit Pathway Number 1: Drywell to MSIV Failed Control Vol 1  
Exit Pathway Number 3: Drywell to Intact Control Volume 2  
Exit Pathway Number 6: Drywell to Intact Control Volume 4  
Exit Pathway Number 12: Sprayed Drywell to Unsprayed Drywell

Compartment number 2

Name: MSIV Failed Control Vol 1

Compartment volume = 2.0024E+02 (Cubic feet)

Compartment type is Normal

Pathways into and out of compartment 2

Inlet Pathway Number 1: Drywell to MSIV Failed Control Vol 1  
Exit Pathway Number 2: MSIV Failed Control Vol 1 to Environment

Compartment number 3

Name: Intact Control Volume 2

Compartment volume = 1.5293E+02 (Cubic feet)

Compartment type is Normal

Pathways into and out of compartment 3

Inlet Pathway Number 3: Drywell to Intact Control Volume 2  
Exit Pathway Number 4: Intact Control Volume 2 to Intact Control Volume

3

Compartment number 4

Name: Intact Control Volume 3

Compartment volume = 4.9110E+01 (Cubic feet)

Compartment type is Normal

Pathways into and out of compartment 4

Inlet Pathway Number 4: Intact Control Volume 2 to Intact Control Volume  
Exit Pathway Number 5: Intact Control Volume 3 to Environment

3

Compartment number 5

Name: Intact Control Volume 4

Compartment volume = 1.6375E+02 (Cubic feet)

Compartment type is Normal

Pathways into and out of compartment 5

Inlet Pathway Number 6: Drywell to Intact Control Volume 4  
Exit Pathway Number 7: Intact Control Volume 4 to Intact Control Volume

5

Compartment number 6

Name: Intact Control Volume 5

Compartment volume = 4.9110E+01 (Cubic feet)

Compartment type is Normal

Pathways into and out of compartment 6

Inlet Pathway Number 7: Intact Control Volume 4 to Intact Control Volume  
Exit Pathway Number 8: Intact Control Volume 5 to Environment

5

Compartment number 7

Name: Environment

Compartment type is Environment

Pathways into and out of compartment 7

Inlet Pathway Number 2: MSIV Failed Control Vol 1 to Environment  
Inlet Pathway Number 5: Intact Control Volume 3 to Environment  
Inlet Pathway Number 8: Intact Control Volume 5 to Environment  
Inlet Pathway Number 11: Control Room Exhaust to Environment  
Exit Pathway Number 9: Filtered Intake to Control Room  
Exit Pathway Number 10: Unfiltered Inleakage to Control Room



Compartment number 8  
Name: Control Room  
Compartment volume = 1.8400E+05 (Cubic feet)  
Compartment type is Control Room  
Pathways into and out of compartment 8  
    Inlet Pathway Number 9: Filtered Intake to Control Room  
    Inlet Pathway Number 10: Unfiltered Inleakage to Control Room  
    Exit Pathway Number 11: Control Room Exhaust to Environment

Compartment number 9  
Name: Unsprayed Drywell  
Compartment volume = 6.3000E+04 (Cubic feet)  
Compartment type is Normal  
Pathways into and out of compartment 9  
    Inlet Pathway Number 12: Sprayed Drywell to Unsprayed Drywell  
    Exit Pathway Number 13: Unsprayed Drywell to Sprayed Drywell

Total number of pathways = 13

```
#####
RADTRAD Version 3.03 (Spring 2001) run on 1/28/2020 at 9:49:10
#####

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

Radioactive Decay is enabled  
 Calculation of Daughters is enabled

Release Fractions and Timings

	GAP	EARLY IN-VESSEL	LATE RELEASE	RELEASE MASS
	0.500000 hr	1.5000 hrs	0.0000 hrs	(gm)
NOBLES	5.0000E-02	9.5000E-01	0.0000E+00	4.433E+03
IODINE	5.0000E-02	2.5000E-01	0.0000E+00	2.603E+02
CESIUM	5.0000E-02	2.0000E-01	0.0000E+00	4.865E+04
TELLURIUM	0.0000E+00	5.0000E-02	0.0000E+00	3.482E+01
STRONTIUM	0.0000E+00	2.0000E-02	0.0000E+00	1.714E+03
BARIUM	0.0000E+00	2.0000E-02	0.0000E+00	3.979E+01
RUTHENIUM	0.0000E+00	2.5000E-03	0.0000E+00	5.508E+01
CERIUM	0.0000E+00	5.0000E-04	0.0000E+00	5.379E+02
LANTHANUM	0.0000E+00	2.0000E-04	0.0000E+00	8.763E+00

Inventory Power = 3016. Mwt

Nuclide Name	Group	Specific Inventory (Ci/Mwt)	half life (s)	Whole Body DCF (Sv-m3/Bq-s)	Inhaled Thyroid (Sv/Bq)	Inhaled Effective (Sv/Bq)
Co-58	7	1.529E+02	6.117E+06	4.760E-14	8.720E-10	2.940E-09
Co-60	7	1.830E+02	1.663E+08	1.260E-13	1.620E-08	5.910E-08
Kr-85	1	4.609E+02	3.383E+08	1.190E-16	0.000E+00	0.000E+00
Kr-85m	1	7.427E+03	1.613E+04	7.480E-15	0.000E+00	0.000E+00
Kr-87	1	1.436E+04	4.578E+03	4.120E-14	0.000E+00	0.000E+00
Kr-88	1	2.022E+04	1.022E+04	1.020E-13	0.000E+00	0.000E+00
Rb-86	3	6.465E+01	1.612E+06	4.810E-15	1.330E-09	1.790E-09
Sr-89	5	2.715E+04	4.363E+06	7.730E-17	7.960E-12	1.120E-08
Sr-90	5	3.747E+03	9.190E+08	7.530E-18	2.690E-10	3.510E-07
Sr-91	5	3.382E+04	3.420E+04	4.924E-14	9.930E-12	4.547E-10
Sr-92	5	3.647E+04	9.756E+03	6.790E-14	3.920E-12	2.180E-10
Y-90	9	3.846E+03	2.304E+05	1.900E-16	5.170E-13	2.280E-09
Y-91	9	3.481E+04	5.055E+06	2.600E-16	8.500E-12	1.320E-08
Y-92	9	3.647E+04	1.274E+04	1.300E-14	1.050E-12	2.110E-10
Y-93	9	4.178E+04	3.636E+04	4.800E-15	9.260E-13	5.820E-10
Zr-95	9	4.609E+04	5.528E+06	3.600E-14	1.440E-09	6.390E-09
Zr-97	9	4.575E+04	6.084E+04	4.432E-14	2.315E-11	1.171E-09
Nb-95	9	4.642E+04	3.037E+06	3.740E-14	3.580E-10	1.570E-09
Mo-99	7	5.106E+04	2.376E+05	7.280E-15	1.520E-11	1.070E-09
Tc-99m	7	4.476E+04	2.167E+04	5.890E-15	5.010E-11	8.800E-12
Ru-103	7	4.310E+04	3.394E+06	2.251E-14	2.570E-10	2.421E-09
Ru-105	7	3.077E+04	1.598E+04	3.810E-14	4.150E-12	1.230E-10
Ru-106	7	1.890E+04	3.181E+07	1.040E-14	1.720E-09	1.290E-07
Rh-105	7	2.901E+04	1.273E+05	3.720E-15	2.880E-12	2.580E-10
Sb-127	4	2.974E+03	3.326E+05	3.330E-14	6.150E-11	1.630E-09
Sb-129	4	8.819E+03	1.555E+04	7.140E-14	9.720E-12	1.740E-10
Te-127	4	2.957E+03	3.366E+04	2.420E-16	1.840E-12	8.600E-11
Te-127m	4	3.979E+02	9.418E+06	1.470E-16	9.660E-11	5.810E-09
Te-129	4	8.687E+03	4.176E+03	2.750E-15	5.090E-13	2.090E-11
Te-129m	4	1.290E+03	2.903E+06	3.337E-15	1.563E-10	6.484E-09
Te-131m	4	3.945E+03	1.080E+05	7.463E-14	3.669E-08	1.758E-09
Te-132	4	3.846E+04	2.815E+05	1.030E-14	6.280E-08	2.550E-09
I-131	2	2.702E+04	6.947E+05	1.820E-14	2.920E-07	8.890E-09

I-132	2	3.912E+04	8.280E+03	1.120E-13	1.740E-09	1.030E-10
I-133	2	5.537E+04	7.488E+04	2.940E-14	4.860E-08	1.580E-09
I-134	2	6.101E+04	3.156E+03	1.300E-13	2.880E-10	3.550E-11
I-135	2	5.172E+04	2.380E+04	8.294E-14	8.460E-09	3.320E-10
Xe-133	1	5.305E+04	4.532E+05	1.560E-15	0.000E+00	0.000E+00
Xe-135	1	2.195E+04	3.272E+04	1.190E-14	0.000E+00	0.000E+00
Cs-134	3	7.990E+03	6.507E+07	7.570E-14	1.110E-08	1.250E-08
Cs-136	3	1.953E+03	1.132E+06	1.060E-13	1.730E-09	1.980E-09
Cs-137	3	5.073E+03	9.467E+08	2.725E-14	7.930E-09	8.630E-09
Ba-139	6	4.973E+04	4.962E+03	2.170E-15	2.400E-12	4.640E-11
Ba-140	6	4.807E+04	1.101E+06	8.580E-15	2.560E-10	1.010E-09
La-140	9	5.172E+04	1.450E+05	1.170E-13	6.870E-11	1.310E-09
La-141	9	4.542E+04	1.415E+04	2.390E-15	9.400E-12	1.570E-10
La-142	9	4.376E+04	5.550E+03	1.440E-13	8.740E-12	6.840E-11
Ce-141	8	4.542E+04	2.808E+06	3.430E-15	2.550E-11	2.420E-09
Ce-143	8	4.244E+04	1.188E+05	1.290E-14	6.230E-12	9.160E-10
Ce-144	8	3.780E+04	2.456E+07	2.773E-15	2.920E-10	1.010E-07
Pr-143	9	4.111E+04	1.172E+06	2.100E-17	1.680E-18	2.190E-09
Nd-147	9	1.814E+04	9.487E+05	6.190E-15	1.820E-11	1.850E-09
Np-239	8	5.404E+05	2.035E+05	7.690E-15	7.620E-12	6.780E-10
Pu-238	8	2.105E+02	2.769E+09	4.880E-18	3.860E-10	7.790E-05
Pu-239	8	1.247E+01	7.594E+11	4.240E-18	3.750E-10	8.330E-05
Pu-240	8	1.257E+01	2.063E+11	4.750E-18	3.760E-10	8.330E-05
Pu-241	8	7.493E+03	4.544E+08	7.250E-20	9.150E-12	1.340E-06
Am-241	9	1.326E+01	1.364E+10	8.180E-16	1.600E-09	1.200E-04
Cm-242	9	2.606E+03	1.407E+07	5.690E-18	9.410E-10	4.670E-06
Cm-244	9	3.349E+02	5.715E+08	4.910E-18	1.010E-09	6.700E-05

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

Pu-240	U-236	1.00	none	0.00	none	0.00
Pu-241	U-237	0.00	Am-241	1.00	none	0.00
Am-241	Np-237	1.00	none	0.00	none	0.00
Cm-242	Pu-238	1.00	none	0.00	none	0.00
Cm-244	Pu-240	1.00	none	0.00	none	0.00

Iodine fractions

Aerosol	=	9.5000E-01
Elemental	=	4.8500E-02
Organic	=	1.5000E-03

COMPARTMENT DATA

Compartment number 1: Sprayed Drywell

Sprays: Aerosol Removal Data

Time (hr)	Removal Coef. (hr <sup>-1</sup> )
0.0000E+00	0.0000E+00
1.6670E-01	1.5000E+01
2.2000E+00	1.5000E+00
2.3000E+00	1.5000E+00
4.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00

Sprays: Elemental Removal Data

Time (hr)	Removal Coef. (hr <sup>-1</sup> )
0.0000E+00	0.0000E+00
1.6670E-01	1.5000E+01
2.2000E+00	1.5000E+01
2.3000E+00	0.0000E+00
4.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00

Compartment number 2: MSIV Failed Control Vol 1

Compartment number 3: Intact Control Volume 2

Compartment number 4: Intact Control Volume 3

Compartment number 5: Intact Control Volume 4

Compartment number 6: Intact Control Volume 5

Compartment number 7: Environment

Compartment number 8: Control Room

Compartment number 9: Unsprayed Drywell

PATHWAY DATA

Pathway number 1: Drywell to MSIV Failed Control Vol 1

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	7.4300E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	4.3700E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	2.1800E-01	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 2: MSIV Failed Control Vol 1 to Environment

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	2.0830E+00	8.5220E+01	6.8400E+00	0.0000E+00
2.0000E+00	1.2240E+00	8.5220E+01	6.8400E+00	0.0000E+00
8.0000E+00	1.2240E+00	8.5220E+01	9.1100E+00	0.0000E+00
2.4000E+01	6.1200E-01	8.5220E+01	1.5690E+01	0.0000E+00
4.8000E+01	6.1200E-01	8.5220E+01	3.1540E+01	0.0000E+00
7.2000E+01	6.1200E-01	8.5220E+01	5.2530E+01	0.0000E+00
9.6000E+01	6.1200E-01	8.5220E+01	7.2070E+01	0.0000E+00
2.4000E+02	6.1200E-01	8.5220E+01	9.7260E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 3: Drywell to Intact Control Volume 2

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	7.4300E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	4.3700E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	2.1800E-01	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 4: Intact Control Volume 2 to Intact Control Volume 3

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	2.0830E+00	7.2540E+01	4.1600E+00	0.0000E+00
2.0000E+00	1.2240E+00	7.2540E+01	4.1600E+00	0.0000E+00
8.0000E+00	1.2240E+00	7.2540E+01	5.5700E+00	0.0000E+00
2.4000E+01	6.1200E-01	7.2540E+01	9.7400E+00	0.0000E+00
4.8000E+01	6.1200E-01	7.2540E+01	2.0390E+01	0.0000E+00
7.2000E+01	6.1200E-01	7.2540E+01	3.6240E+01	0.0000E+00
9.6000E+01	6.1200E-01	7.2540E+01	5.4010E+01	0.0000E+00
2.4000E+02	6.1200E-01	7.2540E+01	9.3310E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 5: Intact Control Volume 3 to Environment

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	2.0830E+00	7.6440E+01	1.4970E+01	0.0000E+00
2.0000E+00	1.2240E+00	7.6440E+01	1.4970E+01	0.0000E+00
8.0000E+00	1.2240E+00	7.6440E+01	1.9630E+01	0.0000E+00
2.4000E+01	6.1200E-01	7.6440E+01	3.2260E+01	0.0000E+00
4.8000E+01	6.1200E-01	7.6440E+01	5.7570E+01	0.0000E+00
7.2000E+01	6.1200E-01	7.6440E+01	8.0730E+01	0.0000E+00
9.6000E+01	6.1200E-01	7.6440E+01	9.2810E+01	0.0000E+00
2.4000E+02	6.1200E-01	7.6440E+01	9.7840E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 6: Drywell to Intact Control Volume 4

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	5.9500E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	3.4900E-01	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	1.7500E-01	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 7: Intact Control Volume 4 to Intact Control Volume 5

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	1.6670E+00	8.0190E+01	4.7500E+00	0.0000E+00
2.0000E+00	9.7900E-01	8.0190E+01	4.7500E+00	0.0000E+00
8.0000E+00	9.7900E-01	8.0190E+01	6.3500E+00	0.0000E+00
2.4000E+01	4.8900E-01	8.0190E+01	1.1060E+01	0.0000E+00
4.8000E+01	4.8900E-01	8.0190E+01	2.2950E+01	0.0000E+00
7.2000E+01	4.8900E-01	8.0190E+01	4.0200E+01	0.0000E+00
9.6000E+01	4.8900E-01	8.0190E+01	5.8780E+01	0.0000E+00
2.4000E+02	4.8900E-01	8.0190E+01	9.4930E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 8: Intact Control Volume 5 to Environment

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	1.6670E+00	8.0220E+01	1.4970E+01	0.0000E+00
2.0000E+00	9.7900E-01	8.0220E+01	1.4970E+01	0.0000E+00
8.0000E+00	9.7900E-01	8.0220E+01	1.9630E+01	0.0000E+00
2.4000E+01	4.8900E-01	8.0220E+01	3.2260E+01	0.0000E+00
4.8000E+01	4.8900E-01	8.0220E+01	5.7570E+01	0.0000E+00
7.2000E+01	4.8900E-01	8.0220E+01	8.0730E+01	0.0000E+00
9.6000E+01	4.8900E-01	8.0220E+01	9.2810E+01	0.0000E+00
2.4000E+02	4.8900E-01	8.0220E+01	9.7840E+01	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 9: Filtered Intake to Control Room

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
2.0000E+00	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
8.0000E+00	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
2.4000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
9.6000E+01	1.8000E+03	9.9000E+01	9.9000E+01	9.9000E+01
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 10: Unfiltered Inleakage to Control Room

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	4.0000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
8.0000E+00	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
9.6000E+01	4.0000E+02	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 11: Control Room Exhaust to Environment

Pathway Filter: Removal Data

Time (hr)	Flow Rate (cfm)	Filter Efficiencies (%)		
		Aerosol	Elemental	Organic
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
3.3300E-02	6.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
6.6670E-01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
2.0000E+00	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
8.0000E+00	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
2.4000E+01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
9.6000E+01	2.2000E+03	0.0000E+00	0.0000E+00	0.0000E+00
7.2000E+02	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Pathway number 12: Sprayed Drywell to Unsprayed Drywell

Pathway Filter: Removal Data

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

Pathway number 13: Unsprayed Drywell to Sprayed Drywell

Pathway Filter: Removal Data

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

LOCATION DATA

Location Exclusion Area Boundary is in compartment 7

Location X/Q Data

Time (hr)	X/Q (s * m^-3)
0.0000E+00	1.3600E-03
7.2000E+02	0.0000E+00

Location Breathing Rate Data

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

Location Low Population Zone is in compartment 7

Location X/Q Data

Time (hr)	X/Q (s * m^-3)
0.0000E+00	3.8800E-04

2.0000E+00	3.0000E-04
8.0000E+00	1.2400E-04
2.4000E+01	7.9900E-05
9.6000E+01	4.8700E-05
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
8.0000E+00	1.8000E-04
2.4000E+01	2.3000E-04
7.2000E+02	0.0000E+00

Location Control Room is in compartment 8

## Location X/Q Data

Time (hr)	X/Q (s * m <sup>-3</sup> )
0.0000E+00	3.8800E-04
2.0000E+00	3.0000E-04
8.0000E+00	1.2400E-04
2.4000E+01	7.9900E-05
9.6000E+01	4.8700E-05
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 Occupancy Factor Data

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

## USER SPECIFIED TIME STEP DATA - SUPPLEMENTAL TIME STEPS

Time	Time step
0.0000E+00	1.0000E-01
1.0000E+00	1.0000E-02
2.0000E+00	5.0000E-01
8.0000E+00	1.0000E+00
2.4000E+01	2.0000E+00
9.6000E+01	5.0000E+00
7.2000E+02	0.0000E+00



#####  
 RADTRAD Version 3.03 (Spring 2001) run on 1/28/2020 at 9:49:10  
 #####

