

9 SOURCE TERMS

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9 SOURCE TERMS

9.1 INTRODUCTION

As discussed in Sections 8 and 21, the containment response to a severe accident is depicted by the end states of containment event trees. These end states become the “release categories” that are used to characterize potential source terms. The source terms will be used in the offsite consequence analysis presented in Section 10.

Table 9-1 summarizes the ESBWR release categories, their associated frequencies are shown in Section 10. The release category “TSL,” which depicts an intact containment with only normally allowed leakage providing a source term, is the most likely release category. Other release categories have much lower calculated frequencies.

The source term evaluation was performed with the MAAP computer code, which produces the distribution of radionuclides released to the environment as a function of time. Each release category is represented by one or two severe accident sequences that were selected and modeled to represent the group of potential severe accidents that could be associated with that release category. In some cases, both low pressure and high pressure classes were selected for the same release category to provide a more representative contribution of accident sequences. If multi-sequences were selected for a given release category, each sequence is weighted by its sequence frequency contribution to the sequence class.

The following sections describe the representative sequences and the bases for choosing them. As indicated in the following sections, conservative assumptions were typically made to account for analytical and phenomenological uncertainties. Table 9-1 includes the representative MAAP sequences as well as the time of initial release and cumulative release fractions of noble gas and CsI at 24 and 72 hours after onset of core damage. Tables 9-2 and 9-3 provide the radionuclide release spectrum for 24 and 72 hours after onset of core damage, respectively.

Source terms 5, 6, 7, 8, 10, 11, 12, 13 and 14 were re-quantified with MAAP analysis to account for containment ultimate strength reduction (Ref. 9-1) for Revision 4. Consistent with Revision 3 results, the release fraction at 24 hours was chosen to represent early release source terms and the release fraction at 72 hours was chosen to represent release variations and uncertainties post 24 hours up to 72 hours. Source term 15 was re-quantified for Revision 6 to analyze changes to PCCS heat exchangers in response to combustible gas concerns.

The representative sequences for each of the external events release categories were chosen based on current internal events source term representative sequences. Current external events are modeled with the same events trees as used for the internal events. It is assumed that the internal events release sequences serve reasonable representation of the external events source terms distribution and contribution to offsite consequences.

The models in MAAP406 predict that the overlying pool will cool the corium pool and stop CCI early. However a sensitivity study has been performed to address uncertainties concerning heat transfer between a debris bed and an overlying water pool. The analysis investigates CCI for concrete used to cover the BIMAC. The results of this sensitivity can be found in Section 11 of NEDO-33201.

For the shutdown PRA, as described in NEDO-33201, section 16, the shutdown PRA analysis assumed all core damage sequences contribute directly to large release frequency, i.e., all core damage events contribute to a bypass release. The internal event containment bypass sequences are used to represent the shutdown events in this analysis. The bypass release category of the internal events assumed that the failure of the Containment Isolation System function leads to a direct release path to the environment, bypassing the containment.

The at-power model accounts for reactor modes 1 through 4. The shutdown model covers modes 5 and 6. The representative cases used for the at-power model assumed the containment was bypassed. The shutdown model conservatively assumed the containment was open for the entire shutdown. Since the cases used in the at-power internal events model bypassed the containment altogether, the same cases can be reasonably applied to shutdown sequences that assumed the containment was open. Using this approach does not credit source term decay throughout shutdown.

Appendix 9A presents additional documentation of the MAAP cases used for source term calculations

9.2 BREAK OUTSIDE OF CONTAINMENT (BOC)

The release category “Break Outside-of-Containment” represents sequences in which the RPV communicates directly with the environment due to an unisolated piping break that connects the RPV directly to an area outside of containment. From the Level 1 PRA, three outside-containment break locations contributed to the core damage frequency: breaks in a feedwater line, breaks in a Main Steam Line (MSL) and breaks in a RWCU/SDC line. The RWCU/SDC break event tree includes both a mid-level connection to the RPV and a lower head drain line connection.

Although the largest frequency contribution to outside-containment break is associated with the feedwater line, selecting the RWCU/SDC pipe break to represent the release category is conservative because its lower elevation in the RPV results in a more rapid loss of coolant inventory. Both the mid-level location and the lower drain line location were selected to represent the BOC release category.

Therefore, the representative sequences for this category are “BOCsd_nIN” and “BOCdr_nIN. These are unisolated breaks outside of containment in the shutdown cooling piping followed by no injection into the RPV. In these scenarios, the release begins at the onset of fuel damage and proceeds directly to the environment.

The third BOC class, Main steam line breaks, is much less likely than the FDW breaks. Also, MSL breaks are connected to the RPV at high elevation, and as such do not result in as bounding a scenario as the RWCU/SDC lines.

9.3 CONTAINMENT BYPASS (BYP)

The release category “Bypass” represents those sequences in which containment isolation has not occurred due to failure of the Containment Isolation System (CIS) function. Thus, there is a direct path from the containment atmosphere to the environment when the severe accident is initiated.

To determine the source term, a large diameter pipe (similar to MSL piping diameter) opening was assumed from the time of accident initiation. Sequences in which the RPV is depressurized generally result in an earlier time to core uncover than those involving failure to depressurize. As a result, the source term is generated earlier and the containment radionuclide concentration is developed earlier because of the path through the DPVs into containment. Both a low pressure sequence and high pressure sequence are selected to represent a thorough cross-section of the contributing sequences. Because of the reliability of the deluge system (i.e., the probability of BYP with failed deluge is below the truncation level), the representative sequences are modeled with deluge success and are termed as “T_nIN_BYP” and “T_nDP_nIN_BYP”. In these scenarios, the releases begin at the onset of fuel damage and proceed directly to the environment.

9.4 CORE-CONCRETE INTERACTION DRY (CCID)

The release category “Core-Concrete Interaction-Dry” applies to sequences in which the deluge function is unsuccessful and containment fails due to core concrete interaction , the lower drywell debris bed is uncovered.

In these sequences, the core-concrete interaction is not limited by water cooling the debris bed, nor is the radionuclide release limited by the potential scrubbing action of an overlying water pool. Sequences in which the RPV is not depressurized may result in earlier RPV failure, thus initiating earlier CCID. To represent a more accurate risk contribution, both a low pressure sequence and a high pressure sequence were selected to represent the CCID source term category. The sequences are termed as “T_nIN_nD_CCID” and “T_nDP_nIN_nD_CCID” to indicate transient failure of injection and the deluge functions.

9.5 CORE-CONCRETE INTERACTION-WET (CCIW)

The release category “Core-Concrete Interaction-Wet” applies to sequences in which the containment fails due to core concrete interaction even though the lower drywell debris bed is covered with water. In such sequences, the deluge system has functioned to cover the debris bed with water, but the BiMAC is not successful in assuring debris bed cooling. The extent of water penetration into the debris bed, independent of the BiMAC, and thus, the potential for debris bed cooling, is subject to assumption. In the worst-case hypothetical condition, the debris bed is impermeable by the overlying water pool and the extent of CCI could approach that of a dry debris bed. To address this uncertainty associated with the debris bed coolability, the debris bed was modeled as being impermeable, thus maximizing the core-concrete interaction that could occur with an overlying water pool. Unlike the CCID release category, the overlying water pool is present, which provides the potential for scrubbing of the radionuclides evolved from the debris bed.

The representative sequences are termed as “T_nIN_CCIW” and “T_nDP_nIN_CCIW” and differ from the representative CCID sequences only in that the deluge system functions.

9.6 DIRECT CONTAINMENT HEATING (DCH)

The release category “Direct Containment Heating” applies to sequences in which the RPV fails at high pressure and a significant DCH event occurs. From Subsection 21.3, catastrophic containment failure due to DCH is physically unreasonable. Local damage to the liner in the lower drywell will be studied as a sensitivity case in Section 11. As such no DCH sequence is selected for the baseline case.

9.7 EX-VESSEL STEAM EXPLOSION (EVE)

The release category “Ex-vessel Steam Explosion” applies to sequences in which the RPV fails at low pressure and there is a deep, subcooled LDW water pool before the core relocates to the LDW floor. Because of phenomenological uncertainty, a significant steam explosion is assumed to occur. A conservative approach was used to develop the source term associated with an EVE, specifically:

Liner damage was assumed to be significant enough to result in containment depressurization, which occurs at the time of RPV failure,

No credit was taken for mitigation of the release; i.e., liner damage was assumed to result in direct communication with the environment, and

Due to uncertainties about potential equipment damage and the distribution of water through containment after the EVE, no credit is taken for a lower drywell water pool that would potentially minimize the source term.

The dominant Class I sequence, a transient with no injection and successful RPV depressurization, provided the basis for this category. To address the preceding points, the sequence was modeled with deluge failure and containment failure occurring at the time of RPV failure. The representative sequence is termed “T_nIN_nD_EVE”.

9.8 FILTERED RELEASE (FR)

The ESBWR design includes the potential to manually vent the containment from the suppression chamber air space. This action may be implemented to limit the containment pressure increase if containment heat removal fails or core-concrete interaction generates enough non-condensables to overpressurize the containment. Venting the suppression chamber forces the radionuclides through the suppression pool, which reduces the magnitude of the source term.

To represent the FR category, a sequence with failure to insert negative reactivity was conservatively selected because such a sequence would pressurize containment more quickly than the much more probable non-ATWS sequences. The sequence assumes RPV failure at low pressure, consistent with the discussion in Subsection 8.2.1.1. Operator guidance regarding venting has not been developed, but it is assumed that venting would be delayed until containment integrity is threatened. The analysis assumes that venting does not occur until the containment pressure reaches 90% of the containment ultimate strength. No credit was given in the analysis for closing the vent after reducing the containment pressure. The representative sequence is termed "T-AT_nIN_nCHR_FR".

9.9 OVERPRESSURE-VACUUM BREAKER (OPVB)

The release category “OPVB” applies to sequences in which the vacuum breakers have failed open, resulting in suppression pool bypass. Failure of vacuum breakers to close, or to be opened in a pre-existing condition, results in failure of the containment pressure suppression function and PCCS containment heat removal. Thus, such sequences would be expected to result in an earlier release than overpressure sequences with failure of containment heat removal alone.

To represent a more complete contribution of both high and low pressure sequences, two representative sequences are selected for this category. The event trees illustrate that the OPVB category is logically reached only if deluge/BiMAC function successfully. Thus, the sequences termed as “T_nDP_nIN_VB” and “T_nIN_VB” are used to represent the OPVB release category.

9.10 OVERPRESSURE- EARLY CONTAINMENT HEAT REMOVAL LOSS (OPW1)

The release category “OPW1” applies to sequences in which containment heat removal fails within 24 hours after event initiation. A sequence with RPV failure at high pressure was selected to represent this release category because RPV failure generally occurs earlier than if the vessel were depressurized. Thus, the representative sequence becomes “T_nDP_nIN_nCHR_W1”. Containment heat removal is conservatively assumed to be unavailable for the duration of the sequence.

9.11 OVERPRESSURE- LATE CONTAINMENT HEAT REMOVAL LOSS (OPW2)

The release category “OPW2” applies to sequences in which containment heat removal fails after the period covered by OPW1 (post-24 hours) and up to 72 hours after onset of core damage. In such sequences, the passive PCCS system becomes unavailable after 24 hours due to failure to connect to a supplemental water pool. The representative sequence is the same as that used for OPW1 except that containment heat removal is initially successful then terminated 24 hours after event initiation, considered conservative timing consistent with the PCCS design basis. The representative sequence is termed “T_nDP_nIN_nCHR_W2”.