```

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

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

Exclusion Area Boundary Doses:

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

Low Population Zone Doses:

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

Control Room Doses:

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

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =	0.0333	Ci	kg	Atoms	Decay
------------	--------	----	----	-------	-------

Sprayed Drywell Transport Group Inventory:

Time (h) =	0.0333	Atmosphere	Sump	
Noble gases (atoms)		9.5010E+22	0.0000E+00	
Elemental I (atoms)		6.2714E+20	0.0000E+00	
Organic I (atoms)		1.9396E+19	0.0000E+00	
Aerosols (kg)		6.3695E-01	0.0000E+00	
Dose Effective (Ci/cc)		I-131 (Thyroid)		1.3887E-04
Dose Effective (Ci/cc)		I-131 (ICRP2 Thyroid)		1.7722E-04
Total I (Ci)				2.2808E+06

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

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

## Drywell to Intact Control Volume 2 Transport Group Inventory:

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

## Drywell to Intact Control Volume 4 Transport Group Inventory:

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

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

Time (h) = 0.0333	Pathway	
	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.1133E+21
Elemental I (atoms)	0.0000E+00	1.3960E+19
Organic I (atoms)	0.0000E+00	4.3176E+17
Aerosols (kg)	0.0000E+00	1.4168E-02

## Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

Time (h) = 0.0333	Pathway	
	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.5936E+19
Elemental I (atoms)	0.0000E+00	3.0345E+17
Organic I (atoms)	0.0000E+00	9.3849E+15
Aerosols (kg)	0.0000E+00	3.0796E-04

## Exclusion Area Boundary Doses:

Time (h) = 0.1667	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.0859E-03	2.2680E-01	1.1503E-02
Accumulated dose (rem)	2.0859E-03	2.2680E-01	1.1503E-02

## Low Population Zone Doses:

Time (h) = 0.1667	Whole Body	Thyroid	TEDE
Delta dose (rem)	5.9509E-04	6.4704E-02	3.2818E-03
Accumulated dose (rem)	5.9509E-04	6.4704E-02	3.2818E-03

## Control Room Doses:

Time (h) = 0.1667	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.5968E-06	5.5296E-03	2.3232E-04
Accumulated dose (rem)	2.5968E-06	5.5296E-03	2.3232E-04

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 0.1667	Ci	kg	Atoms	Decay
Kr-85	2.1024E+04	5.3587E-02	3.7966E+23	3.2237E+17
Kr-85m	3.3016E+05	4.0118E-05	2.8423E+20	5.1133E+18
Kr-87	5.9814E+05	2.1116E-05	1.4617E+20	9.5017E+18
Kr-88	8.8556E+05	7.0623E-05	4.8330E+20	1.3795E+19
Rb-86	2.9482E+03	3.6234E-05	2.5373E+20	4.5212E+16
I-131	1.2318E+06	9.9359E-03	4.5676E+22	1.8892E+19

I-132	1.7255E+06	1.6716E-04	7.6264E+20	2.6856E+19
I-133	2.5117E+06	2.2172E-03	1.0039E+22	3.8596E+19
I-134	2.4393E+06	9.1440E-05	4.1094E+20	3.9379E+19
I-135	2.3183E+06	6.6014E-04	2.9448E+21	3.5789E+19
Xe-133	2.4199E+06	1.2928E-02	5.8537E+22	3.7099E+19
Xe-135	1.0138E+06	3.9698E-04	1.7708E+21	1.5396E+19
Cs-134	3.6446E+05	2.8169E-01	1.2660E+24	5.5885E+18
Cs-136	8.9053E+04	1.2151E-03	5.3804E+21	1.3657E+18
Cs-137	2.3140E+05	2.6604E+00	1.1694E+25	3.5483E+18

## Sprayed Drywell Transport Group Inventory:

Time (h) =	0.1667	Atmosphere	Sump	
Noble gases (atoms)	4.4088E+23	0.0000E+00		
Elemental I (atoms)	2.9019E+21	0.0000E+00		
Organic I (atoms)	8.9751E+19	0.0000E+00		
Aerosols (kg)	2.9557E+00	0.0000E+00		
Dose Effective (Ci/cc) I-131 (Thyroid)				6.4299E-04
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)				8.1777E-04
Total I (Ci)				1.0227E+07

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) =	0.1667	
	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.7035E+19
Elemental I (atoms)	0.0000E+00	1.1235E+17
Organic I (atoms)	0.0000E+00	3.4746E+15
Aerosols (kg)	0.0000E+00	1.1420E-04

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) =	0.1667	
	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.7035E+19
Elemental I (atoms)	0.0000E+00	1.1235E+17
Organic I (atoms)	0.0000E+00	3.4746E+15
Aerosols (kg)	0.0000E+00	1.1420E-04

## Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) =	0.1667	
	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.3642E+19
Elemental I (atoms)	0.0000E+00	8.9967E+16
Organic I (atoms)	0.0000E+00	2.7825E+15
Aerosols (kg)	0.0000E+00	9.1455E-05

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) =	0.1667	
	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.0260E+22
Elemental I (atoms)	0.0000E+00	3.3149E+20
Organic I (atoms)	0.0000E+00	1.0252E+19
Aerosols (kg)	0.0000E+00	3.3695E-01

## Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) =	0.1667	
	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.2156E+21
Elemental I (atoms)	0.0000E+00	3.4389E+19
Organic I (atoms)	0.0000E+00	1.0636E+18

Aerosols (kg) 0.0000E+00 3.4966E-02

Exclusion Area Boundary Doses:

Time (h) =	0.5000	Whole Body	Thyroid	TEDE
Delta dose (rem)	4.5979E-02	4.5979E-02	3.5789E+00	1.9288E-01
Accumulated dose (rem)	4.8064E-02	4.8064E-02	3.8057E+00	2.0438E-01

Low Population Zone Doses:

Time (h) =	0.5000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.3117E-02	1.3117E-02	1.0210E+00	5.5028E-02
Accumulated dose (rem)	1.3713E-02	1.3713E-02	1.0857E+00	5.8310E-02

Control Room Doses:

Time (h) =	0.5000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.5388E-04	1.5388E-04	2.6648E-01	1.1128E-02
Accumulated dose (rem)	1.5648E-04	1.5648E-04	2.7201E-01	1.1360E-02

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =	0.5000	Ci	kg	Atoms	Decay
Kr-85		5.5281E+04	1.4090E-01	9.9828E+23	2.2513E+18
Kr-85m		8.2449E+05	1.0019E-04	7.0981E+20	3.4542E+19
Kr-87		1.3115E+06	4.6300E-05	3.2049E+20	5.9115E+19
Kr-88		2.1466E+06	1.7119E-04	1.1715E+21	9.1431E+19
Rb-86		1.2753E+03	1.5674E-05	1.0975E+20	1.0863E+17
I-131		5.3660E+05	4.3283E-03	1.9897E+22	4.5513E+19
I-132		7.4557E+05	7.2231E-05	3.2953E+20	6.4369E+19
I-133		1.0832E+06	9.5623E-04	4.3297E+21	9.2625E+19
I-134		8.1732E+05	3.0638E-05	1.3769E+20	8.6218E+19
I-135		9.7627E+05	2.7799E-04	1.2401E+21	8.5114E+19
Xe-133		6.3564E+06	3.3959E-02	1.5376E+23	2.5899E+20
Xe-135		2.6556E+06	1.0399E-03	4.6388E+21	1.0819E+20
Cs-134		1.5773E+05	1.2191E-01	5.4789E+23	1.3430E+19
Cs-136		3.8513E+04	5.2549E-04	2.3269E+21	3.2811E+18
Cs-137		1.0015E+05	1.1514E+00	5.0612E+24	8.5272E+18

Sprayed Drywell Transport Group Inventory:

Time (h) =	0.5000	Atmosphere	Sump
Noble gases (atoms)	1.1589E+24	0.0000E+00	
Elemental I (atoms)	1.2483E+21	7.6313E+21	
Organic I (atoms)	2.3443E+20	0.0000E+00	
Aerosols (kg)	1.2792E+00	7.7862E+00	
Dose Effective (Ci/cc) I-131 (Thyroid)			2.7896E-04
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			3.5247E-04
Total I (Ci)			4.1590E+06

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

		Pathway
Time (h) =	0.5000	Filtered Transported
Noble gases (atoms)	0.0000E+00	1.4407E+20
Elemental I (atoms)	0.0000E+00	3.5108E+17
Organic I (atoms)	0.0000E+00	2.9268E+16
Aerosols (kg)	0.0000E+00	3.5779E-04

Drywell to Intact Control Volume 2 Transport Group Inventory:

		Pathway
Time (h) =	0.5000	Filtered Transported
Noble gases (atoms)	0.0000E+00	1.4407E+20

Elemental I (atoms)	0.0000E+00	3.5108E+17
Organic I (atoms)	0.0000E+00	2.9268E+16
Aerosols (kg)	0.0000E+00	3.5779E-04

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 0.5000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.1537E+20
Elemental I (atoms)	0.0000E+00	2.8115E+17
Organic I (atoms)	0.0000E+00	2.3438E+16
Aerosols (kg)	0.0000E+00	2.8652E-04

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 0.5000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.0931E+23
Elemental I (atoms)	0.0000E+00	1.0063E+21
Organic I (atoms)	0.0000E+00	8.3153E+19
Aerosols (kg)	0.0000E+00	1.0254E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 0.5000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.1135E+23
Elemental I (atoms)	0.0000E+00	3.8187E+20
Organic I (atoms)	0.0000E+00	2.2602E+19
Aerosols (kg)	0.0000E+00	3.8987E-01

Exclusion Area Boundary Doses:

Time (h) = 0.6667	Whole Body	Thyroid	TEDE
Delta dose (rem)	6.0755E-02	3.1970E+00	1.9507E-01
Accumulated dose (rem)	1.0882E-01	7.0027E+00	3.9945E-01

Low Population Zone Doses:

Time (h) = 0.6667	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.7333E-02	9.1209E-01	5.5652E-02
Accumulated dose (rem)	3.1045E-02	1.9978E+00	1.1396E-01

Control Room Doses:

Time (h) = 0.6667	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.6805E-04	3.6391E-01	1.5283E-02
Accumulated dose (rem)	4.2453E-04	6.3591E-01	2.6643E-02

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 0.6667	Ci	kg	Atoms	Decay
Co-58	4.4404E+01	1.3965E-06	1.4499E+19	9.0093E+14
Co-60	5.3160E+01	4.7028E-05	4.7202E+20	1.0785E+15
Kr-85	1.8268E+05	4.6561E-01	3.2988E+24	5.6625E+18
Kr-85m	2.6551E+06	3.2264E-04	2.2858E+21	8.4718E+19
Kr-87	3.9574E+06	1.3971E-04	9.6707E+20	1.3621E+20
Kr-88	6.8106E+06	5.4314E-04	3.7169E+21	2.2103E+20
Rb-86	1.6517E+03	2.0299E-05	1.4214E+20	1.4456E+17
Sr-89	6.3071E+04	2.1710E-03	1.4690E+22	1.2797E+18
Sr-90	8.7078E+03	6.3837E-02	4.2715E+23	1.7667E+17
Sr-91	7.4864E+04	2.0652E-05	1.3667E+20	1.5278E+18
Sr-92	7.1467E+04	5.6858E-06	3.7218E+19	1.4801E+18

Y-90	9.8348E+01	1.8076E-07	1.2095E+18	1.8368E+15
Y-91	8.1029E+02	3.3041E-05	2.1866E+20	1.6414E+16
Y-92	2.1881E+03	2.2740E-07	1.4885E+18	2.0672E+16
Y-93	9.2752E+02	2.7801E-07	1.8002E+18	1.8922E+16
Zr-95	1.0708E+03	4.9844E-05	3.1596E+20	2.1726E+16
Zr-97	1.0345E+03	5.4116E-07	3.3598E+18	2.1058E+16
Nb-95	1.0788E+03	2.7588E-05	1.7488E+20	2.1886E+16
Mo-99	1.4729E+04	3.0710E-05	1.8681E+20	2.9908E+17
Tc-99m	1.3007E+04	2.4737E-06	1.5048E+19	2.6260E+17
Ru-103	1.2514E+04	3.8775E-04	2.2671E+21	2.5391E+17
Ru-105	8.0549E+03	1.1983E-06	6.8726E+18	1.6549E+17
Ru-106	5.4900E+03	1.6410E-03	9.3229E+21	1.1139E+17
Rh-105	8.4281E+03	9.9853E-06	5.7269E+19	1.7086E+17
Sb-127	1.7192E+04	6.4378E-05	3.0527E+20	3.4902E+17
Sb-129	4.6039E+04	8.1871E-06	3.8220E+19	9.4620E+17
Te-127	1.7145E+04	6.4964E-06	3.0805E+19	3.4687E+17
Te-127m	2.3119E+03	2.4510E-04	1.1622E+21	4.6904E+16
Te-129	4.8090E+04	2.2963E-06	1.0720E+19	9.6084E+17
Te-129m	7.4966E+03	2.4885E-04	1.1617E+21	1.5208E+17
Te-131m	2.2570E+04	2.8304E-05	1.3011E+20	4.5876E+17
Te-132	2.2213E+05	7.3167E-04	3.3381E+21	4.5099E+18
I-131	8.5231E+05	6.8749E-03	3.1604E+22	6.3819E+19
I-132	1.1990E+06	1.1616E-04	5.2995E+20	9.0282E+19
I-133	1.7119E+06	1.5112E-03	6.8426E+21	1.2949E+20
I-134	1.1385E+06	4.2677E-05	1.9179E+20	1.1233E+20
I-135	1.5246E+06	4.3412E-04	1.9366E+21	1.1814E+20
Xe-133	2.1006E+07	1.1222E-01	5.0814E+23	6.5133E+20
Xe-135	8.8885E+06	3.4806E-03	1.5526E+22	2.7429E+20
Cs-134	2.0433E+05	1.5793E-01	7.0975E+23	1.7875E+19
Cs-136	4.9873E+04	6.8048E-04	3.0132E+21	4.3662E+18
Cs-137	1.2974E+05	1.4916E+00	6.5565E+24	1.1349E+19
Ba-139	8.2649E+04	5.0528E-06	2.1891E+19	1.7464E+18
Ba-140	1.1154E+05	1.5236E-03	6.5540E+21	2.2635E+18
La-140	1.3839E+03	2.4898E-06	1.0710E+19	2.4851E+16
La-141	9.3844E+02	1.6594E-07	7.0872E+17	1.9312E+16
La-142	7.5357E+02	5.2642E-08	2.2325E+17	1.5854E+16
Ce-141	2.6386E+03	9.2605E-05	3.9552E+20	5.3535E+16
Ce-143	2.4314E+03	3.6613E-06	1.5419E+19	4.9413E+16
Ce-144	2.1960E+03	6.8851E-04	2.8794E+21	4.4554E+16
Pr-143	9.5571E+02	1.4193E-05	5.9769E+19	1.9383E+16
Nd-147	4.2083E+02	5.2019E-06	2.1311E+19	8.5398E+15
Np-239	3.1141E+04	1.3423E-04	3.3823E+20	6.3243E+17
Pu-238	1.2230E+01	7.1437E-04	1.8076E+21	2.4813E+14
Pu-239	7.2456E-01	1.1657E-02	2.9372E+22	1.4700E+13
Pu-240	7.3030E-01	3.2049E-03	8.0419E+21	1.4817E+13
Pu-241	4.3533E+02	4.2260E-03	1.0560E+22	8.8323E+15
Am-241	3.0818E-01	8.9792E-05	2.2437E+20	6.2524E+12
Cm-242	6.0555E+01	1.8271E-05	4.5467E+19	1.2286E+15
Cm-244	7.7829E+00	9.6201E-05	2.3743E+20	1.5790E+14

## Sprayed Drywell Transport Group Inventory:

Time (h) =	0.6667	Atmosphere	Sump	
Noble gases (atoms)	3.8295E+24	0.0000E+00		
Elemental I (atoms)	1.9792E+21	1.2075E+22		
Organic I (atoms)	3.5758E+20	0.0000E+00		
Aerosols (kg)	1.7507E+00	1.1831E+01		
Dose Effective (Ci/cc) I-131 (Thyroid)			4.4224E-04	
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			5.5737E-04	
Total I (Ci)			6.4263E+06	

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

Pathway

Time (h) =	0.6667	Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.4220E+20	
Elemental I (atoms)	0.0000E+00	4.9009E+17	
Organic I (atoms)	0.0000E+00	5.2543E+16	
Aerosols (kg)	0.0000E+00	4.8434E-04	

Drywell to Intact Control Volume 2 Transport Group Inventory:

		Pathway	
Time (h) =	0.6667	Filtered	Transported
Noble gases (atoms)	0.0000E+00	3.4220E+20	
Elemental I (atoms)	0.0000E+00	4.9009E+17	
Organic I (atoms)	0.0000E+00	5.2543E+16	
Aerosols (kg)	0.0000E+00	4.8434E-04	

Drywell to Intact Control Volume 4 Transport Group Inventory:

		Pathway	
Time (h) =	0.6667	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.7404E+20	
Elemental I (atoms)	0.0000E+00	3.9247E+17	
Organic I (atoms)	0.0000E+00	4.2077E+16	
Aerosols (kg)	0.0000E+00	3.8786E-04	

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

		Pathway	
Time (h) =	0.6667	Filtered	Transported
Noble gases (atoms)	0.0000E+00	9.6930E+23	
Elemental I (atoms)	0.0000E+00	1.3992E+21	
Organic I (atoms)	0.0000E+00	1.4894E+20	
Aerosols (kg)	0.0000E+00	1.3831E+00	

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

		Pathway	
Time (h) =	0.6667	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.6546E+23	
Elemental I (atoms)	0.0000E+00	6.1352E+20	
Organic I (atoms)	0.0000E+00	4.8849E+19	
Aerosols (kg)	0.0000E+00	6.2253E-01	

Exclusion Area Boundary Doses:

Time (h) =	2.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		5.0426E+00	6.8487E+01	8.4310E+00
Accumulated dose (rem)		5.1514E+00	7.5490E+01	8.8304E+00

Low Population Zone Doses:

Time (h) =	2.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		1.4386E+00	1.9539E+01	2.4053E+00
Accumulated dose (rem)		1.4697E+00	2.1537E+01	2.5193E+00

Control Room Doses:

Time (h) =	2.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)		1.8045E-02	3.4580E+00	1.7000E-01
Accumulated dose (rem)		1.8470E-02	4.0940E+00	1.9664E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =	2.0000	Ci	kg	Atoms	Decay
------------	--------	----	----	-------	-------

Co-58	5.0850E+01	1.5991E-06	1.6604E+19	9.7344E+15
Co-60	6.0908E+01	5.3882E-05	5.4081E+20	1.1657E+16
Kr-85	9.4001E+05	2.3959E+00	1.6975E+25	1.0968E+20
Kr-85m	1.1116E+07	1.3507E-03	9.5696E+21	1.4222E+21
Kr-87	9.8453E+06	3.4757E-04	2.4059E+21	1.6204E+21
Kr-88	2.5311E+07	2.0185E-03	1.3813E+22	3.4220E+21
Rb-86	1.7228E+03	2.1174E-05	1.4827E+20	4.4809E+17
Sr-89	7.2210E+04	2.4855E-03	1.6818E+22	1.3825E+19
Sr-90	9.9771E+03	7.3142E-02	4.8941E+23	1.9094E+18
Sr-91	7.7826E+04	2.1469E-05	1.4208E+20	1.5715E+19
Sr-92	5.8223E+04	4.6321E-06	3.0321E+19	1.3506E+19
Y-90	1.1338E+02	2.0839E-07	1.3944E+18	2.0939E+16
Y-91	9.2800E+02	3.7841E-05	2.5042E+20	1.7753E+17
Y-92	2.0810E+03	2.1627E-07	1.4157E+18	3.4678E+17
Y-93	9.6980E+02	2.9068E-07	1.8823E+18	1.9520E+17
Zr-95	1.2261E+03	5.7075E-05	3.6180E+20	2.3473E+17
Zr-97	1.1223E+03	5.8705E-07	3.6446E+18	2.2133E+17
Nb-95	1.2360E+03	3.1609E-05	2.0037E+20	2.3654E+17
Mo-99	1.6642E+04	3.4698E-05	2.1106E+20	3.2093E+18
Tc-99m	1.4885E+04	2.8307E-06	1.7219E+19	2.8453E+18
Ru-103	1.4324E+04	4.4383E-04	2.5950E+21	2.7428E+18
Ru-105	7.4948E+03	1.1150E-06	6.3948E+18	1.6108E+18
Ru-106	6.2897E+03	1.8800E-03	1.0681E+22	1.2038E+18
Rh-105	9.6225E+03	1.1400E-05	6.5385E+19	1.8451E+18
Sb-127	1.9502E+04	7.3029E-05	3.4629E+20	3.7528E+18
Sb-129	4.2591E+04	7.5739E-06	3.5357E+19	9.1837E+18
Te-127	1.9554E+04	7.4092E-06	3.5133E+19	3.7470E+18
Te-127m	2.6492E+03	2.8086E-04	1.3318E+21	5.0696E+17
Te-129	4.7890E+04	2.2867E-06	1.0675E+19	9.8473E+18
Te-129m	8.5915E+03	2.8519E-04	1.3314E+21	1.6440E+18
Te-131m	2.5075E+04	3.1446E-05	1.4456E+20	4.8806E+18
Te-132	2.5152E+05	8.2848E-04	3.7797E+21	4.8448E+19
I-131	9.1928E+05	7.4151E-03	3.4088E+22	2.2415E+20
I-132	1.2944E+06	1.2540E-04	5.7209E+20	3.1679E+20
I-133	1.7737E+06	1.5658E-03	7.0896E+21	4.4507E+20
I-134	4.2973E+05	1.6109E-05	7.2395E+19	2.4435E+20
I-135	1.4359E+06	4.0887E-04	1.8239E+21	3.8618E+20
Xe-133	1.0775E+08	5.7564E-01	2.6064E+24	1.2591E+22
Xe-135	4.5732E+07	1.7908E-02	7.9885E+22	5.3515E+21
Cs-134	2.1357E+05	1.6507E-01	7.4183E+23	5.5463E+19
Cs-136	5.1977E+04	7.0919E-04	3.1403E+21	1.3527E+19
Cs-137	1.3561E+05	1.5590E+00	6.8531E+24	3.5216E+19
Ba-139	4.8433E+04	2.9610E-06	1.2828E+19	1.3683E+19
Ba-140	1.2742E+05	1.7405E-03	7.4867E+21	2.4425E+19
La-140	1.5974E+03	2.8739E-06	1.2362E+19	2.9052E+17
La-141	8.4991E+02	1.5028E-07	6.4187E+17	1.8549E+17
La-142	4.7411E+02	3.3119E-08	1.4046E+17	1.2825E+17
Ce-141	3.0225E+03	1.0608E-04	4.5306E+20	5.7853E+17
Ce-143	2.7089E+03	4.0792E-06	1.7179E+19	5.2645E+17
Ce-144	2.5157E+03	7.8876E-04	3.2986E+21	4.8149E+17
Pr-143	1.0951E+03	1.6262E-05	6.8483E+19	2.0954E+17
Nd-147	4.8048E+02	5.9393E-06	2.4331E+19	9.2130E+16
Np-239	3.5102E+04	1.5131E-04	3.8125E+20	6.7781E+18
Pu-238	1.4013E+01	8.1852E-04	2.0711E+21	2.6817E+15
Pu-239	8.3033E-01	1.3359E-02	3.3660E+22	1.5889E+14
Pu-240	8.3676E-01	3.6721E-03	9.2142E+21	1.6014E+14
Pu-241	4.9879E+02	4.8420E-03	1.2099E+22	9.5457E+16
Am-241	3.5315E-01	1.0290E-04	2.5712E+20	6.7580E+13
Cm-242	6.9366E+01	2.0929E-05	5.2082E+19	1.3277E+16
Cm-244	8.9173E+00	1.1022E-04	2.7204E+20	1.7066E+15

Sprayed Drywell Transport Group Inventory:

Time (h) = 2.0000 Atmosphere Sump



Noble gases (atoms)	1.9687E+25	0.0000E+00	
Elemental I (atoms)	2.0641E+21	5.3235E+22	
Organic I (atoms)	1.1510E+21	0.0000E+00	
Aerosols (kg)	1.8391E+00	4.8223E+01	
Dose Effective (Ci/cc) I-131 (Thyroid)			4.6996E-04
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			5.8244E-04
Total I (Ci)			5.8530E+06

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 2.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	7.8977E+21
Elemental I (atoms)	0.0000E+00	1.7778E+18
Organic I (atoms)	0.0000E+00	5.3239E+17
Aerosols (kg)	0.0000E+00	1.6228E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 2.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	7.8977E+21
Elemental I (atoms)	0.0000E+00	1.7778E+18
Organic I (atoms)	0.0000E+00	5.3239E+17
Aerosols (kg)	0.0000E+00	1.6228E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 2.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	6.3246E+21
Elemental I (atoms)	0.0000E+00	1.4236E+18
Organic I (atoms)	0.0000E+00	4.2634E+17
Aerosols (kg)	0.0000E+00	1.2996E-03

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 2.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.2324E+25
Elemental I (atoms)	0.0000E+00	5.0386E+21
Organic I (atoms)	0.0000E+00	1.5052E+21
Aerosols (kg)	0.0000E+00	4.6009E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 2.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.2911E+25
Elemental I (atoms)	0.0000E+00	3.6876E+21
Organic I (atoms)	0.0000E+00	9.2387E+20
Aerosols (kg)	0.0000E+00	3.4219E+00

Exclusion Area Boundary Doses:

Time (h) = 2.2000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.0003E+00	9.0959E+00	1.4627E+00
Accumulated dose (rem)	6.1517E+00	8.4586E+01	1.0293E+01

Low Population Zone Doses:

Time (h) = 2.2000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.2065E-01	2.0065E+00	3.2265E-01

Accumulated dose (rem) 1.6903E+00 2.3543E+01 2.8419E+00

## Control Room Doses:

Time (h) =	2.2000	Whole Body	Thyroid	TEDE
Delta dose (rem)		7.3278E-03	5.6191E-01	3.3823E-02
Accumulated dose (rem)		2.5797E-02	4.6559E+00	2.3047E-01

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =	2.2000	Ci	kg	Atoms	Decay
Co-58		5.1069E+00	1.6061E-07	1.6676E+18	9.9744E+15
Co-60		6.1176E+00	5.4120E-06	5.4319E+19	1.1944E+16
Kr-85		8.8897E+05	2.2659E+00	1.6053E+25	1.3365E+20
Kr-85m		1.0192E+07	1.2385E-03	8.7743E+21	1.7013E+21
Kr-87		8.3491E+06	2.9475E-04	2.0403E+21	1.8583E+21
Kr-88		2.2796E+07	1.8180E-03	1.2441E+22	4.0519E+21
Rb-86		1.7699E+02	2.1752E-06	1.5232E+19	4.5632E+17
Sr-89		7.2520E+03	2.4962E-04	1.6890E+21	1.4166E+19
Sr-90		1.0021E+03	7.3465E-03	4.9157E+22	1.9565E+18
Sr-91		7.7036E+03	2.1251E-06	1.4064E+19	1.6081E+19
Sr-92		5.5564E+03	4.4205E-07	2.8936E+18	1.3776E+19
Y-90		1.5908E+01	2.9239E-08	1.9565E+17	2.1551E+16
Y-91		9.3890E+01	3.8285E-06	2.5336E+19	1.8192E+17
Y-92		6.7156E+02	6.9792E-08	4.5684E+17	3.6464E+17
Y-93		9.6080E+01	2.8798E-08	1.8648E+17	1.9976E+17
Zr-95		1.2314E+02	5.7321E-06	3.6337E+19	2.4052E+17
Zr-97		1.1180E+02	5.8482E-08	3.6308E+17	2.2661E+17
Nb-95		1.2414E+02	3.1748E-06	2.0125E+19	2.4237E+17
Mo-99		1.6680E+03	3.4777E-06	2.1155E+19	3.2878E+18
Tc-99m		1.4946E+03	2.8424E-07	1.7290E+18	2.9152E+18
Ru-103		1.4385E+03	4.4572E-05	2.6060E+20	2.8104E+18
Ru-105		7.2965E+02	1.0855E-07	6.2255E+17	1.6457E+18
Ru-106		6.3173E+02	1.8882E-04	1.0728E+21	1.2335E+18
Rh-105		9.6561E+02	1.1440E-06	6.5613E+18	1.8905E+18
Sb-127		1.9559E+03	7.3240E-06	3.4729E+19	3.8448E+18
Sb-129		4.1428E+03	7.3670E-07	3.4392E+18	9.3822E+18
Te-127		1.9626E+03	7.4368E-07	3.5264E+18	3.8390E+18
Te-127m		2.6609E+02	2.8210E-05	1.3377E+20	5.1947E+17
Te-129		4.7094E+03	2.2488E-07	1.0498E+18	1.0066E+19
Te-129m		8.6294E+02	2.8645E-05	1.3372E+20	1.6845E+18
Te-131m		2.5069E+03	3.1439E-06	1.4453E+19	4.9987E+18
Te-132		2.5218E+04	8.3066E-05	3.7897E+20	4.9634E+19
I-131		1.1455E+05	9.2397E-04	4.2475E+21	2.2903E+20
I-132		1.4638E+05	1.4182E-05	6.4699E+19	3.2333E+20
I-133		2.1972E+05	1.9396E-04	8.7823E+20	4.5448E+20
I-134		4.5750E+04	1.7150E-06	7.7074E+18	2.4650E+20
I-135		1.7535E+05	4.9930E-05	2.2273E+20	3.9376E+20
Xe-133		1.0177E+08	5.4371E-01	2.4619E+24	1.5336E+22
Xe-135		4.2466E+07	1.6629E-02	7.4180E+22	6.5059E+21
Cs-134		2.1947E+04	1.6963E-02	7.6233E+22	5.6484E+19
Cs-136		5.3390E+03	7.2846E-05	3.2257E+20	1.3776E+19
Cs-137		1.3936E+04	1.6021E-01	7.0425E+23	3.5864E+19
Ba-139		4.3991E+03	2.6895E-07	1.1652E+18	1.3903E+19
Ba-140		1.2792E+04	1.7473E-04	7.5162E+20	2.5027E+19
La-140		2.5196E+02	4.5331E-07	1.9499E+18	2.9961E+17
La-141		8.2407E+01	1.4572E-08	6.2235E+16	1.8945E+17
La-142		4.3524E+01	3.0405E-09	1.2894E+16	1.3041E+17
Ce-141		3.0352E+02	1.0652E-05	4.5496E+19	5.9280E+17
Ce-143		2.7094E+02	4.0800E-07	1.7182E+18	5.3921E+17
Ce-144		2.5268E+02	7.9222E-05	3.3131E+20	4.9337E+17
Pr-143		1.1013E+02	1.6355E-06	6.8877E+18	2.1471E+17
Nd-147		4.8234E+01	5.9623E-07	2.4426E+18	9.4397E+16

Np-239	3.5170E+03	1.5160E-05	3.8199E+19	6.9436E+18
Pu-238	1.4075E+00	8.2213E-05	2.0802E+20	2.7479E+15
Pu-239	8.3402E-02	1.3418E-03	3.3810E+21	1.6281E+14
Pu-240	8.4044E-02	3.6883E-04	9.2548E+20	1.6409E+14
Pu-241	5.0098E+01	4.8633E-04	1.2153E+21	9.7811E+16
Am-241	3.5474E-02	1.0336E-05	2.5827E+19	6.9247E+13
Cm-242	6.9669E+00	2.1021E-06	5.2310E+18	1.3604E+16
Cm-244	8.9566E-01	1.1071E-05	2.7324E+19	1.7487E+15

## Sprayed Drywell Transport Group Inventory:

Time (h) =	2.2000	Atmosphere	Sump	
Noble gases (atoms)	1.8613E+25	0.0000E+00		
Elemental I (atoms)	2.1029E+20	5.5264E+22		
Organic I (atoms)	1.0915E+21	0.0000E+00		
Aerosols (kg)	1.8874E-01	5.0033E+01		
Dose Effective (Ci/cc) I-131 (Thyroid)			5.8405E-05	
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			7.2087E-05	
Total I (Ci)			7.0175E+05	