9.12 TECHNICAL SPECIFICATION LEAKAGE (TSL)

The category “Technical Specification Leakage” applies to sequences in which the containment is intact and the only release is due to the maximum leak rate allowed by Technical Specifications. Sequence T_AT_nIN_TSL was selected as representative of this category because the core damage time is relatively early for ATWS sequences. For additional conservatism, the area of containment leakage corresponding to the maximum allowable Technical Specification leak rate was doubled to produce the representative source term used for this release category. The representative source term is termed “T-AT_nIN_TSL2x”.

9.13 SUMMARY

Potential release categories were defined in Sections 8 and 21. The source terms associated with each release category were developed using MAAP simulations of the representative sequence. Conservative assumptions were used in the selection and simulation of the representative sequences. Table 9-1 summarizes each release category, its representative sequence(s), and the cumulative release fractions for noble gases and CsI. Table 9-2 provides source terms for the period 24 hours after onset of core damage. Table 9-3 provides source terms for the period 72 hours after onset of core damage. The source terms and associated release category frequencies are used in the offsite consequence analysis described in Section 10.

9.14 ASSUMPTIONS

- (1) It is conservative to assume RWCU/SDC pipe break over feedwater line as representative BOC release sequence.
- (2) In order to model the CCIW phenomena, the debris bed is assumed to be impermeable to water ingress for CCIW release category.
- (3) Catastrophic containment failure due to DCH is physically unreasonable, see Subsection 21.3.4.2.
- (4) Significant steam explosion can fail containment under EVE release category.
- (5) Mitigation actions are not credited for EVE release category.
- (6) Venting will not occur before serious containment challenge for FR category.
- (7) Closing vent after reducing containment pressure is not credited.
- (8) The source term for the TSL release category can be represented by doubling the containment leakage area.

9.15 INSIGHTS

- (1) Section 10 of NEDO-33201 presents the risk contributions to radiological release consequences.
- (2) Section 11 of NEDO-33201 presents further risk insights as part of the sensitivity study.
- (3) OPVB sequence results in earlier release than overpressure sequence with containment heat removal failure alone.

9.16 REFERENCES

- 9-1 DCD Tier 2, Appendix 19C, Table 19C-13, Summary of ESBWR Fragility for Over Pressurization.

Table 9-1
Release Categories

Source Term	Release Category	MAAP CASE	Time of Plume Release (hr)	NG Release Fraction 24 hrs after onset of core damage	CsI Release Fraction 24 hrs after onset of core damage	NG Release Fraction 72 hrs after onset of core damage	CsI Release Fraction 72 hrs after onset of core damage
1	BOC	BOCsd_nIN_R1	0.7	9.7E-01	7.0E-01	9.8E-01	7.0E-01
2		BOCdr_nIN_R1	0.6	2.4E-01	1.1E-01	2.6E-01	1.3E-01
3	BYP	T_nIN_BYP_R1	0.7	9.5E-01	2.1E-01	9.7E-01	3.0E-01
4		T_nDP_nIN_BYP_R1	1.3	5.3E-01	3.3E-02	6.8E-01	3.5E-02
5	CCID	T_nIN_nD_CCID_R4	23.4	7.5E-01	1.3E-03	9.0E-01	1.73E-01
6		T_nDP_nIN_nD_CCID_R4	15.9	9.1E-01	6.8E-02	9.4E-01	3.4E-01
7	CCIW	T_nIN_CCIW_R4	23.1	2.5E-01	1.6E-06	8.8E-01	2.5E-05
8		T_nDP_nIN_CCIW_R4	17.5	6.4E-01	1.5E-04	8.2E-01	1.3E-02
9	EVE	T_nIN_nD_EVE_R1	7.4	8.3E-01	2.8E-02	8.3E-01	1.5E-01
10	FR	T-AT_nIN_nCHR_FR_R4	25.4	0.0E+0	0.0E+0	1.0E+00	7.3E-03
11	OPVB	T_nDP_nIN_VB_R4	13.0	4.5E-01	6.7E-05	9.7E-01	4.8E-03
12		T_nIN_VB_R4	8.4	7.8E-01	3.3E-03	9.9E-01	8.1E-03
13	OPW1	T_nDP_nIN_nCHR_W1_R4	31.7	0.0	0.0	9.9E-01	8.4E-04
14	OPW2	T_nDP_nIN_nCHR_W2_R4	50.1	0.0E+0	0.0E+0	9.7E-01	1.4E-04
15	TSL	T_AT_nIN_TSL2x_R6	0.4	2.6E-03	1.3E-04	2.6E-03	1.3E-04

Table 9-2
Radionuclide Source Terms
(Release Fraction 24 hours after onset of core damage)

Source Term	Xe/Kr	CsI	TeO ₂	SrO	MoO ₂	CsOH	BaO	La ₂ O ₃	CeO ₂	Sb	Te ₂	UO ₂
1	9.7E-01	7.0E-01	4.6E-01	1.3E-02	1.7E-01	3.6E-01	3.1E-02	2.5E-04	1.2E-03	4.6E-01	6.4E-04	3.0E-06
2	2.4E-01	1.1E-01	1.2E-01	4.5E-04	1.6E-02	3.3E-02	2.0E-03	3.1E-05	1.4E-04	5.7E-02	1.1E-06	1.0E-06
3	9.5E-01	2.1E-01	1.3E-01	4.6E-03	6.2E-02	1.0E-01	1.3E-02	1.8E-04	8.5E-04	1.9E-01	5.1E-04	5.5E-06
4	5.3E-01	3.3E-02	2.0E-03	4.1E-02	2.3E-02	1.2E-02	4.0E-02	4.1E-02	4.1E-02	7.2E-02	3.6E-04	3.4E-06
5	7.5E-01	1.3E-03	1.3E-04	6.6E-08	3.8E-07	8.2E-04	6.6E-07	4.0E-09	1.0E-08	2.7E-02	5.0E-07	5.3E-09
6	9.1E-01	6.8E-02	4.1E-02	7.6E-07	3.9E-07	2.3E-02	6.9E-06	3.2E-07	4.4E-07	9.4E-02	1.9E-06	1.8E-07
7	2.5E-01	1.6E-06	6.6E-07	2.7E-08	1.8E-07	1.3E-06	9.2E-08	1.8E-09	1.0E-08	8.8E-04	4.9E-08	1.4E-10
8	6.4E-01	1.5E-04	2.2E-05	3.5E-06	2.9E-06	5.5E-05	3.7E-06	3.4E-06	3.4E-06	1.9E-04	2.6E-07	1.0E-09
9	8.3E-01	2.8E-02	7.0E-02	1.7E-03	6.5E-05	1.3E-01	7.2E-04	4.9E-05	6.6E-04	1.9E-01	4.9E-04	3.3E-06
10	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
11	4.5E-01	6.7E-05	6.1E-06	2.6E-06	2.8E-06	7.2E-06	2.9E-06	2.5E-06	2.5E-06	1.3E-04	1.7E-06	2.8E-10
12	7.8E-01	3.3E-03	1.1E-04	1.8E-05	9.3E-06	7.0E-04	1.1E-05	1.8E-06	1.3E-05	4.3E-02	5.1E-06	1.2E-07
13	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
14	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
15	2.6E-03	1.3E-04	7.2E-05	9.1E-07	3.9E-05	4.7E-05	6.8E-06	5.0E-08	2.3E-07	1.3E-04	1.0E-08	8.2E-10

Table 9-3
Radionuclide Source Terms
(Release Fraction 72 hours after onset of core damage)

Source Term	Xe/Kr	CsI	TeO ₂	SrO	MoO ₂	CsOH	BaO	La ₂ O ₃	CeO ₂	Sb	Te ₂	UO ₂
1	9.8E-01	7.0E-01	4.6E-01	1.3E-02	1.7E-01	3.7E-01	3.1E-02	2.5E-04	1.2E-03	5.0E-01	6.5E-04	3.0E-06
2	2.6E-01	1.3E-01	1.2E-01	4.5E-04	1.6E-02	3.6E-02	2.0E-03	3.1E-05	1.4E-04	6.0E-02	1.3E-06	1.0E-06
3	9.7E-01	3.0E-01	1.3E-01	4.6E-03	6.2E-02	1.2E-01	1.3E-02	1.8E-04	8.5E-04	3.1E-01	5.1E-04	5.5E-06
4	6.8E-01	3.5E-02	6.1E-03	4.1E-02	2.3E-02	2.5E-02	4.0E-02	4.1E-02	4.1E-02	7.5E-02	3.8E-04	3.4E-06
5	9.0E-01	1.7E-01	1.6E-01	2.0E-07	4.6E-07	2.4E-01	3.9E-06	1.3E-08	2.2E-08	2.8E-01	7.9E-07	8.6E-08
6	9.4E-01	3.4E-01	7.4E-02	7.8E-07	4.9E-07	5.8E-02	1.1E-05	3.2E-07	4.4E-07	1.7E-01	1.9E-06	2.0E-07
7	8.8E-01	2.5E-05	1.2E-06	5.2E-08	3.4E-07	3.8E-05	1.9E-07	3.5E-09	1.9E-08	4.9E-02	7.5E-07	5.7E-10
8	8.2E-01	1.3E-02	1.3E-02	3.5E-06	3.0E-06	3.1E-02	3.8E-06	3.4E-06	3.5E-06	7.0E-03	4.7E-07	1.4E-09
9	8.3E-01	1.5E-01	1.5E-01	1.7E-03	6.5E-05	2.3E-01	7.5E-04	4.9E-05	6.6E-04	2.8E-01	4.9E-04	3.4E-06
10	1.0E+00	7.3E-03	3.1E-04	1.2E-08	5.6E-08	4.8E-03	6.0E-08	8.8E-10	3.7E-09	1.7E-01	2.5E-05	2.6E-11
11	9.7E-01	4.8E-03	9.2E-03	2.6E-06	2.8E-06	1.3E-02	2.9E-06	2.5E-06	2.5E-06	7.7E-02	3.2E-06	2.8E-10
12	9.9E-01	8.1E-03	1.8E-04	1.8E-05	9.3E-06	2.9E-03	1.1E-05	1.8E-06	1.3E-05	3.5E-01	6.6E-06	1.2E-07
13	9.9E-01	8.4E-04	2.3E-03	7.9E-08	1.3E-07	1.5E-02	1.0E-07	7.7E-08	7.7E-08	3.6E-03	1.7E-07	8.1E-13
14	9.7E-01	1.4E-04	5.5E-05	1.5E-08	1.0E-08	1.0E-03	1.5E-08	1.5E-08	1.5E-08	6.7E-03	7.4E-08	4.7E-13
15	2.6E-03	1.3E-04	7.2E-05	9.1E-07	3.9E-05	4.7E-05	6.8E-06	5.0E-08	2.3E-07	1.4E-04	1.0E-08	8.2E-10

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9A REPRESENTATIVE SEQUENCES

The representative sequences analyzed during the source term calculation are shown in this appendix. Each release category has one or two release sequences, as discussed in Section 9.0.