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
2.2000		
Noble gases (atoms)	0.0000E+00	8.9516E+21
Elemental I (atoms)	0.0000E+00	1.8151E+18
Organic I (atoms)	0.0000E+00	5.9416E+17
Aerosols (kg)	0.0000E+00	1.6561E-03

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
2.2000		
Noble gases (atoms)	0.0000E+00	8.9516E+21
Elemental I (atoms)	0.0000E+00	1.8151E+18
Organic I (atoms)	0.0000E+00	5.9416E+17
Aerosols (kg)	0.0000E+00	1.6561E-03

## Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
2.2000		
Noble gases (atoms)	0.0000E+00	7.1662E+21
Elemental I (atoms)	0.0000E+00	1.4535E+18
Organic I (atoms)	0.0000E+00	4.7568E+17
Aerosols (kg)	0.0000E+00	1.3262E-03

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
2.2000		
Noble gases (atoms)	0.0000E+00	2.7388E+25
Elemental I (atoms)	0.0000E+00	5.2179E+21
Organic I (atoms)	0.0000E+00	1.8020E+21
Aerosols (kg)	0.0000E+00	4.7609E+00

## Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
2.2000		
Noble gases (atoms)	0.0000E+00	1.6909E+25
Elemental I (atoms)	0.0000E+00	4.1677E+21
Organic I (atoms)	0.0000E+00	1.1651E+21
Aerosols (kg)	0.0000E+00	3.8527E+00

## Exclusion Area Boundary Doses:

Time (h) =	2.3000	Whole Body	Thyroid	TEDE
Delta dose (rem)	5.2527E-01	4.5285E+00	7.5469E-01	
Accumulated dose (rem)	6.6769E+00	8.9114E+01	1.1048E+01	

## Low Population Zone Doses:

Time (h) =	2.3000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.1587E-01	9.9893E-01	1.6648E-01	
Accumulated dose (rem)	1.8062E+00	2.4542E+01	3.0084E+00	

## Control Room Doses:

Time (h) =	2.3000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.7438E-03	2.7107E-01	1.6602E-02	
Accumulated dose (rem)	2.9541E-02	4.9269E+00	2.4707E-01	

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) =	Ci	kg	Atoms	Decay
Co-58	3.1728E+00	9.9781E-08	1.0360E+18	1.0017E+16
Co-60	3.8009E+00	3.3625E-06	3.3749E+19	1.1995E+16
Kr-85	8.7368E+05	2.2269E+00	1.5777E+25	1.4529E+20
Kr-85m	9.8627E+06	1.1985E-03	8.4909E+21	1.8337E+21
Kr-87	7.7701E+06	2.7431E-04	1.8988E+21	1.9646E+21
Kr-88	2.1864E+07	1.7436E-03	1.1932E+22	4.3467E+21
Rb-86	1.1094E+02	1.3635E-06	9.5477E+18	4.5780E+17
Sr-89	4.5054E+03	1.5508E-04	1.0493E+21	1.4226E+19
Sr-90	6.2261E+02	4.5644E-03	3.0542E+22	1.9648E+18
Sr-91	4.7515E+03	1.3108E-06	8.6743E+18	1.6144E+19
Sr-92	3.3650E+03	2.6771E-07	1.7524E+18	1.3821E+19
Y-90	1.1137E+01	2.0470E-08	1.3697E+17	2.1690E+16
Y-91	5.8522E+01	2.3863E-06	1.5792E+19	1.8270E+17
Y-92	5.3667E+02	5.5773E-08	3.6508E+17	3.7096E+17
Y-93	5.9286E+01	1.7770E-08	1.1507E+17	2.0055E+17
Zr-95	7.6506E+01	3.5612E-06	2.2575E+19	2.4154E+17
Zr-97	6.9177E+01	3.6187E-08	2.2466E+17	2.2753E+17
Nb-95	7.7131E+01	1.9725E-06	1.2504E+19	2.4340E+17
Mo-99	1.0352E+03	2.1585E-06	1.3130E+19	3.3016E+18
Tc-99m	9.2848E+02	1.7658E-07	1.0741E+18	2.9275E+18
Ru-103	8.9370E+02	2.7691E-05	1.6190E+20	2.8223E+18
Ru-105	4.4631E+02	6.6395E-08	3.8080E+17	1.6517E+18
Ru-106	3.9249E+02	1.1732E-04	6.6651E+20	1.2387E+18
Rh-105	5.9964E+02	7.1043E-07	4.0746E+18	1.8985E+18
Sb-127	1.2143E+03	4.5470E-06	2.1561E+19	3.8610E+18
Sb-129	2.5330E+03	4.5043E-07	2.1028E+18	9.4163E+18
Te-127	1.2190E+03	4.6189E-07	2.1902E+18	3.8552E+18
Te-127m	1.6533E+02	1.7527E-05	8.3111E+19	5.2167E+17
Te-129	2.8946E+03	1.3822E-07	6.4524E+17	1.0104E+19
Te-129m	5.3615E+02	1.7797E-05	8.3084E+19	1.6917E+18
Te-131m	1.5540E+03	1.9488E-06	8.9587E+18	5.0194E+18
Te-132	1.5654E+04	5.1563E-05	2.3524E+20	4.9843E+19
I-131	7.9938E+04	6.4480E-04	2.9642E+21	2.3010E+20
I-132	9.7773E+04	9.4722E-06	4.3214E+19	3.2464E+20
I-133	1.5288E+05	1.3496E-04	6.1107E+20	4.5652E+20
I-134	2.9511E+04	1.1063E-06	4.9716E+18	2.4691E+20
I-135	1.2114E+05	3.4493E-05	1.5387E+20	3.9538E+20
Xe-133	9.9962E+07	5.3404E-01	2.4181E+24	1.6668E+22
Xe-135	4.1379E+07	1.6203E-02	7.2281E+22	7.0591E+21
Cs-134	1.3759E+04	1.0634E-02	4.7792E+22	5.6667E+19
Cs-136	3.3464E+03	4.5659E-05	2.0218E+20	1.3820E+19

Cs-137	8.7365E+03	1.0044E-01	4.4151E+23	3.5980E+19
Ba-139	2.5992E+03	1.5890E-07	6.8844E+17	1.3938E+19
Ba-140	7.9460E+03	1.0854E-04	4.6688E+20	2.5132E+19
La-140	1.8187E+02	3.2721E-07	1.4075E+18	3.0185E+17
La-141	5.0305E+01	8.8951E-09	3.7991E+16	1.9013E+17
La-142	2.5853E+01	1.8060E-09	7.6591E+15	1.3076E+17
Ce-141	1.8856E+02	6.6176E-06	2.8264E+19	5.9531E+17
Ce-143	1.6799E+02	2.5296E-07	1.0653E+18	5.4145E+17
Ce-144	1.5699E+02	4.9221E-05	2.0584E+20	4.9546E+17
Pr-143	6.8468E+01	1.0168E-06	4.2819E+18	2.1562E+17
Nd-147	2.9960E+01	3.7035E-07	1.5172E+18	9.4796E+16
Np-239	2.1824E+03	9.4074E-06	2.3704E+19	6.9727E+18
Pu-238	8.7446E-01	5.1079E-05	1.2925E+20	2.7595E+15
Pu-239	5.1818E-02	8.3368E-04	2.1006E+21	1.6350E+14
Pu-240	5.2217E-02	2.2916E-04	5.7501E+20	1.6478E+14
Pu-241	3.1126E+01	3.0216E-04	7.5504E+20	9.8226E+16
Am-241	2.2041E-02	6.4219E-06	1.6047E+19	6.9541E+13
Cm-242	4.3285E+00	1.3060E-06	3.2500E+18	1.3662E+16
Cm-244	5.5648E-01	6.8784E-06	1.6976E+19	1.7561E+15

## Sprayed Drywell Transport Group Inventory:

Time (h) =	2.3000	Atmosphere	Sump	
Noble gases (atoms)	1.8290E+25	0.0000E+00		
Elemental I (atoms)	1.3135E+20	5.5505E+22		
Organic I (atoms)	1.0731E+21	0.0000E+00		
Aerosols (kg)	1.1827E-01	5.0250E+01		
Dose Effective (Ci/cc) I-131 (Thyroid)				4.0707E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)				5.0150E-05
Total I (Ci)				4.8124E+05

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	9.4606E+21
Elemental I (atoms)	0.0000E+00	1.8195E+18
Organic I (atoms)	0.0000E+00	6.2405E+17
Aerosols (kg)	0.0000E+00	1.6601E-03

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	9.4606E+21
Elemental I (atoms)	0.0000E+00	1.8195E+18
Organic I (atoms)	0.0000E+00	6.2405E+17
Aerosols (kg)	0.0000E+00	1.6601E-03

## Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	7.5727E+21
Elemental I (atoms)	0.0000E+00	1.4570E+18
Organic I (atoms)	0.0000E+00	4.9954E+17
Aerosols (kg)	0.0000E+00	1.3293E-03

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) =	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.9835E+25
Elemental I (atoms)	0.0000E+00	5.2393E+21

Organic I (atoms)	0.0000E+00	1.9456E+21
Aerosols (kg)	0.0000E+00	4.7801E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 2.3000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.9037E+25
Elemental I (atoms)	0.0000E+00	4.3556E+21
Organic I (atoms)	0.0000E+00	1.2922E+21
Aerosols (kg)	0.0000E+00	4.0218E+00

Exclusion Area Boundary Doses:

Time (h) = 4.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.0031E+01	6.9091E+01	1.3444E+01
Accumulated dose (rem)	1.6708E+01	1.5821E+02	2.4492E+01

Low Population Zone Doses:

Time (h) = 4.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.2128E+00	1.5241E+01	2.9657E+00
Accumulated dose (rem)	4.0190E+00	3.9783E+01	5.9741E+00

Control Room Doses:

Time (h) = 4.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	7.4163E-02	3.8600E+00	2.6078E-01
Accumulated dose (rem)	1.0370E-01	8.7869E+00	5.0784E-01

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 4.0000	Ci	kg	Atoms	Decay
Co-58	3.8626E+00	1.2147E-07	1.2613E+18	1.1426E+16
Co-60	4.6303E+00	4.0962E-06	4.1113E+19	1.3684E+16
Kr-85	8.3450E+05	2.1270E+00	1.5070E+25	3.3559E+20
Kr-85m	7.2417E+06	8.7996E-04	6.2344E+21	3.7238E+21
Kr-87	2.9381E+06	1.0373E-04	7.1800E+20	3.0705E+21
Kr-88	1.3791E+07	1.0998E-03	7.5265E+21	8.2483E+21
Rb-86	1.3530E+02	1.6628E-06	1.1644E+19	5.0722E+17
Sr-89	5.4834E+03	1.8874E-04	1.2771E+21	1.6228E+19
Sr-90	7.5849E+02	5.5605E-03	3.7207E+22	2.2415E+18
Sr-91	5.1132E+03	1.4105E-06	9.3346E+18	1.8143E+19
Sr-92	2.6539E+03	2.1114E-07	1.3821E+18	1.5061E+19
Y-90	2.7455E+01	5.0464E-08	3.3767E+17	2.8821E+16
Y-91	7.3197E+01	2.9847E-06	1.9752E+19	2.0902E+17
Y-92	1.4297E+03	1.4859E-07	9.7261E+17	7.5293E+17
Y-93	6.4272E+01	1.9264E-08	1.2474E+17	2.2557E+17
Zr-95	9.3131E+01	4.3351E-06	2.7481E+19	2.7553E+17
Zr-97	7.8598E+01	4.1115E-08	2.5526E+17	2.5733E+17
Nb-95	9.3962E+01	2.4029E-06	1.5232E+19	2.7768E+17
Mo-99	1.2388E+03	2.5830E-06	1.5712E+19	3.7581E+18
Tc-99m	1.1266E+03	2.1426E-07	1.3034E+18	3.3372E+18
Ru-103	1.0874E+03	3.3692E-05	1.9699E+20	3.2193E+18
Ru-105	4.1698E+02	6.2031E-08	3.5577E+17	1.8283E+18
Ru-106	4.7809E+02	1.4290E-04	8.1186E+20	1.4131E+18
Rh-105	7.2222E+02	8.5566E-07	4.9075E+18	2.1636E+18
Sb-127	1.4606E+03	5.4692E-06	2.5934E+19	4.3976E+18
Sb-129	2.3491E+03	4.1773E-07	1.9501E+18	1.0415E+19
Te-127	1.4759E+03	5.5923E-07	2.6518E+18	4.3936E+18
Te-127m	2.0143E+02	2.1355E-05	1.0126E+20	5.9515E+17
Te-129	2.8917E+03	1.3808E-07	6.4459E+17	1.1257E+19
Te-129m	6.5308E+02	2.1679E-05	1.0120E+20	1.9300E+18

Te-131m	1.8202E+03	2.2827E-06	1.0494E+19	5.6981E+18
Te-132	1.8785E+04	6.1877E-05	2.8230E+20	5.6754E+19
I-131	1.0027E+05	8.0882E-04	3.7182E+21	2.6177E+20
I-132	8.2141E+04	7.9577E-06	3.6305E+19	3.5664E+20
I-133	1.8230E+05	1.6093E-04	7.2867E+20	5.1569E+20
I-134	9.7115E+03	3.6404E-07	1.6361E+18	2.5363E+20
I-135	1.2791E+05	3.6422E-05	1.6247E+20	4.3974E+20
Xe-133	9.4582E+07	5.0529E-01	2.2879E+24	3.8339E+22
Xe-135	3.4655E+07	1.3570E-02	6.0535E+22	1.5500E+22
Cs-134	1.6822E+04	1.3002E-02	5.8433E+22	6.2803E+19
Cs-136	4.0764E+03	5.5620E-05	2.4629E+20	1.5310E+19
Cs-137	1.0682E+04	1.2281E-01	5.3985E+23	3.9877E+19
Ba-139	1.3467E+03	8.2334E-08	3.5671E+17	1.4747E+19
Ba-140	9.6429E+03	1.3172E-04	5.6659E+20	2.8658E+19
La-140	4.9983E+02	8.9925E-07	3.8681E+18	4.2649E+17
La-141	4.5407E+01	8.0291E-09	3.4292E+16	2.0974E+17
La-142	1.4666E+01	1.0245E-09	4.3448E+15	1.3910E+17
Ce-141	2.2944E+02	8.0524E-06	3.4392E+19	6.7907E+17
Ce-143	1.9747E+02	2.9736E-07	1.2522E+18	6.1493E+17
Ce-144	1.9122E+02	5.9952E-05	2.5072E+20	5.6523E+17
Pr-143	8.3845E+01	1.2451E-06	5.2436E+18	2.4611E+17
Nd-147	3.6336E+01	4.4916E-07	1.8401E+18	1.0809E+17
Np-239	2.6039E+03	1.1224E-05	2.8282E+19	7.9337E+18
Pu-238	1.0653E+00	6.2227E-05	1.5745E+20	3.1482E+15
Pu-239	6.3142E-02	1.0159E-03	2.5597E+21	1.8653E+14
Pu-240	6.3613E-02	2.7917E-04	7.0050E+20	1.8799E+14
Pu-241	3.7919E+01	3.6810E-04	9.1981E+20	1.1206E+17
Am-241	2.6863E-02	7.8269E-06	1.9558E+19	7.9339E+13
Cm-242	5.2715E+00	1.5905E-06	3.9581E+18	1.5585E+16
Cm-244	6.7792E-01	8.3795E-06	2.0681E+19	2.0034E+15

## Sprayed Drywell Transport Group Inventory:

Time (h) =	4.0000	Atmosphere	Sump	
Noble gases (atoms)	1.7433E+25	0.0000E+00		
Elemental I (atoms)	5.7743E+20	5.5505E+22		
Organic I (atoms)	1.0047E+21	0.0000E+00		
Aerosols (kg)	1.4456E-01	5.0843E+01		
Dose Effective (Ci/cc)	I-131 (Thyroid)		5.0117E-05	
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		6.0507E-05	
Total I (Ci)			5.0233E+05	

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) =	4.0000	
	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.7718E+22
Elemental I (atoms)	0.0000E+00	2.0568E+18
Organic I (atoms)	0.0000E+00	1.1052E+18
Aerosols (kg)	0.0000E+00	1.7693E-03

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) =	4.0000	
	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.7718E+22
Elemental I (atoms)	0.0000E+00	2.0568E+18
Organic I (atoms)	0.0000E+00	1.1052E+18
Aerosols (kg)	0.0000E+00	1.7693E-03

## Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) =	4.0000	
	Filtered	Transported

Noble gases (atoms)	0.0000E+00	1.4167E+22
Elemental I (atoms)	0.0000E+00	1.6465E+18
Organic I (atoms)	0.0000E+00	8.8382E+17
Aerosols (kg)	0.0000E+00	1.4166E-03

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 4.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	6.9514E+25
Elemental I (atoms)	0.0000E+00	6.3794E+21
Organic I (atoms)	0.0000E+00	4.2579E+21
Aerosols (kg)	0.0000E+00	5.3050E+00

## Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 4.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.7919E+25
Elemental I (atoms)	0.0000E+00	5.9552E+21
Organic I (atoms)	0.0000E+00	3.5633E+21
Aerosols (kg)	0.0000E+00	5.1665E+00

## Exclusion Area Boundary Doses:

Time (h) = 8.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.9743E+01	1.1189E+02	2.4718E+01
Accumulated dose (rem)	3.6451E+01	2.7010E+02	4.9210E+01