9A.1 BOC (Mid-Level1 RWCU Line) Representative Sequence (BOCsd_nIN_R1)

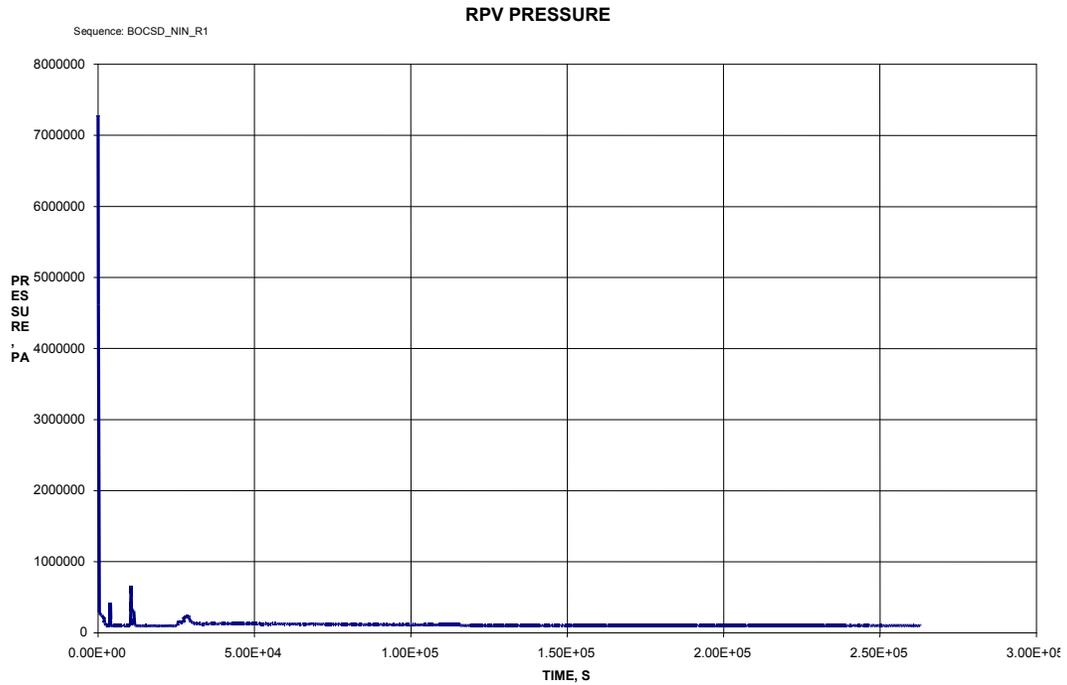


Figure 9A-1a. BOCsd_nIN_R1 RPV Pressure

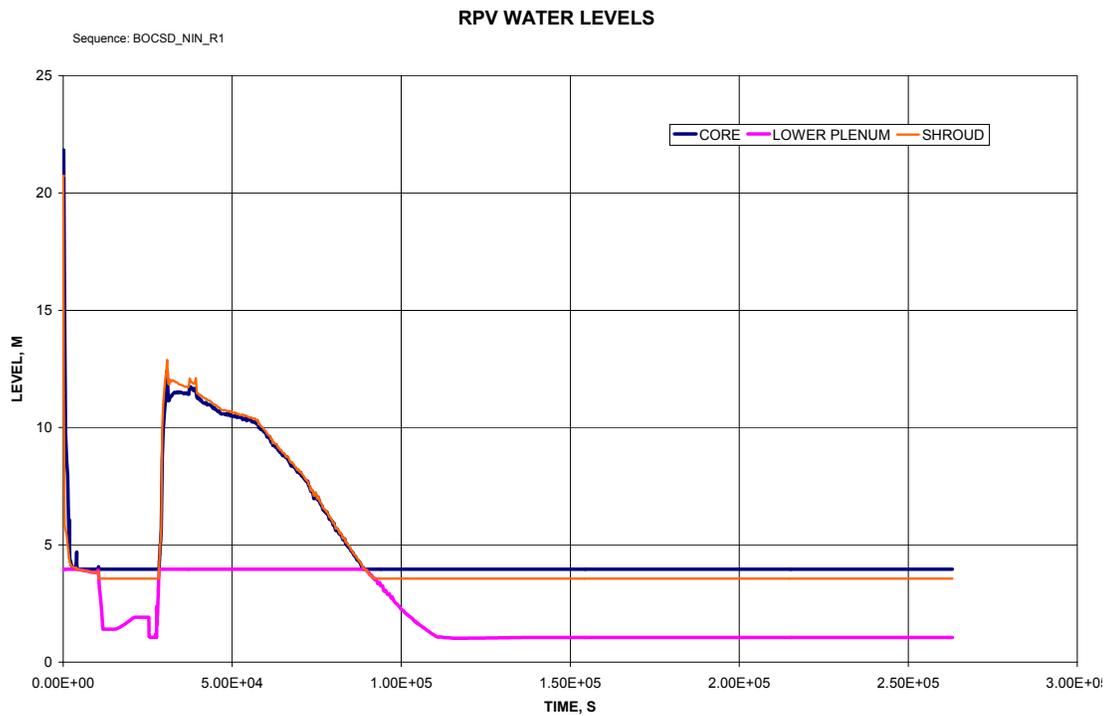


Figure 9A-1b. BOCsd_nIN_R1 RPV Water Levels

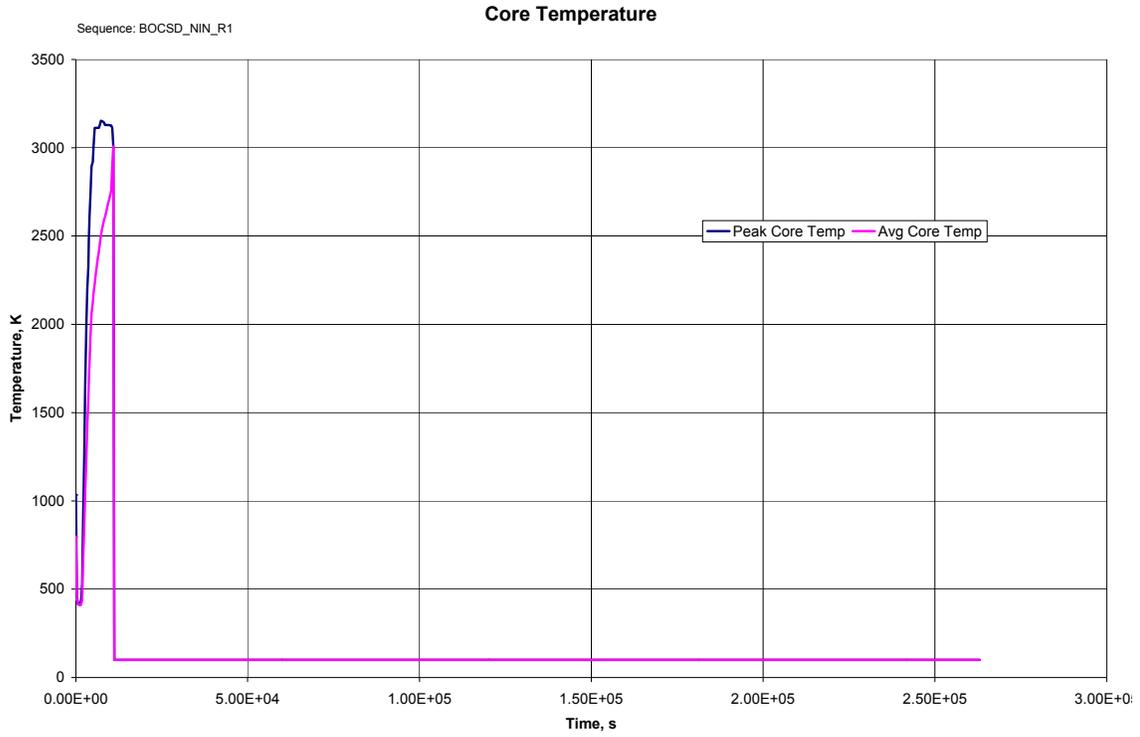


Figure 9A-1c. BOCsd_nIN_R1 Core Temperature

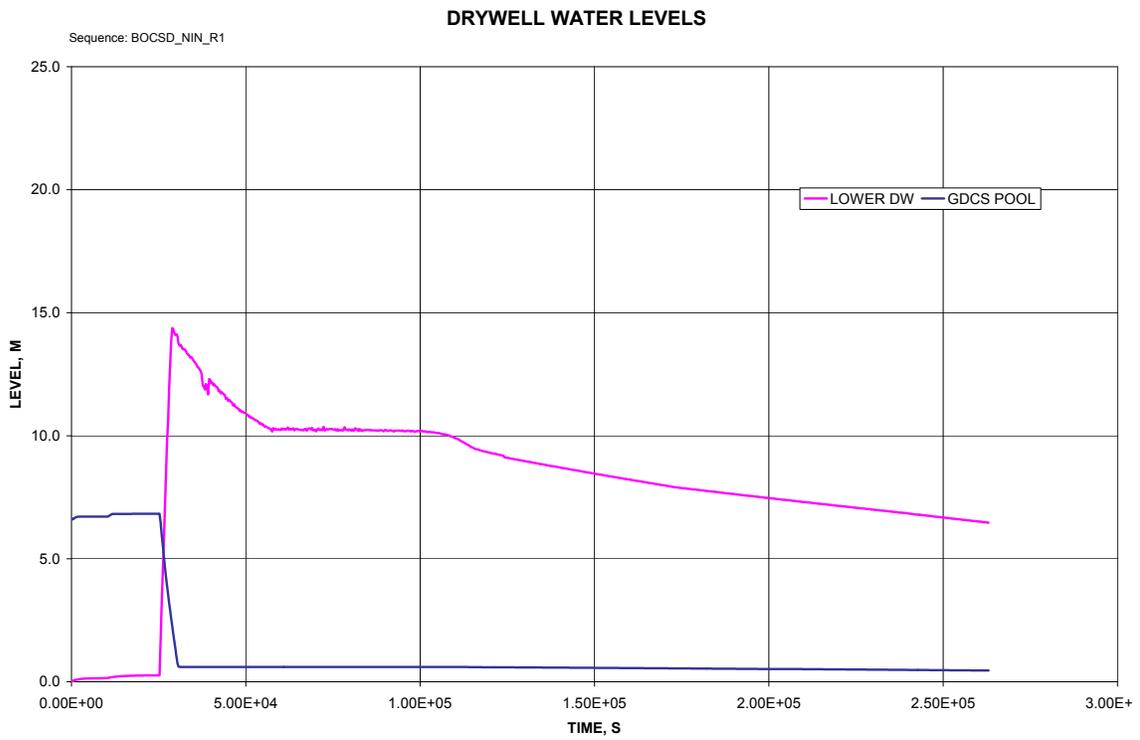


Figure 9A-1d. BOCsd_nIN_R1 Drywell Water Levels

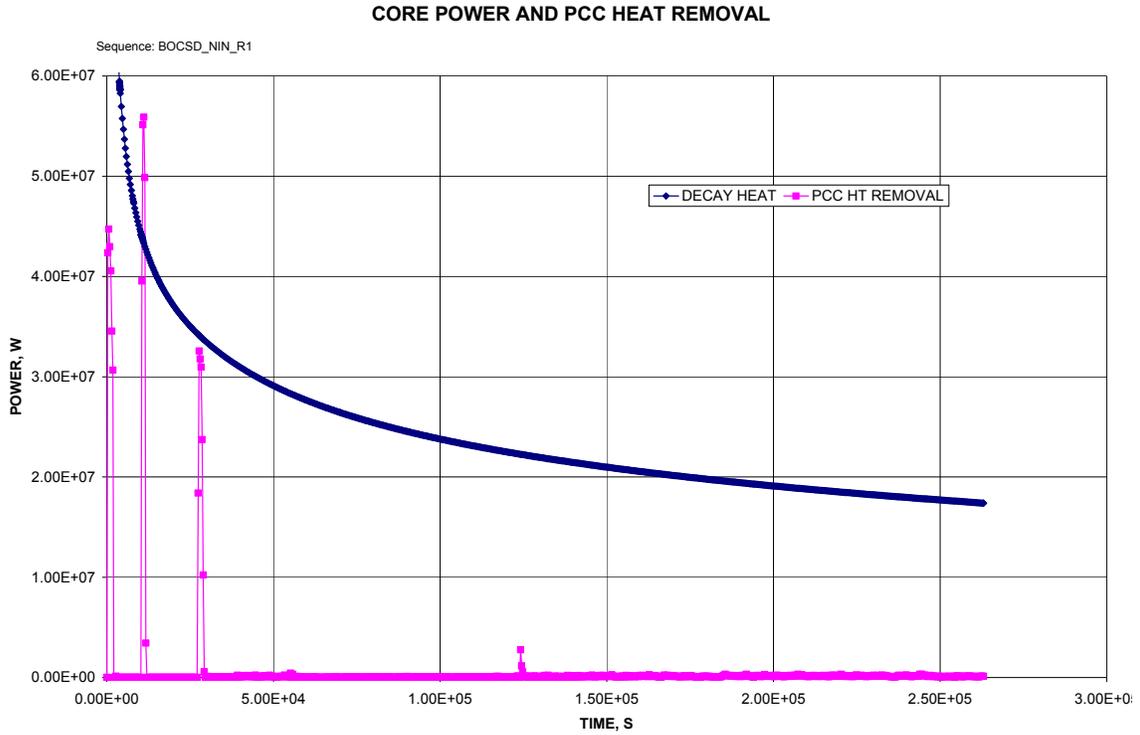


Figure 9A-1e. BOCsd_nIN_R1 Core Power and PCC Heat Removal

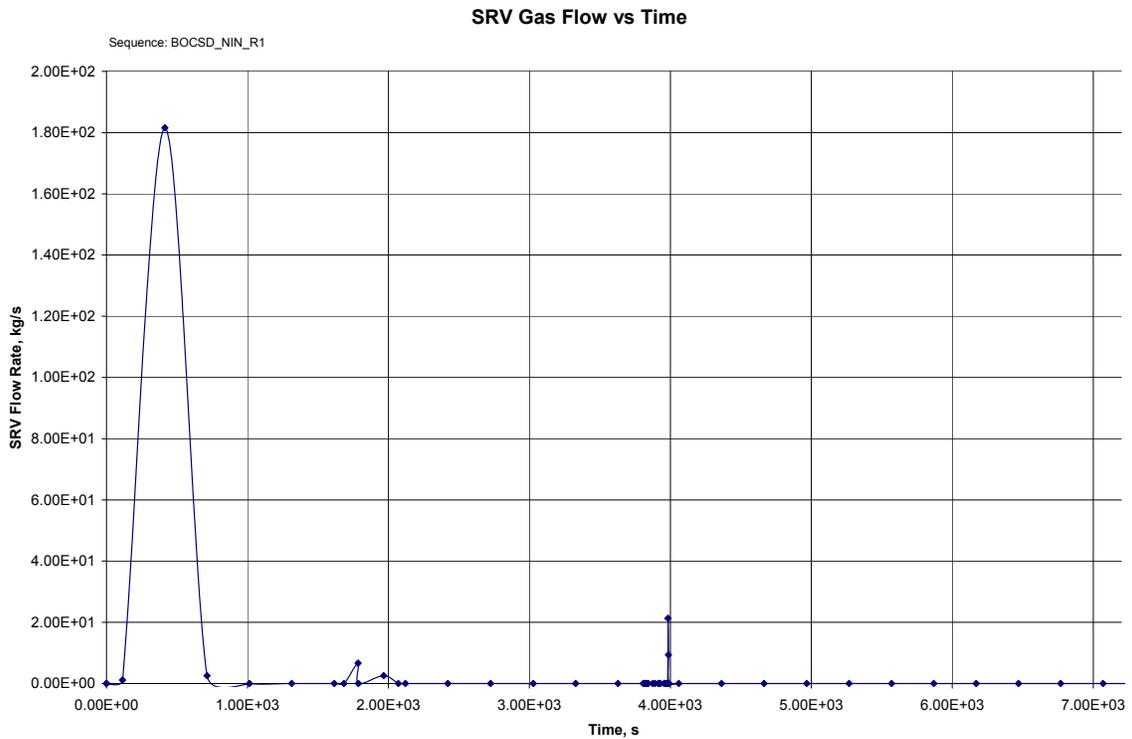


Figure 9A-1f. BOCsd_nIN_R1 SRV Gas flow vs. Time

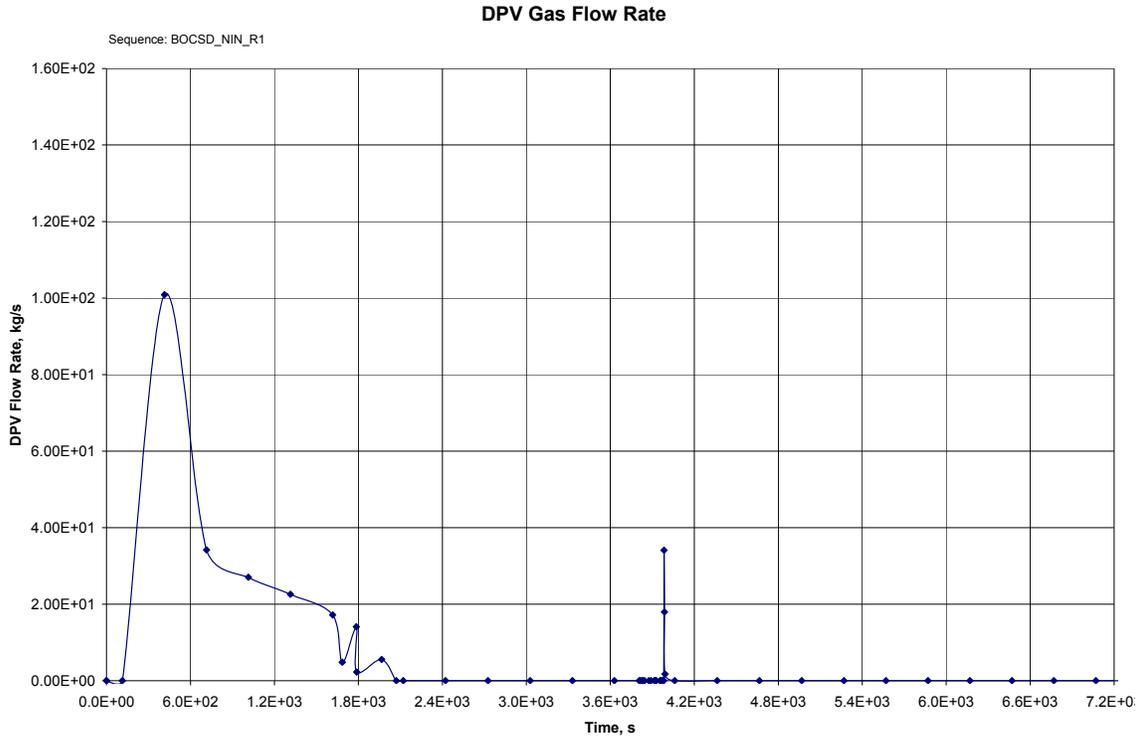


Figure 9A-1g. BOCsd_nIN_R1 DPV Gas Flow Rate

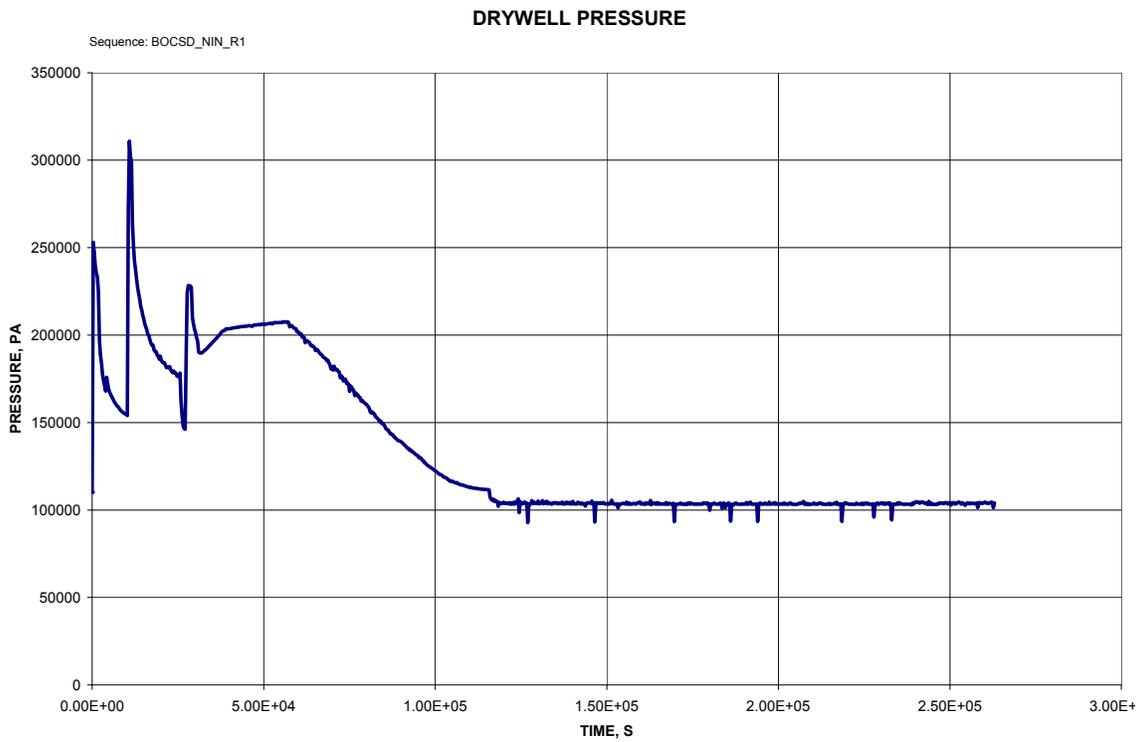


Figure 9A-1h. BOCsd_nIN_R1 Drywell Pressure

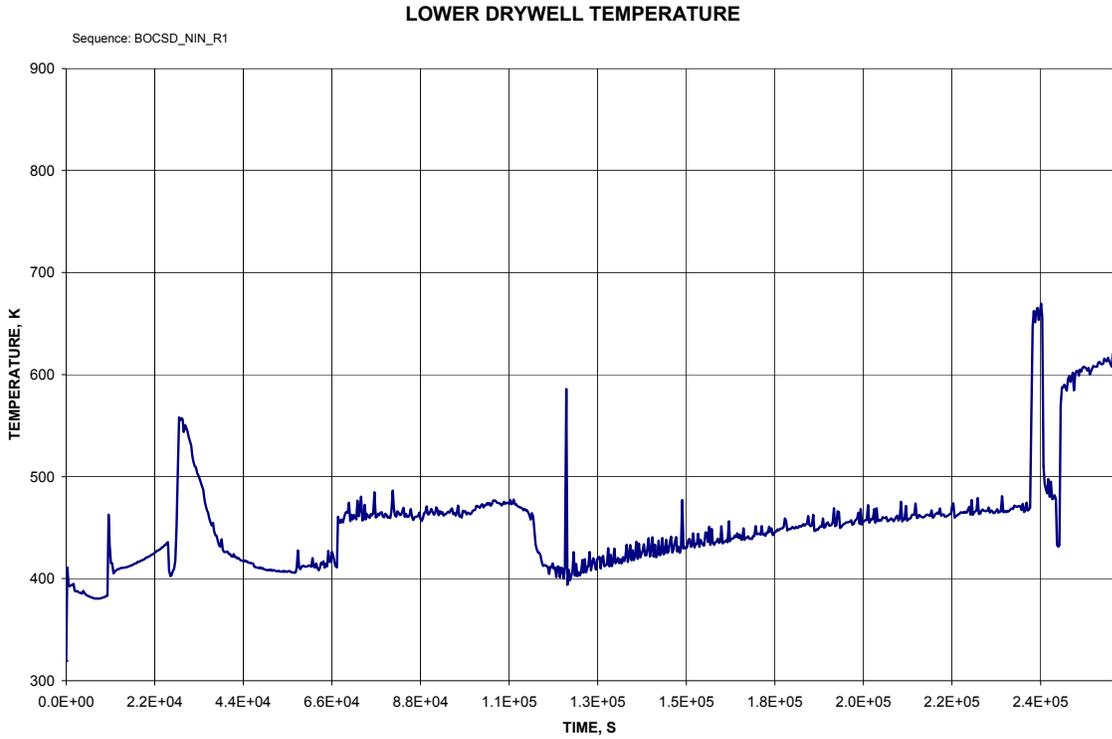