## Low Population Zone Doses:

Time (h) = 8.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	4.3550E+00	2.4682E+01	5.4524E+00
Accumulated dose (rem)	8.3739E+00	6.4465E+01	1.1427E+01

## Control Room Doses:

Time (h) = 8.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.8557E-01	5.7492E+00	4.5461E-01
Accumulated dose (rem)	2.8927E-01	1.4536E+01	9.6246E-01

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 8.0000	Ci	kg	Atoms	Decay
Co-58	4.7469E+00	1.4928E-07	1.5500E+18	1.3929E+16
Co-60	5.6993E+00	5.0419E-06	5.0605E+19	1.6687E+16
Kr-85	8.3283E+05	2.1227E+00	1.5039E+25	7.7973E+20
Kr-85m	3.8921E+06	4.7294E-04	3.3507E+21	6.5978E+21
Kr-87	3.3137E+05	1.1699E-05	8.0977E+19	3.7069E+21
Kr-88	5.1848E+06	4.1349E-04	2.8296E+21	1.2935E+22
Rb-86	1.6552E+02	2.0342E-06	1.4244E+19	5.9470E+17
Sr-89	6.7343E+03	2.3180E-04	1.5685E+21	1.9780E+19
Sr-90	9.3365E+02	6.8446E-03	4.5799E+22	2.7334E+18
Sr-91	4.7010E+03	1.2968E-06	8.5820E+18	2.1015E+19
Sr-92	1.1744E+03	9.3429E-08	6.1157E+17	1.6132E+19
Y-90	7.1969E+01	1.3228E-07	8.8513E+17	5.6592E+16
Y-91	9.4447E+01	3.8512E-06	2.5486E+19	2.5768E+17
Y-92	1.8539E+03	1.9267E-07	1.2612E+18	1.7681E+18
Y-93	6.0123E+01	1.8021E-08	1.1669E+17	2.6197E+17
Zr-95	1.1443E+02	5.3267E-06	3.3766E+19	3.3588E+17
Zr-97	8.2111E+01	4.2953E-08	2.6667E+17	3.0431E+17
Nb-95	1.1565E+02	2.9577E-06	1.8749E+19	3.3862E+17
Mo-99	1.4622E+03	3.0487E-06	1.8545E+19	4.5447E+18



Tc-99m	1.3620E+03	2.5903E-07	1.5757E+18	4.0579E+18
Ru-103	1.3346E+03	4.1352E-05	2.4177E+20	3.9235E+18
Ru-105	2.7489E+02	4.0893E-08	2.3454E+17	2.0288E+18
Ru-106	5.8832E+02	1.7585E-04	9.9905E+20	1.7231E+18
Rh-105	8.5068E+02	1.0078E-06	5.7804E+18	2.6223E+18
Sb-127	1.7447E+03	6.5333E-06	3.0980E+19	5.3307E+18
Sb-129	1.5220E+03	2.7065E-07	1.2635E+18	1.1536E+19
Te-127	1.7869E+03	6.7710E-07	3.2107E+18	5.3397E+18
Te-127m	2.4803E+02	2.6295E-05	1.2469E+20	7.2582E+17
Te-129	2.1779E+03	1.0400E-07	4.8549E+17	1.2699E+19
Te-129m	8.0276E+02	2.6647E-05	1.2440E+20	2.3533E+18
Te-131m	2.0428E+03	2.5618E-06	1.1777E+19	6.8252E+18
Te-132	2.2319E+04	7.3515E-05	3.3539E+20	6.8722E+19
I-131	1.1389E+05	9.1867E-04	4.2232E+21	3.2241E+20
I-132	4.4485E+04	4.3097E-06	1.9662E+19	3.9059E+20
I-133	1.8380E+05	1.6225E-04	7.3467E+20	6.1960E+20
I-134	4.7339E+02	1.7745E-08	7.9750E+16	2.5539E+20
I-135	9.6869E+04	2.7583E-05	1.2305E+20	5.0328E+20
Xe-133	9.2339E+07	4.9331E-01	2.2337E+24	8.8128E+22
Xe-135	2.5520E+07	9.9932E-03	4.4578E+22	3.1405E+22
Cs-134	2.0705E+04	1.6003E-02	7.1917E+22	7.3713E+19
Cs-136	4.9739E+03	6.7865E-05	3.0051E+20	1.7942E+19
Cs-137	1.3149E+04	1.5117E-01	6.6452E+23	4.6805E+19
Ba-139	2.2178E+02	1.3559E-08	5.8742E+16	1.5119E+19
Ba-140	1.1763E+04	1.6067E-04	6.9115E+20	3.4883E+19
La-140	1.3611E+03	2.4488E-06	1.0534E+19	9.4636E+17
La-141	2.7604E+01	4.8811E-09	2.0847E+16	2.3079E+17
La-142	2.9887E+00	2.0878E-10	8.8544E+14	1.4346E+17
Ce-141	2.8157E+02	9.8819E-06	4.2206E+19	8.2765E+17
Ce-143	2.2349E+02	3.3653E-07	1.4172E+18	7.3772E+17
Ce-144	2.3528E+02	7.3768E-05	3.0850E+20	6.8922E+17
Pr-143	1.0431E+02	1.5491E-06	6.5235E+18	3.0078E+17
Nd-147	4.4260E+01	5.4710E-07	2.2413E+18	1.3153E+17
Np-239	3.0518E+03	1.3155E-05	3.3147E+19	9.5813E+18
Pu-238	1.3114E+00	7.6599E-05	1.9382E+20	3.8391E+15
Pu-239	7.7766E-02	1.2511E-03	3.1525E+21	2.2750E+14
Pu-240	7.8305E-02	3.4364E-04	8.6228E+20	2.2925E+14
Pu-241	4.6675E+01	4.5310E-04	1.1322E+21	1.3665E+17
Am-241	3.3102E-02	9.6445E-06	2.4100E+19	9.6770E+13
Cm-242	6.4844E+00	1.9565E-06	4.8687E+18	1.9003E+16
Cm-244	8.3447E-01	1.0315E-05	2.5457E+19	2.4431E+15

## Sprayed Drywell Transport Group Inventory:

Time (h) =	8.0000	Atmosphere	Sump	
Noble gases (atoms)		1.7324E+25	0.0000E+00	
Elemental I (atoms)		5.5062E+20	5.5505E+22	
Organic I (atoms)		9.5528E+20	0.0000E+00	
Aerosols (kg)		1.7789E-01	5.0843E+01	
Dose Effective (Ci/cc)	I-131 (Thyroid)			5.4851E-05
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)			6.4195E-05
Total I (Ci)				4.3952E+05

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway		
Time (h) =	8.0000	Filtered	Transported
Noble gases (atoms)		0.0000E+00	3.6902E+22
Elemental I (atoms)		0.0000E+00	2.6799E+18
Organic I (atoms)		0.0000E+00	2.1865E+18
Aerosols (kg)		0.0000E+00	1.9631E-03

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
	Filtered	Transported
Time (h) = 8.0000		
Noble gases (atoms)	0.0000E+00	3.6902E+22
Elemental I (atoms)	0.0000E+00	2.6799E+18
Organic I (atoms)	0.0000E+00	2.1865E+18
Aerosols (kg)	0.0000E+00	1.9631E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
	Filtered	Transported
Time (h) = 8.0000		
Noble gases (atoms)	0.0000E+00	2.9488E+22
Elemental I (atoms)	0.0000E+00	2.1441E+18
Organic I (atoms)	0.0000E+00	1.7473E+18
Aerosols (kg)	0.0000E+00	1.5714E-03

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
	Filtered	Transported
Time (h) = 8.0000		
Noble gases (atoms)	0.0000E+00	1.6170E+26
Elemental I (atoms)	0.0000E+00	9.3736E+21
Organic I (atoms)	0.0000E+00	9.4538E+21
Aerosols (kg)	0.0000E+00	6.2363E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
	Filtered	Transported
Time (h) = 8.0000		
Noble gases (atoms)	0.0000E+00	1.5013E+26
Elemental I (atoms)	0.0000E+00	8.9517E+21
Organic I (atoms)	0.0000E+00	8.7603E+21
Aerosols (kg)	0.0000E+00	6.1318E+00

Exclusion Area Boundary Doses:

Time (h) = 24.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.8996E+01	3.0124E+02	4.0817E+01
Accumulated dose (rem)	6.5447E+01	5.7134E+02	9.0027E+01

Low Population Zone Doses:

Time (h) = 24.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.6438E+00	1.4126E+01	3.1980E+00
Accumulated dose (rem)	1.1018E+01	7.8591E+01	1.4625E+01

Control Room Doses:

Time (h) = 24.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.5897E-01	6.2539E+00	4.1186E-01
Accumulated dose (rem)	4.4824E-01	2.0790E+01	1.3743E+00

Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 24.0000	Ci	kg	Atoms	Decay
Co-58	4.6811E+00	1.4721E-07	1.5285E+18	2.3974E+16
Co-60	5.6557E+00	5.0034E-06	5.0218E+19	2.8785E+16
Kr-85	8.2660E+05	2.1069E+00	1.4927E+25	2.5477E+21
Kr-85m	3.2498E+05	3.9489E-05	2.7977E+20	9.6592E+21
Kr-87	5.3648E+01	1.8940E-09	1.3110E+16	3.7878E+21
Kr-88	1.0365E+05	8.2659E-06	5.6567E+19	1.5703E+22
Rb-86	1.6027E+02	1.9697E-06	1.3793E+19	9.4177E+17
Sr-89	6.6236E+03	2.2799E-04	1.5427E+21	3.4011E+19

Sr-90	9.2670E+02	6.7937E-03	4.5458E+22	4.7155E+18
Sr-91	1.4520E+03	4.0055E-07	2.6507E+18	2.6908E+19
Sr-92	1.9466E+01	1.5487E-09	1.0137E+16	1.6732E+19
Y-90	2.0811E+02	3.8251E-07	2.5595E+18	3.5159E+17
Y-91	1.0210E+02	4.1634E-06	2.7552E+19	4.6860E+17
Y-92	1.8936E+02	1.9679E-08	1.2882E+17	3.4964E+18
Y-93	1.9904E+01	5.9658E-09	3.8631E+16	3.3950E+17
Zr-95	1.1277E+02	5.2492E-06	3.3275E+19	5.7794E+17
Zr-97	4.2284E+01	2.2119E-08	1.3732E+17	4.3219E+17
Nb-95	1.1476E+02	2.9349E-06	1.8604E+19	5.8404E+17
Mo-99	1.2269E+03	2.5581E-06	1.5561E+19	7.4025E+18
Tc-99m	1.2285E+03	2.3363E-07	1.4211E+18	6.7161E+18
Ru-103	1.3092E+03	4.0566E-05	2.3718E+20	6.7402E+18
Ru-105	2.2446E+01	3.3391E-09	1.9151E+16	2.2435E+18
Ru-106	5.8323E+02	1.7433E-04	9.9041E+20	2.9713E+18
Rh-105	6.4260E+02	7.6132E-07	4.3665E+18	4.2130E+18
Sb-127	1.5359E+03	5.7515E-06	2.7273E+19	8.8213E+18
Sb-129	1.1595E+02	2.0619E-08	9.6254E+16	1.2700E+19
Te-127	1.6616E+03	6.2959E-07	2.9854E+18	8.9204E+18
Te-127m	2.4640E+02	2.6122E-05	1.2387E+20	1.2526E+18
Te-129	8.4388E+02	4.0296E-08	1.8811E+17	1.4992E+19
Te-129m	7.8756E+02	2.6143E-05	1.2204E+20	4.0482E+18
Te-131m	1.4010E+03	1.7570E-06	8.0770E+18	1.0451E+19
Te-132	1.9224E+04	6.3322E-05	2.8889E+20	1.1290E+20
I-131	1.0681E+05	8.6153E-04	3.9605E+21	5.5747E+20
I-132	2.3005E+04	2.2287E-06	1.0168E+19	4.4417E+20
I-133	1.0704E+05	9.4495E-05	4.2787E+20	9.2215E+20
I-134	1.5063E-03	5.6465E-14	2.5376E+11	2.5547E+20
I-135	1.7959E+04	5.1139E-06	2.2812E+19	6.0306E+20
Xe-133	8.3937E+07	4.4843E-01	2.0304E+24	2.7579E+23
Xe-135	7.5023E+06	2.9378E-03	1.3105E+22	6.2768E+22
Cs-134	2.0539E+04	1.5874E-02	7.1341E+22	1.1765E+20
Cs-136	4.7659E+03	6.5028E-05	2.8794E+20	2.8318E+19
Cs-137	1.3052E+04	1.5005E-01	6.5957E+23	7.4720E+19
Ba-139	7.0513E-02	4.3109E-12	1.8677E+13	1.5177E+19
Ba-140	1.1260E+04	1.5380E-04	6.6159E+20	5.9408E+19
La-140	3.8016E+03	6.8395E-06	2.9420E+19	6.4354E+18
La-141	1.6300E+00	2.8822E-10	1.2310E+15	2.5035E+17
La-142	2.2287E-03	1.5569E-13	6.6028E+11	1.4435E+17
Ce-141	2.7567E+02	9.6748E-06	4.1321E+19	1.4214E+18
Ce-143	1.5851E+02	2.3870E-07	1.0052E+18	1.1408E+18
Ce-144	2.3316E+02	7.3103E-05	3.0572E+20	1.1883E+18
Pr-143	1.0638E+02	1.5798E-06	6.6530E+18	5.2537E+17
Nd-147	4.2122E+01	5.2067E-07	2.1330E+18	2.2354E+17
Np-239	2.4895E+03	1.0731E-05	2.7039E+19	1.5465E+19
Pu-238	1.3017E+00	7.6037E-05	1.9240E+20	6.6231E+15
Pu-239	7.7335E-02	1.2442E-03	3.1350E+21	3.9274E+14
Pu-240	7.7725E-02	3.4110E-04	8.5590E+20	3.9548E+14
Pu-241	4.6326E+01	4.4971E-04	1.1237E+21	2.3574E+17
Am-241	3.2992E-02	9.6126E-06	2.4020E+19	1.6718E+14
Cm-242	6.4182E+00	1.9365E-06	4.8190E+18	3.2750E+16
Cm-244	8.2824E-01	1.0237E-05	2.5267E+19	4.2146E+15

## Sprayed Drywell Transport Group Inventory:

Time (h) =	24.0000	Atmosphere	Sump	
Noble gases (atoms)	1.6971E+25	0.0000E+00		
Elemental I (atoms)	4.7729E+20	5.5505E+22		
Organic I (atoms)	8.2806E+20	0.0000E+00		
Aerosols (kg)	1.7644E-01	5.0843E+01		
Dose Effective (Ci/cc)	I-131 (Thyroid)		4.6571E-05	
Dose Effective (Ci/cc)	I-131 (ICRP2 Thyroid)		5.1205E-05	
Total I (Ci)			2.5482E+05	

Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

Time (h) = 24.0000	Pathway	
	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.1262E+23
Elemental I (atoms)	0.0000E+00	4.9410E+18
Organic I (atoms)	0.0000E+00	6.1093E+18
Aerosols (kg)	0.0000E+00	2.7455E-03

Drywell to Intact Control Volume 2 Transport Group Inventory:

Time (h) = 24.0000	Pathway	
	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.1262E+23
Elemental I (atoms)	0.0000E+00	4.9410E+18
Organic I (atoms)	0.0000E+00	6.1093E+18
Aerosols (kg)	0.0000E+00	2.7455E-03

Drywell to Intact Control Volume 4 Transport Group Inventory:

Time (h) = 24.0000	Pathway	
	Filtered	Transported
Noble gases (atoms)	0.0000E+00	8.9958E+22
Elemental I (atoms)	0.0000E+00	3.9499E+18
Organic I (atoms)	0.0000E+00	4.8802E+18
Aerosols (kg)	0.0000E+00	2.1962E-03

Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

Time (h) = 24.0000	Pathway	
	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.2556E+26
Elemental I (atoms)	0.0000E+00	2.0239E+22
Organic I (atoms)	0.0000E+00	2.8305E+22
Aerosols (kg)	0.0000E+00	9.9959E+00

Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

Time (h) = 24.0000	Pathway	
	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.1407E+26
Elemental I (atoms)	0.0000E+00	1.9820E+22
Organic I (atoms)	0.0000E+00	2.7616E+22
Aerosols (kg)	0.0000E+00	9.8923E+00

Exclusion Area Boundary Doses:

Time (h) = 48.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	7.9563E+00	1.7957E+02	1.5146E+01
Accumulated dose (rem)	7.3403E+01	7.5091E+02	1.0517E+02

Low Population Zone Doses:

Time (h) = 48.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	4.6743E-01	6.9325E+00	7.4500E-01
Accumulated dose (rem)	1.1485E+01	8.5523E+01	1.5370E+01

Control Room Doses:

Time (h) = 48.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.6647E-02	1.3783E+00	7.1648E-02
Accumulated dose (rem)	4.6489E-01	2.2168E+01	1.4460E+00