Figure 9A-1i. BOCsd_nIN_R1 Lower Drywell Temperature

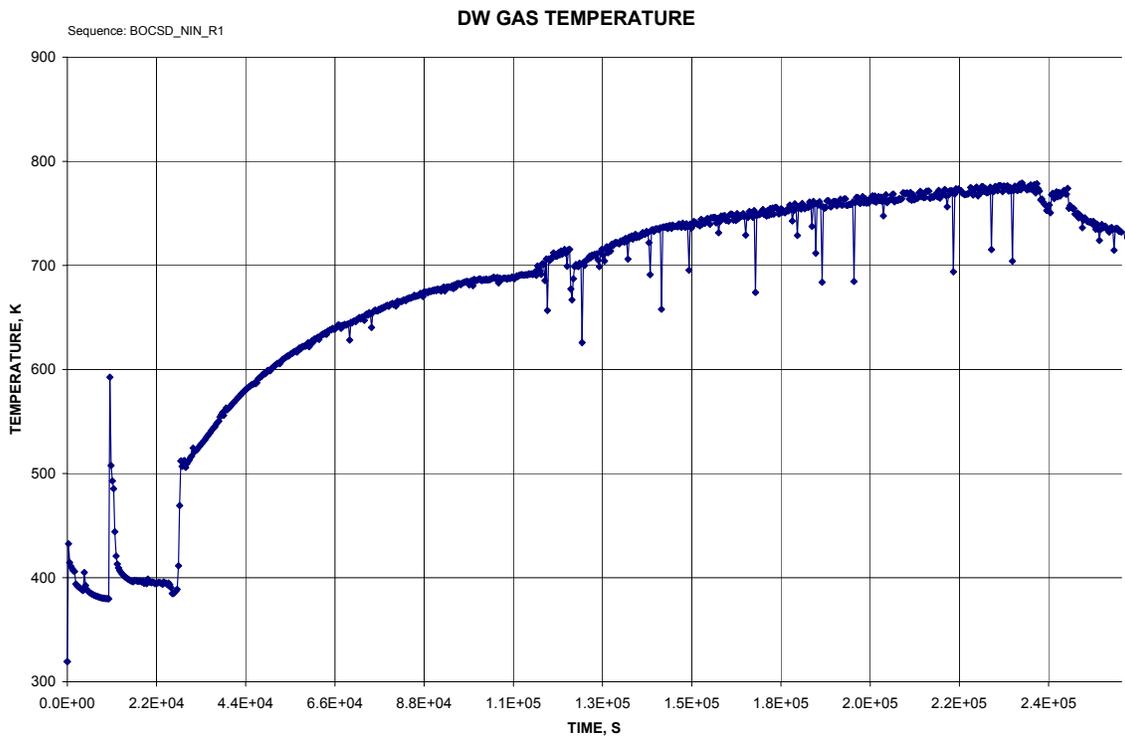


Figure 9A-1j. BOCsd_nIN_R1 DW Gas Temperature

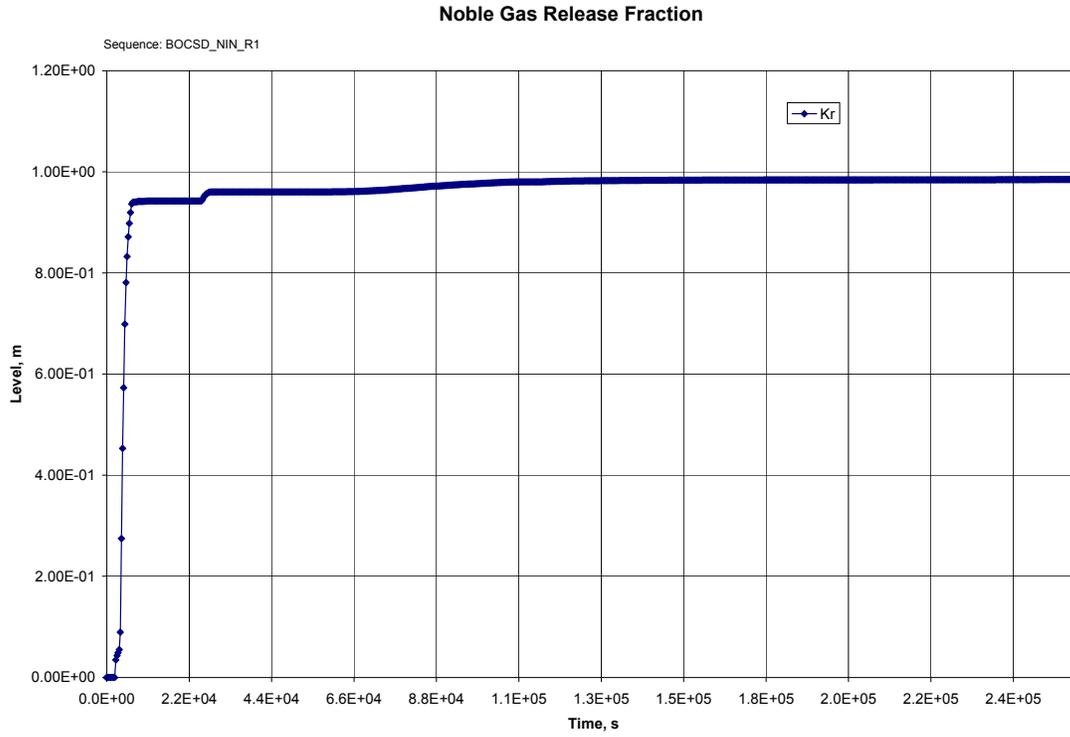


Figure 9A-1k. BOCsd_nIN_R1 Noble Gas Release Fraction

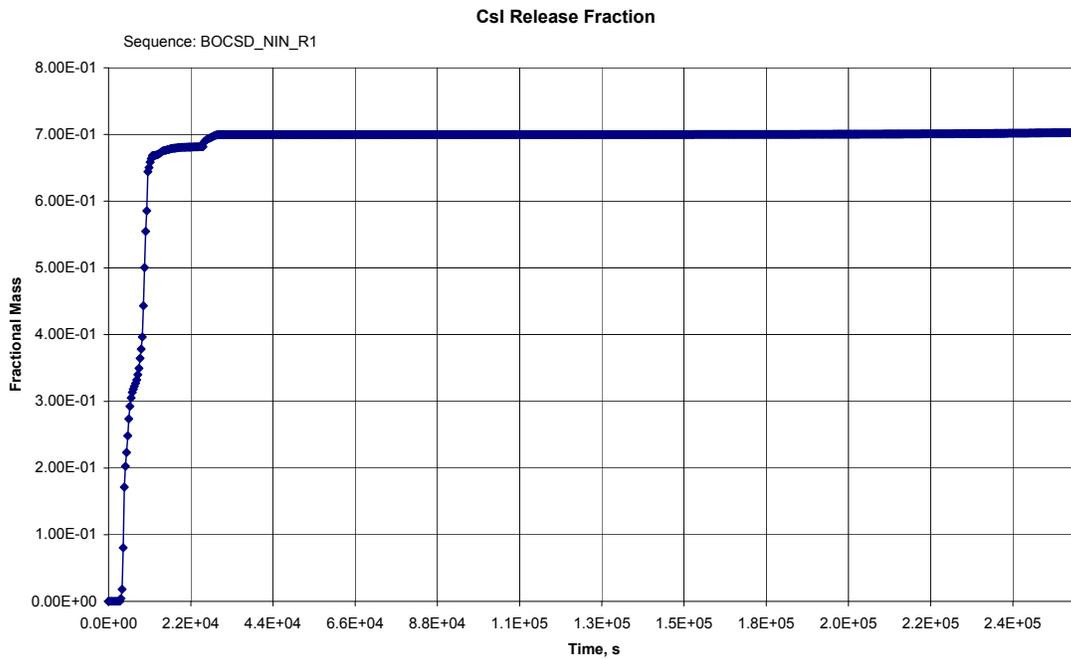


Figure 9A-1l. BOCsd_nIN_R1 CsI Release Fraction

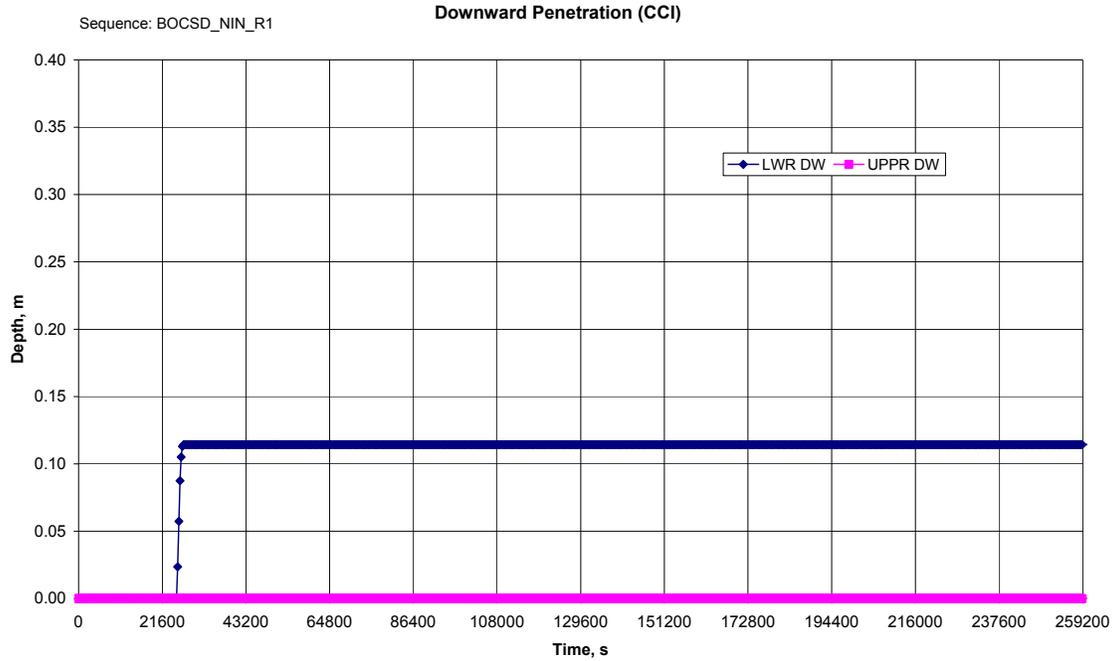


Figure 9A-1m. BOCsd_nIN_R1 Downward Penetration (CCI)

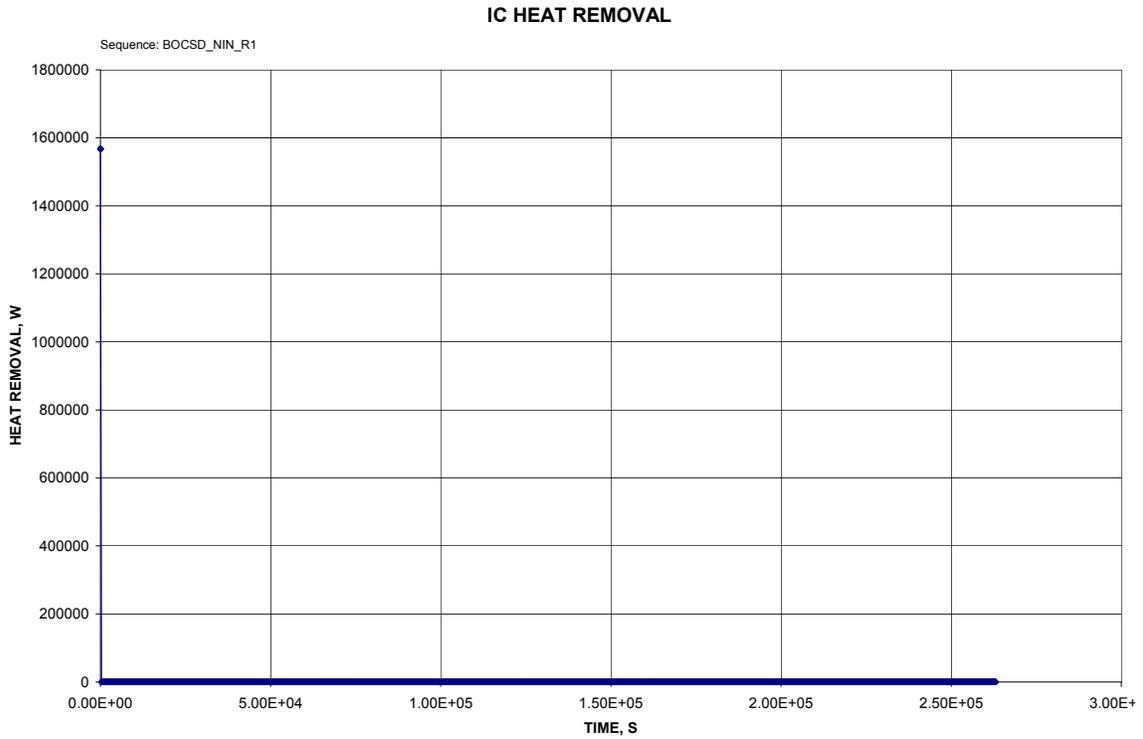


Figure 9A-1n. BOCsd_nIN_R1 IC Heat Removal

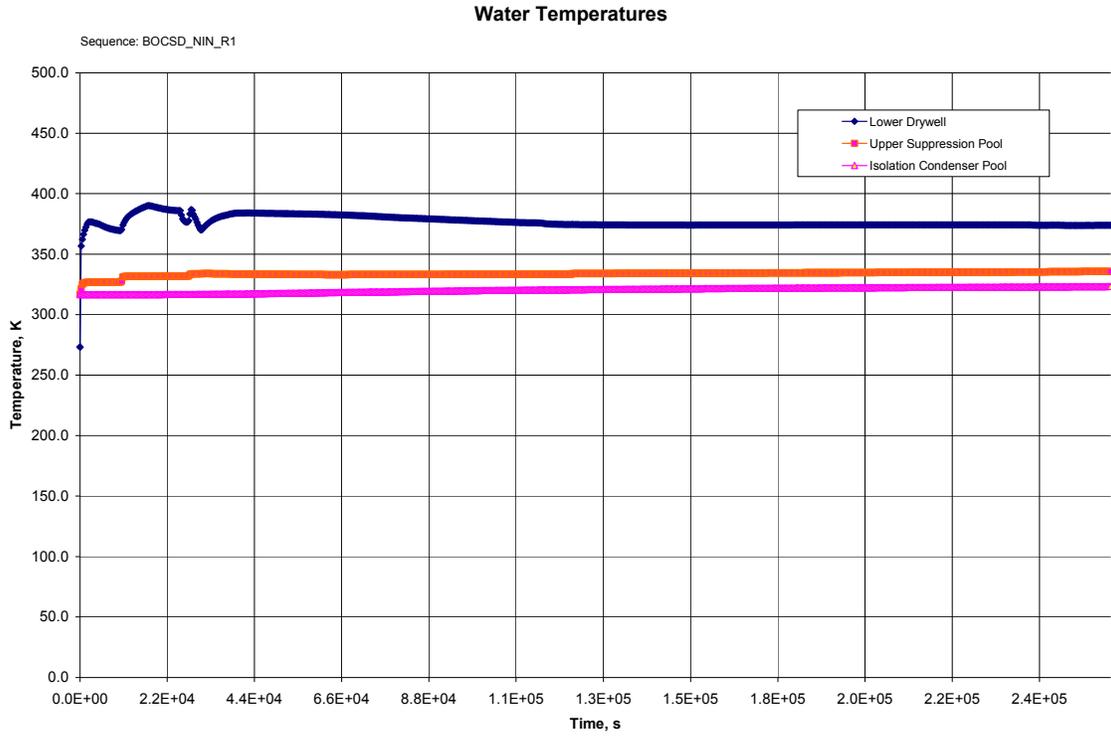


Figure 9A-1o. BOCsd_nIN_R1 Water Temperatures

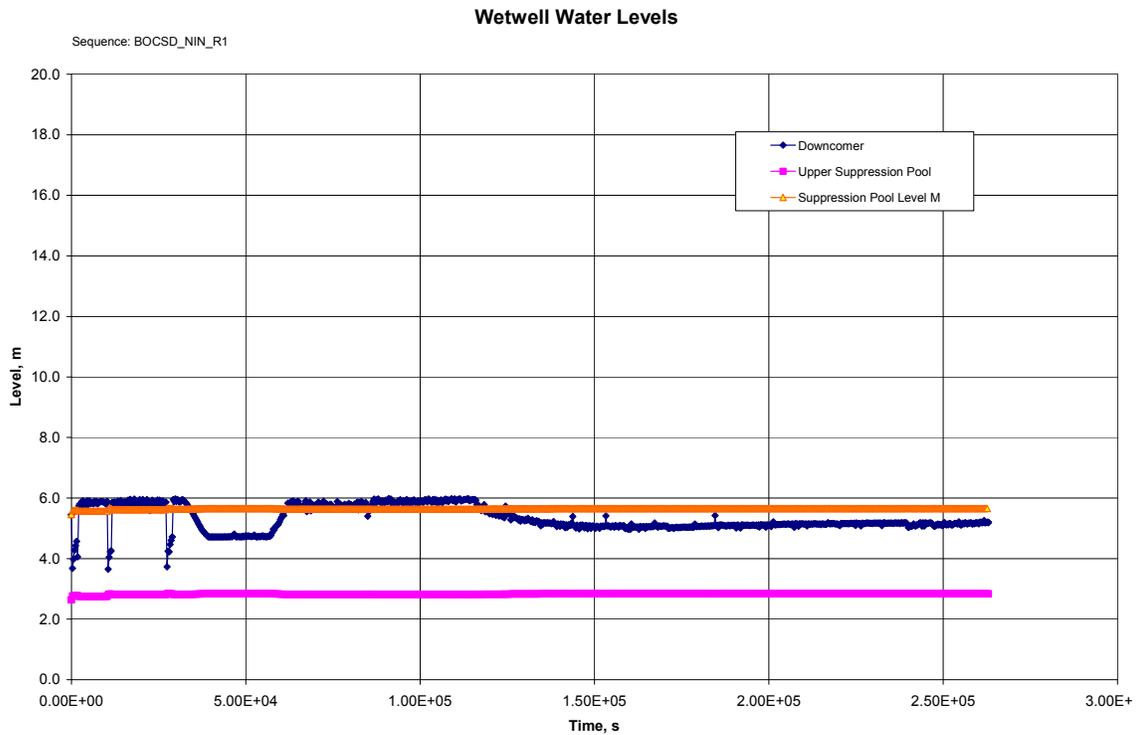


Figure 9A-1p. BOCsd_nIN_R1 Wetwell Water Levels

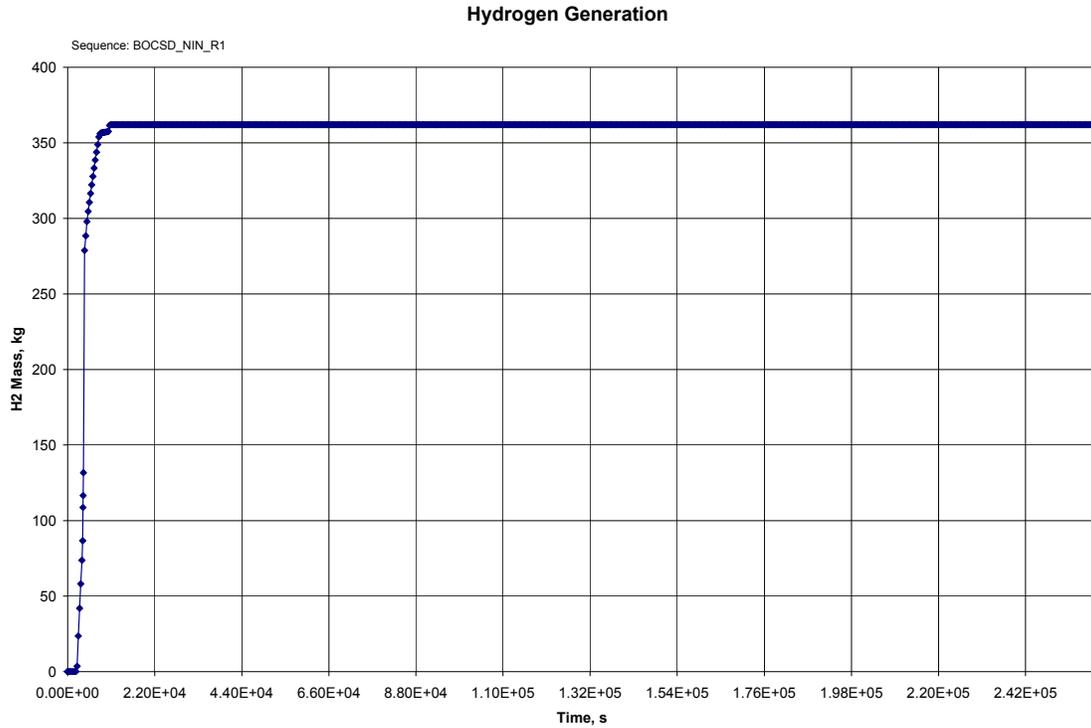
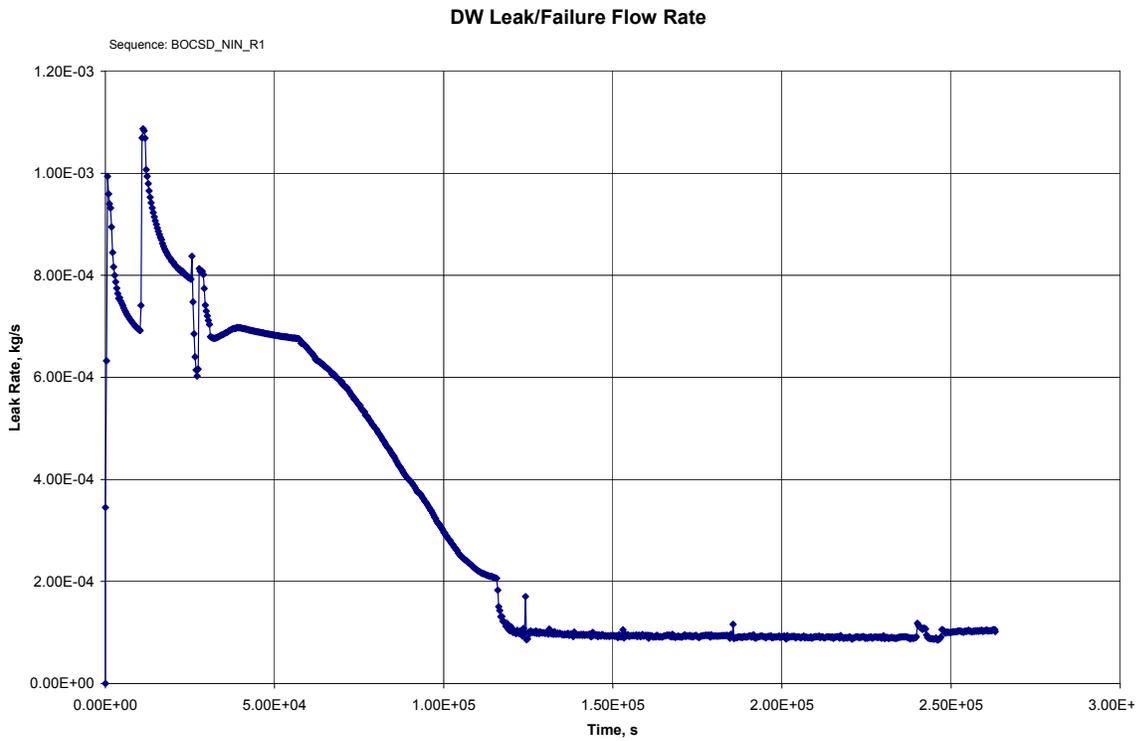