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 48.0000	Ci	kg	Atoms	Decay
Co-58	4.6100E+00	1.4498E-07	1.5053E+18	3.8823E+16
Co-60	5.6226E+00	4.9740E-06	4.9924E+19	4.6810E+16
Kr-85	8.2191E+05	2.0949E+00	1.4842E+25	5.1824E+21
Kr-85m	7.8848E+03	9.5811E-07	6.7881E+18	9.9318E+21
Kr-87	1.1114E-04	3.9235E-15	2.7158E+10	3.7878E+21
Kr-88	2.9461E+02	2.3495E-08	1.6079E+17	1.5759E+22
Rb-86	1.5358E+02	1.8875E-06	1.3217E+19	1.4433E+18
Sr-89	6.4973E+03	2.2364E-04	1.5133E+21	5.4981E+19
Sr-90	9.2154E+02	6.7558E-03	4.5205E+22	7.6694E+18
Sr-91	2.5065E+02	6.9145E-08	4.5758E+17	2.9094E+19
Sr-92	4.1776E-02	3.3236E-12	2.1756E+13	1.6742E+19
Y-90	3.7168E+02	6.8315E-07	4.5711E+18	1.2741E+18
Y-91	1.0371E+02	4.2289E-06	2.7986E+19	7.9883E+17
Y-92	2.1993E+00	2.2856E-10	1.4961E+15	3.6337E+18
Y-93	3.8126E+00	1.1427E-09	7.3998E+15	3.7062E+17
Zr-95	1.1094E+02	5.1641E-06	3.2735E+19	9.3547E+17
Zr-97	1.5714E+01	8.2199E-09	5.1033E+16	5.1799E+17
Nb-95	1.1406E+02	2.9169E-06	1.8490E+19	9.4962E+17
Mo-99	9.4830E+02	1.9772E-06	1.2027E+19	1.0860E+19
Tc-99m	9.7040E+02	1.8455E-07	1.1226E+18	1.0050E+19
Ru-103	1.2792E+03	3.9636E-05	2.3174E+20	1.0877E+19
Ru-105	5.2668E-01	7.8351E-11	4.4937E+14	2.2622E+18
Ru-106	5.7893E+02	1.7304E-04	9.8310E+20	4.8287E+18
Rh-105	4.0117E+02	4.7529E-07	2.7260E+18	5.8527E+18
Sb-127	1.2758E+03	4.7774E-06	2.2654E+19	1.3302E+19
Sb-129	2.4517E+00	4.3598E-10	2.0353E+15	1.2794E+19
Te-127	1.4497E+03	5.4930E-07	2.6047E+18	1.3730E+19
Te-127m	2.4508E+02	2.5982E-05	1.2320E+20	2.0380E+18
Te-129	6.6700E+02	3.1849E-08	1.4868E+17	1.6718E+19
Te-129m	7.6736E+02	2.5472E-05	1.1891E+20	6.5333E+18
Te-131m	8.0025E+02	1.0036E-06	4.6135E+18	1.3881E+19
Te-132	1.5455E+04	5.0906E-05	2.3225E+20	1.6811E+20
I-131	9.7515E+04	7.8657E-04	3.6159E+21	8.8381E+20
I-132	1.8447E+04	1.7871E-06	8.1532E+18	5.0135E+20
I-133	4.7844E+04	4.2235E-05	1.9123E+20	1.1571E+21
I-135	1.4418E+03	4.1054E-07	1.8314E+18	6.2399E+20
Xe-133	7.3150E+07	3.9080E-01	1.7695E+24	5.2647E+23
Xe-135	1.2001E+06	4.6993E-04	2.0963E+21	7.3760E+22
Cs-134	2.0407E+04	1.5772E-02	7.0883E+22	1.8310E+20
Cs-136	4.4954E+03	6.1337E-05	2.7160E+20	4.3116E+19
Cs-137	1.2979E+04	1.4921E-01	6.5590E+23	1.1632E+20
Ba-139	4.0201E-07	2.4577E-17	1.0648E+08	1.5177E+19
Ba-140	1.0605E+04	1.4486E-04	6.2311E+20	9.4343E+19
La-140	6.2142E+03	1.1180E-05	4.8091E+19	2.2482E+19
La-141	2.3520E-02	4.1588E-12	1.7762E+13	2.5156E+17
La-142	4.5641E-08	3.1883E-18	1.3521E+07	1.4435E+17
Ce-141	2.6837E+02	9.4188E-06	4.0228E+19	2.2908E+18
Ce-143	9.5223E+01	1.4339E-07	6.0386E+17	1.5377E+18
Ce-144	2.3131E+02	7.2524E-05	3.0330E+20	1.9307E+18
Pr-143	1.0669E+02	1.5843E-06	6.6721E+18	8.6634E+17
Nd-147	3.9327E+01	4.8613E-07	1.9915E+18	3.5367E+17
Np-239	1.8446E+03	7.9509E-06	2.0034E+19	2.2340E+19
Pu-238	1.2947E+00	7.5624E-05	1.9135E+20	1.0773E+16
Pu-239	7.7078E-02	1.2401E-03	3.1246E+21	6.3953E+14
Pu-240	7.7297E-02	3.3922E-04	8.5118E+20	6.4325E+14
Pu-241	4.6065E+01	4.4718E-04	1.1174E+21	3.8340E+17
Am-241	3.3012E-02	9.6185E-06	2.4035E+19	2.7266E+14
Cm-242	6.3557E+00	1.9177E-06	4.7721E+18	5.3165E+16
Cm-244	8.2359E-01	1.0180E-05	2.5125E+19	6.8546E+15

## Sprayed Drywell Transport Group Inventory:

Time (h) = 48.0000	Atmosphere	Sump	
Noble gases (atoms)	1.6614E+25	0.0000E+00	
Elemental I (atoms)	4.1206E+20	5.5505E+22	
Organic I (atoms)	7.1490E+20	0.0000E+00	
Aerosols (kg)	1.7533E-01	5.0843E+01	
Dose Effective (Ci/cc) I-131 (Thyroid)			3.9266E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			4.1295E-05
Total I (Ci)			1.6525E+05

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 48.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.6811E+23
Elemental I (atoms)	0.0000E+00	6.4068E+18
Organic I (atoms)	0.0000E+00	8.6524E+18
Aerosols (kg)	0.0000E+00	3.3267E-03

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 48.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.6811E+23
Elemental I (atoms)	0.0000E+00	6.4068E+18
Organic I (atoms)	0.0000E+00	8.6524E+18
Aerosols (kg)	0.0000E+00	3.3267E-03

## Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 48.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.3451E+23
Elemental I (atoms)	0.0000E+00	5.1266E+18
Organic I (atoms)	0.0000E+00	6.9217E+18
Aerosols (kg)	0.0000E+00	2.6627E-03

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 48.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.0601E+27
Elemental I (atoms)	0.0000E+00	3.4360E+22
Organic I (atoms)	0.0000E+00	5.2803E+22
Aerosols (kg)	0.0000E+00	1.5595E+01

## Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 48.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.0487E+27
Elemental I (atoms)	0.0000E+00	3.3942E+22
Organic I (atoms)	0.0000E+00	5.2116E+22
Aerosols (kg)	0.0000E+00	1.5492E+01

## Exclusion Area Boundary Doses:

Time (h) = 72.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	5.3881E+00	1.4267E+02	1.1411E+01
Accumulated dose (rem)	7.8791E+01	8.9358E+02	1.1658E+02

## Low Population Zone Doses:

Time (h) = 72.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	3.1655E-01	5.5081E+00	5.4909E-01
Accumulated dose (rem)	1.1802E+01	9.1031E+01	1.5919E+01

## Control Room Doses:

Time (h) = 72.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	9.6345E-03	9.6073E-01	5.0133E-02
Accumulated dose (rem)	4.7452E-01	2.3129E+01	1.4961E+00

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 72.0000	Ci	kg	Atoms	Decay
Co-58	4.5397E+00	1.4277E-07	1.4824E+18	5.3446E+16
Co-60	5.5893E+00	4.9446E-06	4.9629E+19	6.4729E+16
Kr-85	8.1720E+05	2.0829E+00	1.4757E+25	7.8021E+21
Kr-85m	1.9130E+02	2.3245E-08	1.6469E+17	9.9384E+21
Kr-87	2.3022E-10	8.1275E-21	5.6258E+04	3.7878E+21
Kr-88	8.3737E-01	6.6780E-11	4.5700E+14	1.5759E+22
Rb-86	1.4716E+02	1.8085E-06	1.2664E+19	1.9239E+18
Sr-89	6.3732E+03	2.1937E-04	1.4844E+21	7.5550E+19
Sr-90	9.1636E+02	6.7179E-03	4.4951E+22	1.0607E+19
Sr-91	4.3267E+01	1.1936E-08	7.8987E+16	2.9471E+19
Sr-92	8.9652E-05	7.1326E-15	4.6688E+10	1.6742E+19
Y-90	4.9591E+02	9.1149E-07	6.0990E+18	2.6539E+18
Y-91	1.0250E+02	4.1796E-06	2.7660E+19	1.1286E+18
Y-92	2.0947E-02	2.1770E-12	1.4250E+13	3.6352E+18
Y-93	7.3027E-01	2.1888E-10	1.4174E+15	3.7658E+17
Zr-95	1.0913E+02	5.0800E-06	3.2203E+19	1.2872E+18
Zr-97	5.8394E+00	3.0546E-09	1.8964E+16	5.4987E+17
Nb-95	1.1333E+02	2.8983E-06	1.8373E+19	1.3129E+18
Mo-99	7.3293E+02	1.5282E-06	9.2958E+18	1.3532E+19
Tc-99m	7.5132E+02	1.4288E-07	8.6916E+17	1.2650E+19
Ru-103	1.2499E+03	3.8727E-05	2.2643E+20	1.4919E+19
Ru-105	1.2358E-02	1.8384E-12	1.0544E+13	2.2626E+18
Ru-106	5.7463E+02	1.7176E-04	9.7580E+20	6.6724E+18
Rh-105	2.4927E+02	2.9533E-07	1.6938E+18	6.8731E+18
Sb-127	1.0597E+03	3.9681E-06	1.8816E+19	1.7024E+19
Sb-129	5.1840E-02	9.2186E-12	4.3035E+13	1.2796E+19
Te-127	1.2496E+03	4.7348E-07	2.2452E+18	1.7893E+19
Te-127m	2.4350E+02	2.5815E-05	1.2241E+20	2.8189E+18
Te-129	6.4646E+02	3.0869E-08	1.4411E+17	1.8297E+19
Te-129m	7.4752E+02	2.4814E-05	1.1584E+20	8.9543E+18
Te-131m	4.5707E+02	5.7320E-07	2.6350E+18	1.5839E+19
Te-132	1.2424E+04	4.0923E-05	1.8670E+20	2.1249E+20
I-131	8.9002E+04	7.1791E-04	3.3003E+21	1.1817E+21
I-132	1.4829E+04	1.4366E-06	6.5542E+18	5.4728E+20
I-133	2.1383E+04	1.8876E-05	8.5468E+19	1.2622E+21
I-135	1.1574E+02	3.2957E-08	1.4701E+17	6.2567E+20
Xe-133	6.3743E+07	3.4054E-01	1.5419E+24	7.4491E+23
Xe-135	1.9169E+05	7.5064E-05	3.3485E+20	7.5517E+22
Cs-134	2.0275E+04	1.5670E-02	7.0425E+22	2.4811E+20
Cs-136	4.2401E+03	5.7853E-05	2.5617E+20	5.7073E+19
Cs-137	1.2906E+04	1.4838E-01	6.5222E+23	1.5769E+20
Ba-140	9.9875E+03	1.3642E-04	5.8684E+20	1.2724E+20
La-140	7.5853E+03	1.3647E-05	5.8702E+19	4.4473E+19
La-141	3.3936E-04	6.0007E-14	2.5629E+11	2.5158E+17
Ce-141	2.6125E+02	9.1688E-06	3.9160E+19	3.1373E+18
Ce-143	5.7199E+01	8.6133E-08	3.6273E+17	1.7762E+18
Ce-144	2.2947E+02	7.1945E-05	3.0088E+20	2.6671E+18
Pr-143	1.0451E+02	1.5520E-06	6.5359E+18	1.2041E+18
Nd-147	3.6716E+01	4.5385E-07	1.8593E+18	4.7515E+17
Np-239	1.3666E+03	5.8908E-06	1.4843E+19	2.7434E+19

Pu-238	1.2876E+00	7.5211E-05	1.9031E+20	1.4900E+16
Pu-239	7.6775E-02	1.2352E-03	3.1124E+21	8.8543E+14
Pu-240	7.6868E-02	3.3734E-04	8.4646E+20	8.8964E+14
Pu-241	4.5803E+01	4.4463E-04	1.1111E+21	5.3023E+17
Am-241	3.3030E-02	9.6237E-06	2.4048E+19	3.7820E+14
Cm-242	6.2936E+00	1.8989E-06	4.7254E+18	7.3381E+16
Cm-244	8.1893E-01	1.0122E-05	2.4983E+19	9.4797E+15

## Sprayed Drywell Transport Group Inventory:

Time (h) = 72.0000	Atmosphere	Sump	
Noble gases (atoms)	1.6299E+25	0.0000E+00	
Elemental I (atoms)	3.6622E+20	5.5505E+22	
Organic I (atoms)	6.3536E+20	0.0000E+00	
Aerosols (kg)	1.7424E-01	5.0843E+01	
Dose Effective (Ci/cc) I-131 (Thyroid)			3.4442E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			3.5412E-05
Total I (Ci)			1.2533E+05

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 72.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.2250E+23
Elemental I (atoms)	0.0000E+00	7.6922E+18
Organic I (atoms)	0.0000E+00	1.0883E+19
Aerosols (kg)	0.0000E+00	3.9043E-03

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 72.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.2250E+23
Elemental I (atoms)	0.0000E+00	7.6922E+18
Organic I (atoms)	0.0000E+00	1.0883E+19
Aerosols (kg)	0.0000E+00	3.9043E-03

## Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 72.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.7816E+23
Elemental I (atoms)	0.0000E+00	6.1584E+18
Organic I (atoms)	0.0000E+00	8.7119E+18
Aerosols (kg)	0.0000E+00	3.1264E-03

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 72.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.5840E+27
Elemental I (atoms)	0.0000E+00	4.6742E+22
Organic I (atoms)	0.0000E+00	7.4285E+22
Aerosols (kg)	0.0000E+00	2.1158E+01

## Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 72.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.5727E+27
Elemental I (atoms)	0.0000E+00	4.6326E+22
Organic I (atoms)	0.0000E+00	7.3602E+22
Aerosols (kg)	0.0000E+00	2.1056E+01



## Exclusion Area Boundary Doses:

Time (h) = 96.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	4.4605E+00	1.1676E+02	9.6695E+00
Accumulated dose (rem)	8.3252E+01	1.0103E+03	1.2625E+02

## Low Population Zone Doses:

Time (h) = 96.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	2.6205E-01	4.5078E+00	4.6316E-01
Accumulated dose (rem)	1.2064E+01	9.5539E+01	1.6382E+01

## Control Room Doses:

Time (h) = 96.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	7.9838E-03	7.8619E-01	4.2999E-02
Accumulated dose (rem)	4.8251E-01	2.3915E+01	1.5391E+00

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 96.0000	Ci	kg	Atoms	Decay
Co-58	4.4705E+00	1.4059E-07	1.4598E+18	6.7847E+16
Co-60	5.5563E+00	4.9154E-06	4.9335E+19	8.2542E+16
Kr-85	8.1252E+05	2.0710E+00	1.4673E+25	1.0407E+22
Kr-85m	4.6412E+00	5.6397E-10	3.9957E+15	9.9386E+21
Kr-88	2.3800E-03	1.8981E-13	1.2989E+12	1.5759E+22
Rb-86	1.4100E+02	1.7329E-06	1.2135E+19	2.3843E+18
Sr-89	6.2514E+03	2.1518E-04	1.4560E+21	9.5727E+19
Sr-90	9.1122E+02	6.6801E-03	4.4698E+22	1.3528E+19
Sr-91	7.4686E+00	2.0603E-09	1.3635E+16	2.9536E+19
Sr-92	1.9239E-07	1.5307E-17	1.0019E+08	1.6742E+19
Y-90	5.8998E+02	1.0844E-06	7.2560E+18	4.3805E+18
Y-91	1.0083E+02	4.1115E-06	2.7209E+19	1.4536E+18
Y-92	1.9183E-04	1.9936E-14	1.3050E+11	3.6352E+18
Y-93	1.3988E-01	4.1925E-11	2.7148E+14	3.7772E+17
Zr-95	1.0736E+02	4.9974E-06	3.1679E+19	1.6332E+18
Zr-97	2.1699E+00	1.1351E-09	7.0472E+15	5.6172E+17
Nb-95	1.1259E+02	2.8793E-06	1.8252E+19	1.6738E+18
Mo-99	5.6647E+02	1.1811E-06	7.1846E+18	1.5597E+19
Tc-99m	5.8077E+02	1.1045E-07	6.7186E+17	1.4660E+19
Ru-103	1.2212E+03	3.7838E-05	2.2123E+20	1.8868E+19
Ru-105	2.8996E-04	4.3135E-14	2.4740E+11	2.2626E+18
Ru-106	5.7036E+02	1.7048E-04	9.6856E+20	8.5023E+18
Rh-105	1.5486E+02	1.8347E-07	1.0523E+18	7.5071E+18
Sb-127	8.8018E+02	3.2959E-06	1.5629E+19	2.0116E+19
Sb-129	1.0961E-03	1.9492E-13	9.0995E+11	1.2796E+19
Te-127	1.0790E+03	4.0884E-07	1.9386E+18	2.1483E+19
Te-127m	2.4171E+02	2.5625E-05	1.2151E+20	3.5943E+18
Te-129	6.2968E+02	3.0067E-08	1.4036E+17	1.9833E+19
Te-129m	7.2819E+02	2.4172E-05	1.1284E+20	1.1313E+19
Te-131m	2.6106E+02	3.2739E-07	1.5050E+18	1.6958E+19
Te-132	9.9873E+03	3.2897E-05	1.5008E+20	2.4816E+20
I-131	8.1220E+04	6.5513E-04	3.0117E+21	1.4536E+21
I-132	1.1921E+04	1.1549E-06	5.2689E+18	5.8421E+20
I-133	9.5566E+03	8.4362E-06	3.8198E+19	1.3091E+21
I-135	9.2910E+00	2.6456E-09	1.1802E+16	6.2581E+20
Xe-133	5.5543E+07	2.9673E-01	1.3436E+24	9.3525E+23
Xe-135	3.0598E+04	1.1982E-05	5.3449E+19	7.5798E+22
Cs-134	2.0144E+04	1.5569E-02	6.9969E+22	3.1271E+20
Cs-136	3.9992E+03	5.4566E-05	2.4162E+20	7.0237E+19
Cs-137	1.2834E+04	1.4754E-01	6.4856E+23	1.9883E+20
Ba-140	9.4061E+03	1.2848E-04	5.5267E+20	1.5823E+20
La-140	8.2838E+03	1.4904E-05	6.4108E+19	6.9710E+19