Figure 9A-1q. BOCsd_nIN_R1 Hydrogen Generation



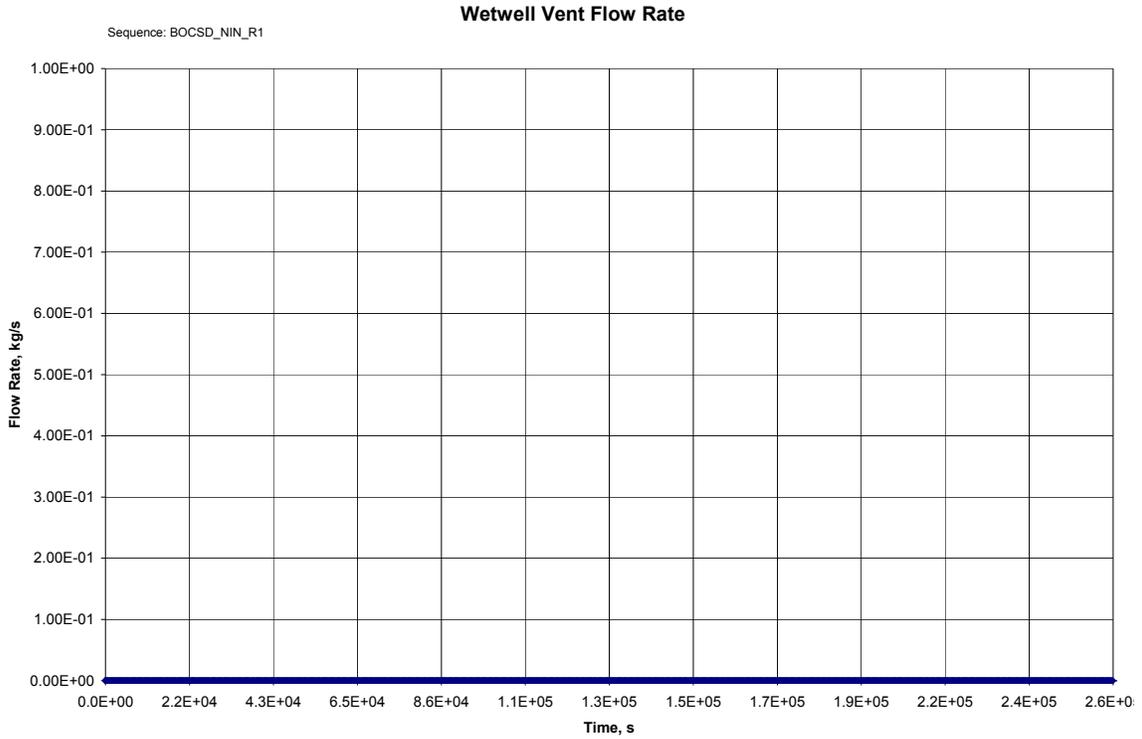


Figure 9A-1s. BOCsd_nIN_R1 Wetwell Vent Flow Rate

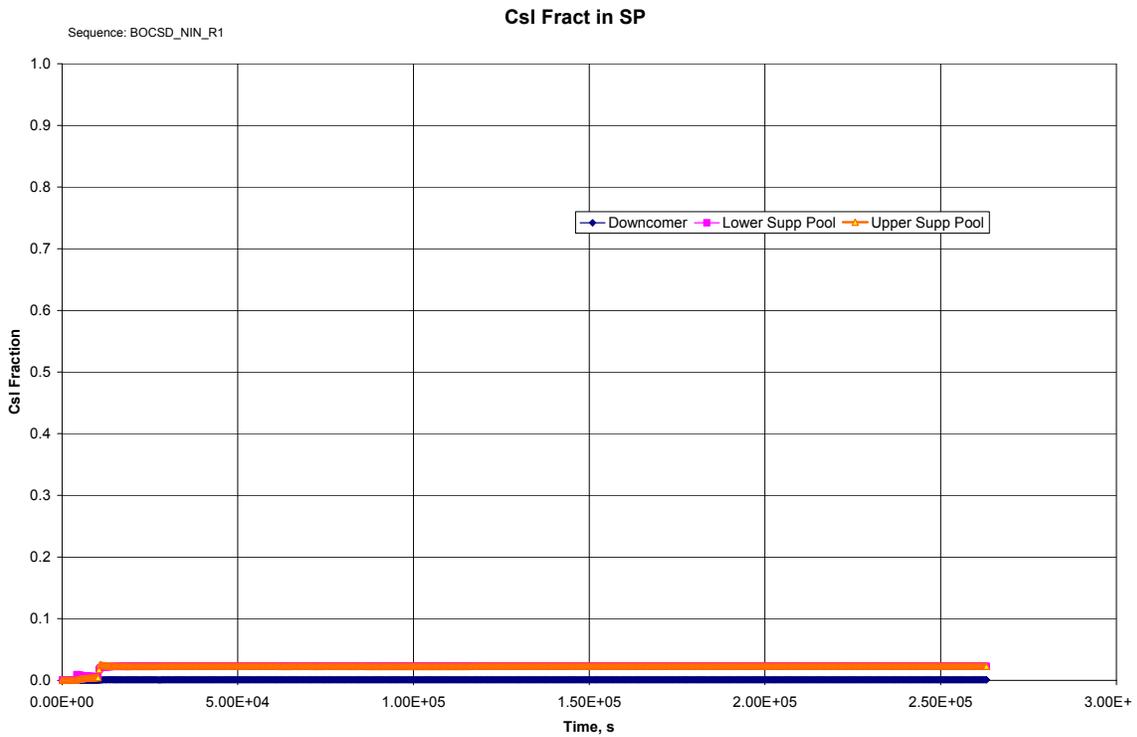


Figure 9A-1t. BOCsd_nIN_R1 Csl Fract in SP

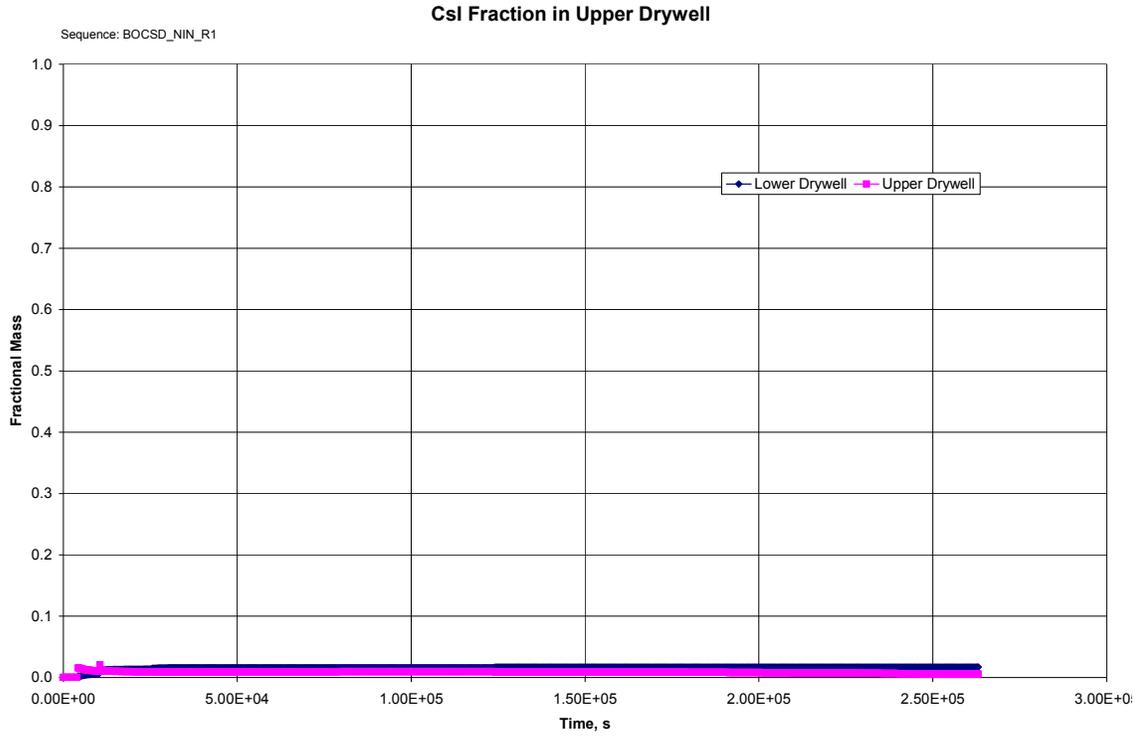


Figure 9A-1u. BOCsd_nIN_R1 CsI Fraction in Upper Drywell

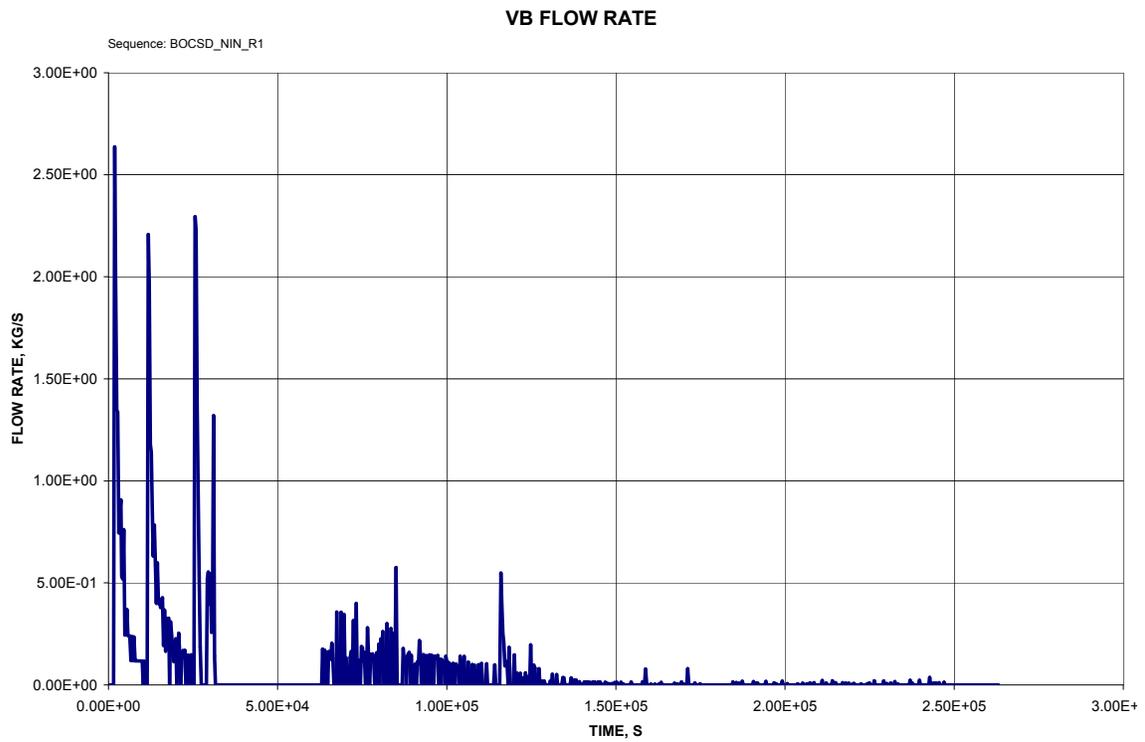


Figure 9A-1v. BOCsd_nIN_R1 VB Flow Rate