La-141	4.8966E-06	8.6583E-16	3.6980E+09	2.5158E+17
Ce-141	2.5432E+02	8.9255E-06	3.8121E+19	3.9612E+18
Ce-143	3.4359E+01	5.1739E-08	2.1789E+17	1.9194E+18
Ce-144	2.2764E+02	7.1372E-05	2.9848E+20	3.3976E+18
Pr-143	1.0097E+02	1.4995E-06	6.3148E+18	1.5326E+18
Nd-147	3.4279E+01	4.2372E-07	1.7359E+18	5.8857E+17
Np-239	1.0125E+03	4.3645E-06	1.0997E+19	3.1209E+19
Pu-238	1.2805E+00	7.4799E-05	1.8927E+20	1.9004E+16
Pu-239	7.6442E-02	1.2298E-03	3.0988E+21	1.1303E+15
Pu-240	7.6442E-02	3.3547E-04	8.4176E+20	1.1347E+15
Pu-241	4.5543E+01	4.4211E-04	1.1047E+21	6.7621E+17
Am-241	3.3047E-02	9.6285E-06	2.4060E+19	4.8379E+14
Cm-242	6.2320E+00	1.8803E-06	4.6792E+18	9.3400E+16
Cm-244	8.1430E-01	1.0065E-05	2.4842E+19	1.2090E+16

## Sprayed Drywell Transport Group Inventory:

Time (h) = 96.0000	Atmosphere	Sump	
Noble gases (atoms)	1.6016E+25	0.0000E+00	
Elemental I (atoms)	3.2981E+20	5.5505E+22	
Organic I (atoms)	5.7219E+20	0.0000E+00	
Aerosols (kg)	1.7318E-01	5.0843E+01	
Dose Effective (Ci/cc) I-131 (Thyroid)			3.0810E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			3.1302E-05
Total I (Ci)			1.0271E+05

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.7590E+23
Elemental I (atoms)	0.0000E+00	8.8427E+18
Organic I (atoms)	0.0000E+00	1.2878E+19
Aerosols (kg)	0.0000E+00	4.4783E-03

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.7590E+23
Elemental I (atoms)	0.0000E+00	8.8427E+18
Organic I (atoms)	0.0000E+00	1.2878E+19
Aerosols (kg)	0.0000E+00	4.4783E-03

## Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.2103E+23
Elemental I (atoms)	0.0000E+00	7.0820E+18
Organic I (atoms)	0.0000E+00	1.0314E+19
Aerosols (kg)	0.0000E+00	3.5872E-03

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.0984E+27
Elemental I (atoms)	0.0000E+00	5.7825E+22
Organic I (atoms)	0.0000E+00	9.3512E+22
Aerosols (kg)	0.0000E+00	2.6688E+01

## Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 96.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	2.0871E+27
Elemental I (atoms)	0.0000E+00	5.7410E+22
Organic I (atoms)	0.0000E+00	9.2831E+22
Aerosols (kg)	0.0000E+00	2.6586E+01

## Exclusion Area Boundary Doses:

Time (h) = 240.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.6814E+01	4.7709E+02	4.0920E+01
Accumulated dose (rem)	1.0007E+02	1.4874E+03	1.6717E+02

## Low Population Zone Doses:

Time (h) = 240.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	6.0209E-01	1.1227E+01	1.1693E+00
Accumulated dose (rem)	1.2666E+01	1.0677E+02	1.7551E+01

## Control Room Doses:

Time (h) = 240.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.2344E-02	1.3111E+00	7.8512E-02
Accumulated dose (rem)	4.9485E-01	2.5226E+01	1.6176E+00

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 240.0000	Ci	kg	Atoms	Decay
Co-58	4.0770E+00	1.2822E-07	1.3313E+18	1.4975E+17
Co-60	5.3621E+00	4.7436E-06	4.7611E+19	1.8723E+17
Kr-85	7.8498E+05	2.0008E+00	1.4175E+25	2.5724E+22
Kr-85m	9.4658E-10	1.1502E-19	8.1492E+05	9.9386E+21
Rb-86	1.0913E+02	1.3411E-06	9.3913E+18	4.7699E+18
Sr-89	5.5680E+03	1.9166E-04	1.2968E+21	2.0894E+20
Sr-90	8.8093E+02	6.4581E-03	4.3213E+22	3.0711E+19
Sr-91	1.9758E-04	5.4505E-14	3.6070E+11	2.9550E+19
Y-90	8.1957E+02	1.5064E-06	1.0080E+19	1.8438E+19
Y-91	9.0846E+01	3.7044E-06	2.4515E+19	3.2902E+18
Y-93	6.9075E-06	2.0704E-15	1.3407E+10	3.7799E+17
Zr-95	9.7296E+01	4.5290E-06	2.8710E+19	3.5941E+18
Zr-97	5.7141E-03	2.9891E-12	1.8557E+13	5.6871E+17
Nb-95	1.0784E+02	2.7579E-06	1.7483E+19	3.7876E+18
Mo-99	1.2075E+02	2.5176E-07	1.5314E+18	2.1128E+19
Tc-99m	1.2380E+02	2.3543E-08	1.4321E+17	2.0044E+19
Ru-103	1.0624E+03	3.2918E-05	1.9247E+20	4.0731E+19
Ru-106	5.4543E+02	1.6303E-04	9.2621E+20	1.9200E+19
Rh-105	8.9026E+00	1.0547E-08	6.0493E+16	8.4872E+18
Sb-127	2.8902E+02	1.0823E-06	5.1319E+18	3.0297E+19
Te-127	5.0655E+02	1.9194E-07	9.1015E+17	3.5239E+19
Te-127m	2.2852E+02	2.4226E-05	1.1488E+20	8.1081E+18
Te-129	5.3809E+02	2.5694E-08	1.1995E+17	2.8249E+19
Te-129m	6.2228E+02	2.0656E-05	9.6430E+19	2.4236E+19
Te-131m	9.0633E+00	1.1366E-08	5.2250E+16	1.8396E+19
Te-132	2.6953E+03	8.8781E-06	4.0504E+19	3.5494E+20
I-131	4.6848E+04	3.7788E-04	1.7372E+21	2.6517E+21
I-132	3.2172E+03	3.1168E-07	1.4219E+18	6.9473E+20
I-133	7.6162E+01	6.7233E-08	3.0443E+17	1.3467E+21
I-135	2.4863E-06	7.0799E-16	3.1582E+09	6.2582E+20
Xe-133	2.4309E+07	1.2987E-01	5.8804E+23	1.6602E+24
Xe-135	5.0431E-01	1.9748E-10	8.8093E+14	7.5851E+22
Cs-134	1.9374E+04	1.4975E-02	6.7298E+22	6.9161E+20
Cs-136	2.8157E+03	3.8418E-05	1.7012E+20	1.3493E+20
Cs-137	1.2407E+04	1.4264E-01	6.2701E+23	4.4085E+20

Ba-140	6.5634E+03	8.9653E-05	3.8564E+20	3.0973E+20
La-140	7.4099E+03	1.3331E-05	5.7345E+19	2.2585E+20
Ce-141	2.1642E+02	7.5954E-06	3.2440E+19	8.4655E+18
Ce-143	1.6142E+00	2.4307E-09	1.0236E+16	2.1248E+18
Ce-144	2.1696E+02	6.8024E-05	2.8448E+20	7.6602E+18
Pr-143	7.4443E+01	1.1055E-06	4.6556E+18	3.2139E+18
Nd-147	2.2699E+01	2.8059E-07	1.1495E+18	1.1273E+18
Np-239	1.6747E+02	7.2188E-07	1.8189E+18	4.0215E+19
Pu-238	1.2391E+00	7.2377E-05	1.8314E+20	4.3163E+16
Pu-239	7.4148E-02	1.1929E-03	3.0058E+21	2.5748E+15
Pu-240	7.3931E-02	3.2445E-04	8.1412E+20	2.5765E+15
Pu-241	4.4011E+01	4.2724E-04	1.0676E+21	1.5349E+18
Am-241	3.3120E-02	9.6498E-06	2.4113E+19	1.1183E+15
Cm-242	5.8752E+00	1.7727E-06	4.4113E+18	2.0947E+17
Cm-244	7.8705E-01	9.7283E-06	2.4010E+19	2.7444E+16

## Sprayed Drywell Transport Group Inventory:

Time (h) = 240.0000	Atmosphere	Sump	
Noble gases (atoms)	1.4763E+25	0.0000E+00	
Elemental I (atoms)	1.8771E+20	5.5505E+22	
Organic I (atoms)	3.2567E+20	0.0000E+00	
Aerosols (kg)	1.6706E-01	5.0843E+01	
Dose Effective (Ci/cc) I-131 (Thyroid)			1.7427E-05
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			1.7466E-05
Total I (Ci)			5.0141E+04

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 240.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.8003E+23
Elemental I (atoms)	0.0000E+00	1.3833E+19
Organic I (atoms)	0.0000E+00	2.1536E+19
Aerosols (kg)	0.0000E+00	7.8506E-03

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 240.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.8003E+23
Elemental I (atoms)	0.0000E+00	1.3833E+19
Organic I (atoms)	0.0000E+00	2.1536E+19
Aerosols (kg)	0.0000E+00	7.8506E-03

## Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 240.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	4.6517E+23
Elemental I (atoms)	0.0000E+00	1.1088E+19
Organic I (atoms)	0.0000E+00	1.7264E+19
Aerosols (kg)	0.0000E+00	6.2943E-03

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 240.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.0281E+27
Elemental I (atoms)	0.0000E+00	1.0590E+23
Organic I (atoms)	0.0000E+00	1.7691E+23
Aerosols (kg)	0.0000E+00	5.9173E+01

## Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 240.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	5.0171E+27
Elemental I (atoms)	0.0000E+00	1.0549E+23
Organic I (atoms)	0.0000E+00	1.7624E+23
Aerosols (kg)	0.0000E+00	5.9075E+01

## Exclusion Area Boundary Doses:

Time (h) = 720.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	1.2458E+01	5.2178E+02	5.7093E+01
Accumulated dose (rem)	1.1252E+02	2.0092E+03	2.2427E+02

## Low Population Zone Doses:

Time (h) = 720.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	4.4610E-01	1.2278E+01	1.4964E+00
Accumulated dose (rem)	1.3112E+01	1.1904E+02	1.9048E+01

## Control Room Doses:

Time (h) = 720.0000	Whole Body	Thyroid	TEDE
Delta dose (rem)	8.9736E-03	1.4208E+00	1.3050E-01
Accumulated dose (rem)	5.0383E-01	2.6647E+01	1.7481E+00

## Sprayed Drywell Compartment Nuclide Inventory:

Time (h) = 720.0000	Ci	kg	Atoms	Decay
Co-58	2.9987E+00	9.4306E-08	9.7918E+17	3.7416E+17
Co-60	4.7626E+00	4.2133E-06	4.2288E+19	5.1048E+17
Kr-85	6.9977E+05	1.7836E+00	1.2637E+25	7.3131E+22
Rb-86	4.6442E+01	5.7077E-07	3.9968E+18	9.4606E+18
Sr-89	3.7854E+03	1.3030E-04	8.8165E+20	5.0426E+20
Sr-90	7.8706E+02	5.7700E-03	3.8608E+22	8.3971E+19
Y-90	7.9120E+02	1.4542E-06	9.7308E+18	7.0916E+19
Y-91	6.4127E+01	2.6149E-06	1.7305E+19	8.1943E+18
Zr-95	7.0086E+01	3.2624E-06	2.0681E+19	8.8969E+18
Zr-97	1.4409E-11	7.5371E-21	4.6793E+04	5.6873E+17
Nb-95	9.0116E+01	2.3046E-06	1.4609E+19	1.0122E+19
Mo-99	6.9856E-01	1.4565E-09	8.8598E+15	2.2617E+19
Tc-99m	7.1619E-01	1.3620E-10	8.2852E+14	2.1494E+19
Ru-103	6.6781E+02	2.0692E-05	1.2098E+20	9.5063E+19
Ru-106	4.6992E+02	1.4046E-04	7.9798E+20	5.1595E+19
Rh-105	6.5279E-04	7.7339E-13	4.4357E+12	8.5470E+18
Sb-127	7.0594E+00	2.6435E-08	1.2535E+17	3.5152E+19
Te-127	1.9186E+02	7.2697E-08	3.4472E+17	5.2541E+19
Te-127m	1.8147E+02	1.9239E-05	9.1228E+19	2.1181E+19
Te-129	3.1864E+02	1.5215E-08	7.1029E+16	4.8415E+19
Te-129m	3.6850E+02	1.2232E-05	5.7103E+19	5.5200E+19
Te-131m	1.2372E-04	1.5515E-13	7.1325E+11	1.8448E+19
Te-132	3.4237E+01	1.1277E-07	5.1449E+17	3.9390E+20
I-131	7.4732E+03	6.0280E-05	2.7711E+20	4.0230E+21
I-132	4.0865E+01	3.9590E-09	1.8062E+16	7.3507E+20
I-133	7.7006E-06	6.7978E-15	3.0780E+10	1.3470E+21
Xe-133	1.5472E+06	8.2655E-03	3.7426E+22	2.1885E+24
Cs-134	1.7017E+04	1.3152E-02	5.9107E+22	1.8532E+21
Cs-136	8.7425E+02	1.1928E-05	5.2820E+19	2.4104E+20
Cs-137	1.1085E+04	1.2745E-01	5.6022E+23	1.1910E+21
Ba-140	1.9778E+03	2.7016E-05	1.1621E+20	5.5412E+20
La-140	2.2975E+03	4.1334E-06	1.7780E+19	5.0600E+20
Ce-141	1.2638E+02	4.4355E-06	1.8944E+19	1.9166E+19
Ce-143	6.0390E-05	9.0937E-14	3.8296E+11	2.1349E+18

Ce-144	1.8486E+02	5.7959E-05	2.4239E+20	2.0477E+19
Pr-143	2.4017E+01	3.5666E-07	1.5020E+18	6.0665E+18
Nd-147	5.7455E+00	7.1021E-08	2.9095E+17	1.9162E+18
Np-239	4.1596E-01	1.7930E-09	4.5179E+15	4.1996E+19
Pu-238	1.1102E+00	6.4849E-05	1.6409E+20	1.1818E+17
Pu-239	6.6373E-02	1.0678E-03	2.6907E+21	7.0628E+15
Pu-240	6.6143E-02	2.9027E-04	7.2836E+20	7.0493E+15
Pu-241	3.9269E+01	3.8121E-04	9.5257E+20	4.1940E+18
Am-241	3.3080E-02	9.6381E-06	2.4084E+19	3.2362E+15
Cm-242	4.8270E+00	1.4564E-06	3.6243E+18	5.5046E+17
Cm-244	7.0263E-01	8.6849E-06	2.1435E+19	7.5010E+16

## Sprayed Drywell Transport Group Inventory:

Time (h) = 720.0000	Atmosphere	Sump	
Noble gases (atoms)	1.2674E+25	0.0000E+00	
Elemental I (atoms)	2.9916E+19	5.5505E+22	
Organic I (atoms)	5.1903E+19	0.0000E+00	
Aerosols (kg)	1.4868E-01	5.0843E+01	
Dose Effective (Ci/cc) I-131 (Thyroid)			2.7781E-06
Dose Effective (Ci/cc) I-131 (ICRP2 Thyroid)			2.7786E-06
Total I (Ci)			7.5141E+03

## Drywell to MSIV Failed Control Vol 1 Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.4783E+24
Elemental I (atoms)	0.0000E+00	1.9520E+19
Organic I (atoms)	0.0000E+00	3.1403E+19
Aerosols (kg)	0.0000E+00	1.8269E-02

## Drywell to Intact Control Volume 2 Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.4783E+24
Elemental I (atoms)	0.0000E+00	1.9520E+19
Organic I (atoms)	0.0000E+00	3.1403E+19
Aerosols (kg)	0.0000E+00	1.8269E-02

## Drywell to Intact Control Volume 4 Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.1863E+24
Elemental I (atoms)	0.0000E+00	1.5653E+19
Organic I (atoms)	0.0000E+00	2.5185E+19
Aerosols (kg)	0.0000E+00	1.4658E-02

## Sprayed Drywell to Unsprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.3681E+28
Elemental I (atoms)	0.0000E+00	1.6068E+23
Organic I (atoms)	0.0000E+00	2.7196E+23
Aerosols (kg)	0.0000E+00	1.5954E+02

## Unsprayed Drywell to Sprayed Drywell Transport Group Inventory:

	Pathway	
Time (h) = 720.0000	Filtered	Transported
Noble gases (atoms)	0.0000E+00	1.3671E+28

Elemental I (atoms) 0.0000E+00 1.6028E+23  
 Organic I (atoms) 0.0000E+00 2.7130E+23  
 Aerosols (kg) 0.0000E+00 1.5945E+02

930

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

Time (hr)	Sprayed Drywell I-131 (Curies)	MSIV Failed Control V I-131 (Curies)	Intact Control Volume I-131 (Curies)
0.000	4.5258E+03	0.0000E+00	0.0000E+00
0.033	2.6557E+05	0.0000E+00	0.0000E+00
0.167	1.2318E+06	4.6062E+01	4.5604E+01
0.500	5.3660E+05	1.2884E+02	1.2304E+02
0.667	8.5231E+05	1.7240E+02	1.6284E+02
1.000	8.9298E+05	2.6414E+02	2.4440E+02
1.160	8.9971E+05	3.0295E+02	2.7741E+02
1.410	9.0757E+05	3.5710E+02	3.2182E+02
1.660	9.1337E+05	4.0411E+02	3.5871E+02
1.910	9.1788E+05	4.4486E+02	3.8930E+02
2.000	9.1928E+05	4.5814E+02	3.9898E+02
2.200	1.1455E+05	4.4294E+02	3.7943E+02
2.300	7.9938E+04	4.2938E+02	3.6404E+02
2.600	1.6513E+05	3.9486E+02	3.2532E+02
2.900	1.6702E+05	3.6660E+02	2.9442E+02
3.200	1.4892E+05	3.4047E+02	2.6685E+02
3.500	1.2861E+05	3.1553E+02	2.4147E+02
3.800	1.1058E+05	2.9169E+02	2.1803E+02
4.000	1.0027E+05	2.7647E+02	2.0346E+02
4.300	1.0990E+05	2.5571E+02	1.8415E+02
4.600	1.1336E+05	2.3760E+02	1.6790E+02
4.900	1.1454E+05	2.2156E+02	1.5401E+02
5.200	1.1489E+05	2.0725E+02	1.4205E+02
5.500	1.1493E+05	1.9447E+02	1.3172E+02
5.800	1.1486E+05	1.8303E+02	1.2278E+02
6.100	1.1475E+05	1.7278E+02	1.1504E+02
6.400	1.1462E+05	1.6360E+02	1.0834E+02
6.700	1.1448E+05	1.5538E+02	1.0254E+02
7.000	1.1435E+05	1.4801E+02	9.7502E+01
7.300	1.1421E+05	1.4140E+02	9.3139E+01
7.600	1.1407E+05	1.3548E+02	8.9354E+01
7.900	1.1394E+05	1.3017E+02	8.6070E+01
8.000	1.1389E+05	1.2852E+02	8.5074E+01
8.300	1.1375E+05	1.2393E+02	8.2354E+01
8.600	1.1362E+05	1.1981E+02	7.9991E+01
8.900	1.1348E+05	1.1611E+02	7.7937E+01
9.200	1.1335E+05	1.1279E+02	7.6149E+01
9.500	1.1321E+05	1.0981E+02	7.4593E+01
9.800	1.1307E+05	1.0713E+02	7.3236E+01
10.100	1.1294E+05	1.0472E+02	7.2052E+01
10.400	1.1280E+05	1.0256E+02	7.1017E+01
24.000	1.0681E+05	8.0593E+01	6.1454E+01
48.000	9.7515E+04	7.3311E+01	5.5972E+01
72.000	8.9002E+04	6.6909E+01	5.1085E+01
96.000	8.1220E+04	6.1058E+01	4.6618E+01
240.000	4.6848E+04	3.5219E+01	2.6890E+01
720.000	7.4732E+03	5.6181E+00	4.2894E+00

Time (hr)	Intact Control Volume I-131 (Curies)	Intact Control Volume I-131 (Curies)	Intact Control Volume I-131 (Curies)
0.000	0.0000E+00	0.0000E+00	0.0000E+00

0.033	0.0000E+00	0.0000E+00	0.0000E+00
0.167	5.5635E-01	3.6912E+01	2.6119E-01
0.500	5.7650E+00	1.0350E+02	2.9249E+00
0.667	8.7104E+00	1.3861E+02	4.5707E+00
1.000	1.5823E+01	2.1269E+02	8.7256E+00
1.160	1.9374E+01	2.4412E+02	1.0917E+01
1.410	2.4669E+01	2.8809E+02	1.4355E+01
1.660	2.9464E+01	3.2638E+02	1.7667E+01
1.910	3.3687E+01	3.5967E+02	2.0763E+01
2.000	3.5068E+01	3.7055E+02	2.1817E+01
2.200	3.6408E+01	3.5864E+02	2.2973E+01
2.300	3.6679E+01	3.4792E+02	2.3358E+01
2.600	3.6278E+01	3.2058E+02	2.3871E+01
2.900	3.4873E+01	2.9817E+02	2.3767E+01
3.200	3.3008E+01	2.7739E+02	2.3294E+01
3.500	3.0942E+01	2.5750E+02	2.2590E+01
3.800	2.8819E+01	2.3845E+02	2.1741E+01
4.000	2.7415E+01	2.2626E+02	2.1125E+01
4.300	2.5384E+01	2.0960E+02	2.0167E+01
4.600	2.3507E+01	1.9504E+02	1.9215E+01
4.900	2.1816E+01	1.8210E+02	1.8299E+01
5.200	2.0313E+01	1.7054E+02	1.7436E+01
5.500	1.8989E+01	1.6018E+02	1.6633E+01
5.800	1.7827E+01	1.5088E+02	1.5892E+01
6.100	1.6811E+01	1.4254E+02	1.5214E+01
6.400	1.5925E+01	1.3505E+02	1.4595E+01
6.700	1.5154E+01	1.2832E+02	1.4032E+01
7.000	1.4482E+01	1.2227E+02	1.3522E+01
7.300	1.3899E+01	1.1684E+02	1.3060E+01
7.600	1.3391E+01	1.1196E+02	1.2642E+01
7.900	1.2950E+01	1.0757E+02	1.2264E+01
8.000	1.2816E+01	1.0621E+02	1.2147E+01
8.300	1.2438E+01	1.0241E+02	1.1805E+01
8.600	1.2111E+01	9.8985E+01	1.1500E+01
8.900	1.1829E+01	9.5907E+01	1.1226E+01
9.200	1.1585E+01	9.3137E+01	1.0980E+01
9.500	1.1372E+01	9.0643E+01	1.0759E+01
9.800	1.1188E+01	8.8398E+01	1.0561E+01
10.100	1.1026E+01	8.6376E+01	1.0382E+01
10.400	1.0885E+01	8.4553E+01	1.0220E+01
24.000	9.5296E+00	6.5825E+01	8.4477E+00
48.000	8.5986E+00	6.0229E+01	7.6417E+00
72.000	7.6593E+00	5.4973E+01	6.7634E+00
96.000	6.7334E+00	5.0166E+01	5.8918E+00
240.000	3.7182E+00	2.8936E+01	3.2243E+00
720.000	5.3467E-01	4.6159E+00	4.6030E-01

Time (hr)	Environment I-131 (Curies)	Control Room I-131 (Curies)	Unsprayed Drywell I-131 (Curies)
0.000	0.0000E+00	0.0000E+00	1.6670E+00
0.033	0.0000E+00	0.0000E+00	5.7769E+03
0.167	3.1078E-01	3.2731E-04	1.2580E+05
0.500	5.2312E+00	4.4669E-03	2.6802E+05
0.667	9.6294E+00	7.4664E-03	3.3555E+05
1.000	2.3408E+01	6.8185E-03	4.5651E+05
1.160	3.2450E+01	6.7304E-03	4.9410E+05
1.410	4.9605E+01	6.8257E-03	5.3526E+05
1.660	7.0227E+01	7.1478E-03	5.6194E+05
1.910	9.4031E+01	7.6394E-03	5.7942E+05
2.000	1.0332E+02	7.8483E-03	5.8416E+05
2.200	1.1581E+02	7.4828E-03	4.5919E+05
2.300	1.2204E+02	7.3180E-03	3.8705E+05
2.600	1.4042E+02	6.8729E-03	2.5368E+05



2.900	1.5828E+02	6.4858E-03	1.8970E+05
3.200	1.7551E+02	6.1412E-03	1.5114E+05
3.500	1.9208E+02	5.8281E-03	1.2403E+05
3.800	2.0796E+02	5.5393E-03	1.0342E+05
4.000	2.1817E+02	5.3580E-03	9.2219E+04
4.300	2.3293E+02	5.1008E-03	8.2364E+04
4.600	2.4708E+02	4.8611E-03	7.8677E+04
4.900	2.6066E+02	4.6384E-03	7.7261E+04
5.200	2.7375E+02	4.4324E-03	7.6682E+04
5.500	2.8639E+02	4.2425E-03	7.6410E+04
5.800	2.9862E+02	4.0680E-03	7.6253E+04
6.100	3.1049E+02	3.9083E-03	7.6137E+04
6.400	3.2203E+02	3.7625E-03	7.6036E+04
6.700	3.3329E+02	3.6297E-03	7.5942E+04
7.000	3.4429E+02	3.5091E-03	7.5849E+04
7.300	3.5506E+02	3.3997E-03	7.5758E+04
7.600	3.6563E+02	3.3007E-03	7.5667E+04
7.900	3.7601E+02	3.2113E-03	7.5576E+04
8.000	3.7944E+02	3.1834E-03	7.5546E+04
8.300	3.8948E+02	2.7852E-03	7.5455E+04
8.600	3.9938E+02	2.4613E-03	7.5364E+04
8.900	4.0915E+02	2.1975E-03	7.5274E+04
9.200	4.1881E+02	1.9825E-03	7.5183E+04
9.500	4.2836E+02	1.8071E-03	7.5093E+04
9.800	4.3783E+02	1.6637E-03	7.5003E+04
10.100	4.4721E+02	1.5465E-03	7.4912E+04
10.400	4.5651E+02	1.4505E-03	7.4822E+04
24.000	8.4823E+02	9.4828E-04	7.0847E+04
48.000	1.1540E+03	2.6773E-04	6.4675E+04
72.000	1.4113E+03	2.2534E-04	5.9029E+04
96.000	1.6281E+03	1.8984E-04	5.3868E+04
240.000	2.5359E+03	6.3436E-05	3.1071E+04
720.000	3.5279E+03	9.6628E-06	4.9565E+03

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

Time (hr)	Exclusion Area Bounda		Low Population Zone		Control Room	
	Thyroid (rem)	TEDE (rem)	Thyroid (rem)	TEDE (rem)	Thyroid (rem)	TEDE (rem)
0.000	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.033	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.167	2.2680E-01	1.1503E-02	6.4704E-02	3.2818E-03	5.5296E-03	2.3232E-04
0.500	3.8057E+00	2.0438E-01	1.0857E+00	5.8310E-02	2.7201E-01	1.1360E-02
0.667	7.0027E+00	3.9945E-01	1.9978E+00	1.1396E-01	6.3591E-01	2.6643E-02
1.000	1.7076E+01	1.2097E+00	4.8716E+00	3.4513E-01	1.5054E+00	6.4114E-02
1.160	2.3695E+01	1.8623E+00	6.7600E+00	5.3130E-01	1.9027E+00	8.1925E-02
1.410	3.6253E+01	3.2921E+00	1.0343E+01	9.3922E-01	2.5224E+00	1.1126E-01
1.660	5.1335E+01	5.2604E+00	1.4646E+01	1.5008E+00	3.1616E+00	1.4402E-01
1.910	6.8714E+01	7.7852E+00	1.9604E+01	2.2211E+00	3.8384E+00	1.8166E-01
2.000	7.5490E+01	8.8304E+00	2.1537E+01	2.5193E+00	4.0940E+00	1.9664E-01
2.200	8.4586E+01	1.0293E+01	2.3543E+01	2.8419E+00	4.6559E+00	2.3047E-01
2.300	8.9114E+01	1.1048E+01	2.4542E+01	3.0084E+00	4.9269E+00	2.4707E-01
2.600	1.0245E+02	1.3375E+01	2.7483E+01	3.5218E+00	5.7050E+00	2.9586E-01
2.900	1.1534E+02	1.5762E+01	3.0327E+01	4.0483E+00	6.4357E+00	3.4335E-01
3.200	1.2774E+02	1.8171E+01	3.3063E+01	4.5797E+00	7.1249E+00	3.8971E-01
3.500	1.3961E+02	2.0571E+01	3.5681E+01	5.1091E+00	7.7764E+00	4.3496E-01
3.800	1.5095E+02	2.2939E+01	3.8181E+01	5.6315E+00	8.3935E+00	4.7909E-01
4.000	1.5821E+02	2.4492E+01	3.9783E+01	5.9741E+00	8.7869E+00	5.0784E-01
4.300	1.6867E+02	2.6773E+01	4.2090E+01	6.4773E+00	9.3519E+00	5.4994E-01
4.600	1.7865E+02	2.8990E+01	4.4293E+01	6.9662E+00	9.8883E+00	5.9074E-01
4.900	1.8821E+02	3.1137E+01	4.6401E+01	7.4398E+00	1.0398E+01	6.3020E-01

5.200	1.9737E+02	3.3212E+01	4.8422E+01	7.8975E+00	1.0883E+01	6.6830E-01
5.500	2.0619E+02	3.5213E+01	5.0367E+01	8.3391E+00	1.1346E+01	7.0504E-01
5.800	2.1469E+02	3.7142E+01	5.2243E+01	8.7644E+00	1.1787E+01	7.4043E-01
6.100	2.2291E+02	3.8998E+01	5.4057E+01	9.1738E+00	1.2210E+01	7.7450E-01
6.400	2.3088E+02	4.0783E+01	5.5815E+01	9.5676E+00	1.2615E+01	8.0728E-01
6.700	2.3863E+02	4.2500E+01	5.7523E+01	9.9463E+00	1.3003E+01	8.3882E-01
7.000	2.4617E+02	4.4150E+01	5.9187E+01	1.0310E+01	1.3378E+01	8.6917E-01
7.300	2.5353E+02	4.5738E+01	6.0810E+01	1.0661E+01	1.3739E+01	8.9838E-01
7.600	2.6073E+02	4.7264E+01	6.2398E+01	1.0997E+01	1.4088E+01	9.2652E-01
7.900	2.6778E+02	4.8733E+01	6.3953E+01	1.1321E+01	1.4426E+01	9.5363E-01
8.000	2.7010E+02	4.9210E+01	6.4465E+01	1.1427E+01	1.4536E+01	9.6246E-01
8.300	2.7689E+02	5.0603E+01	6.4784E+01	1.1541E+01	1.4844E+01	9.8687E-01
8.600	2.8357E+02	5.1945E+01	6.5097E+01	1.1651E+01	1.5114E+01	1.0080E+00
8.900	2.9014E+02	5.3238E+01	6.5405E+01	1.1757E+01	1.5353E+01	1.0265E+00
9.200	2.9662E+02	5.4485E+01	6.5709E+01	1.1859E+01	1.5567E+01	1.0429E+00
9.500	3.0301E+02	5.5689E+01	6.6008E+01	1.1958E+01	1.5761E+01	1.0575E+00
9.800	3.0932E+02	5.6851E+01	6.6304E+01	1.2052E+01	1.5938E+01	1.0707E+00
10.100	3.1556E+02	5.7974E+01	6.6597E+01	1.2144E+01	1.6101E+01	1.0828E+00
10.400	3.2174E+02	5.9061E+01	6.6886E+01	1.2232E+01	1.6253E+01	1.0940E+00
24.000	5.7134E+02	9.0027E+01	7.8591E+01	1.4625E+01	2.0790E+01	1.3743E+00
48.000	7.5091E+02	1.0517E+02	8.5523E+01	1.5370E+01	2.2168E+01	1.4460E+00
72.000	8.9358E+02	1.1658E+02	9.1031E+01	1.5919E+01	2.3129E+01	1.4961E+00
96.000	1.0103E+03	1.2625E+02	9.5539E+01	1.6382E+01	2.3915E+01	1.5391E+00
240.000	1.4874E+03	1.6717E+02	1.0677E+02	1.7551E+01	2.5226E+01	1.6176E+00
720.000	2.0092E+03	2.2427E+02	1.1904E+02	1.9048E+01	2.6647E+01	1.7481E+00

#####  
Worst Two-Hour Doses  
#####

Exclusion Area Boundary

Time	Whole Body	Thyroid	TEDE
(hr)	(rem)	(rem)	(rem)
1.6	1.1776E+01	9.5674E+01	1.6572E+01