9A.2 BOC (Low-Level RWCU Line) Representative Sequence BOCdr_nIN_R1

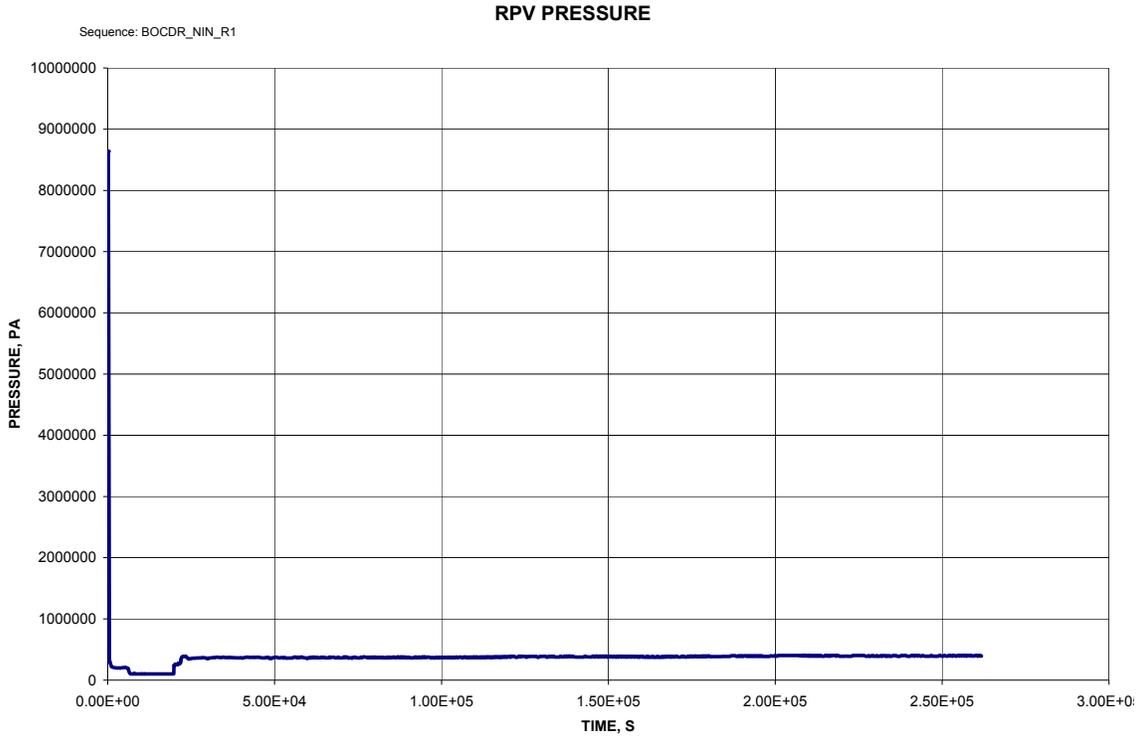


Figure 9A-2a. BOCdr_nIN_R1 RPV Pressure

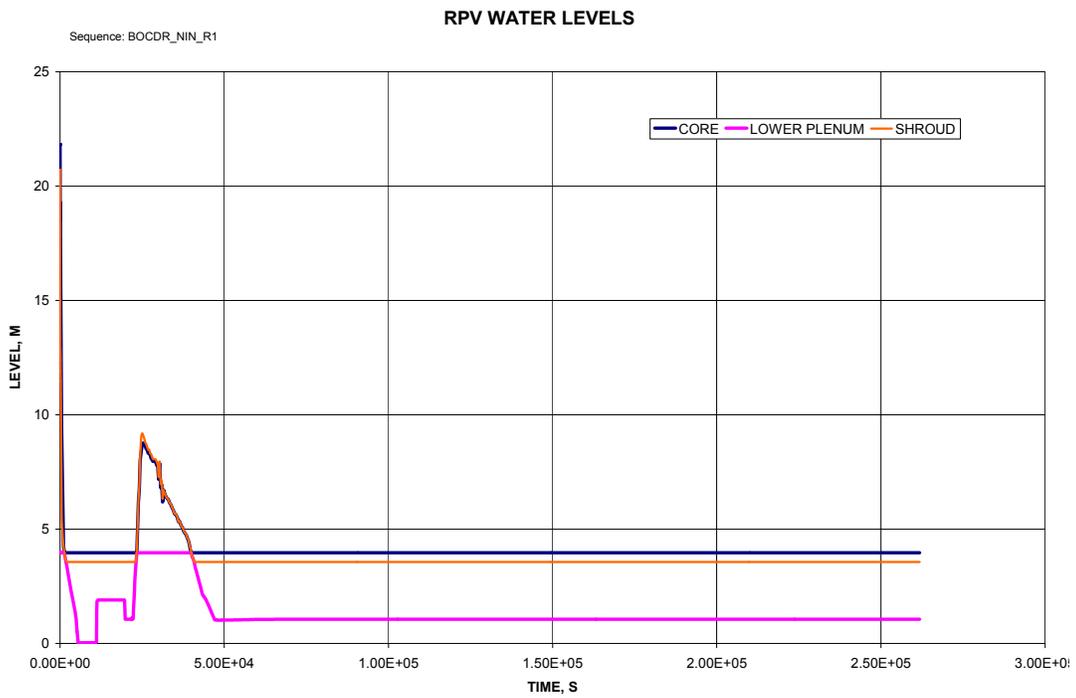


Figure 9A-2b. BOCdr_nIN_R1 RPV Water Levels

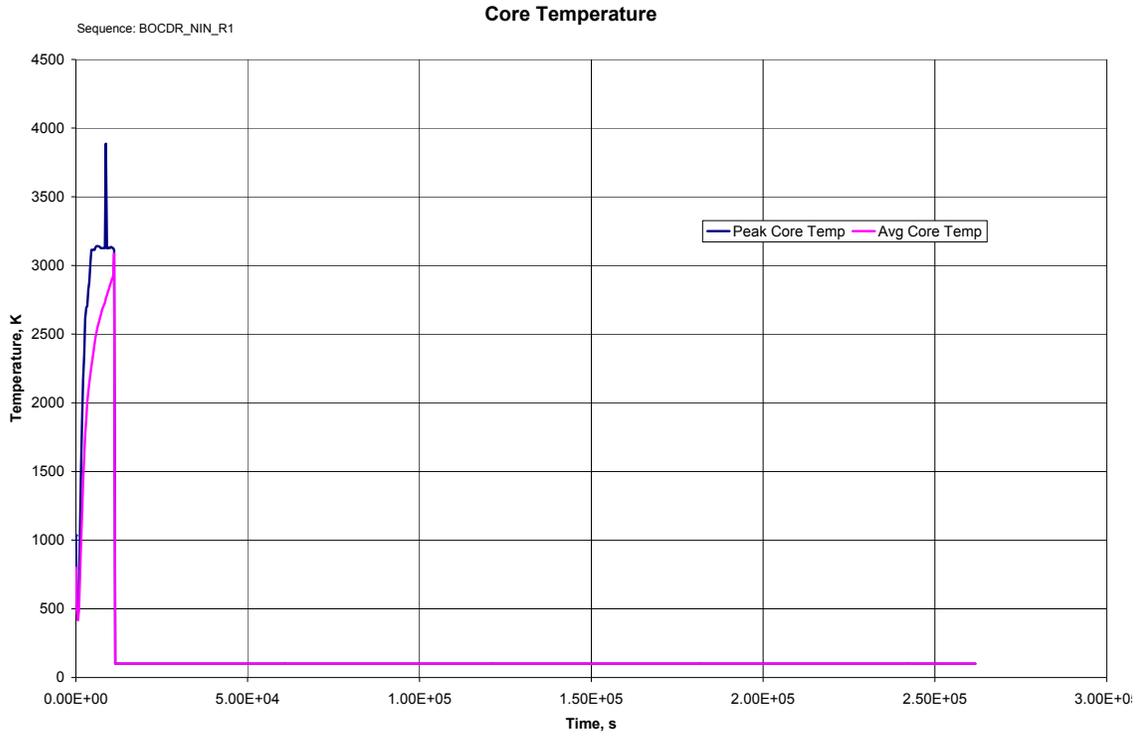


Figure 9A-2c. BOCdr_nIN_R1 Core Temperature

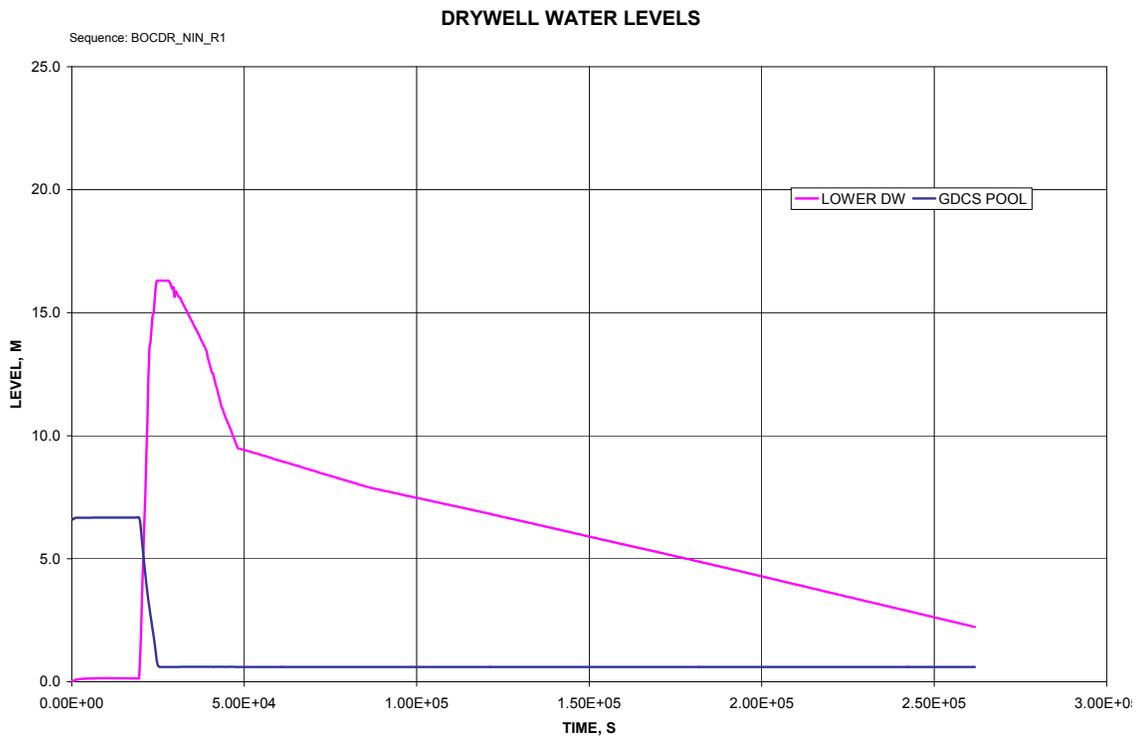


Figure 9A-2d. BOCdr_nIN_R1 Drywell Water Levels

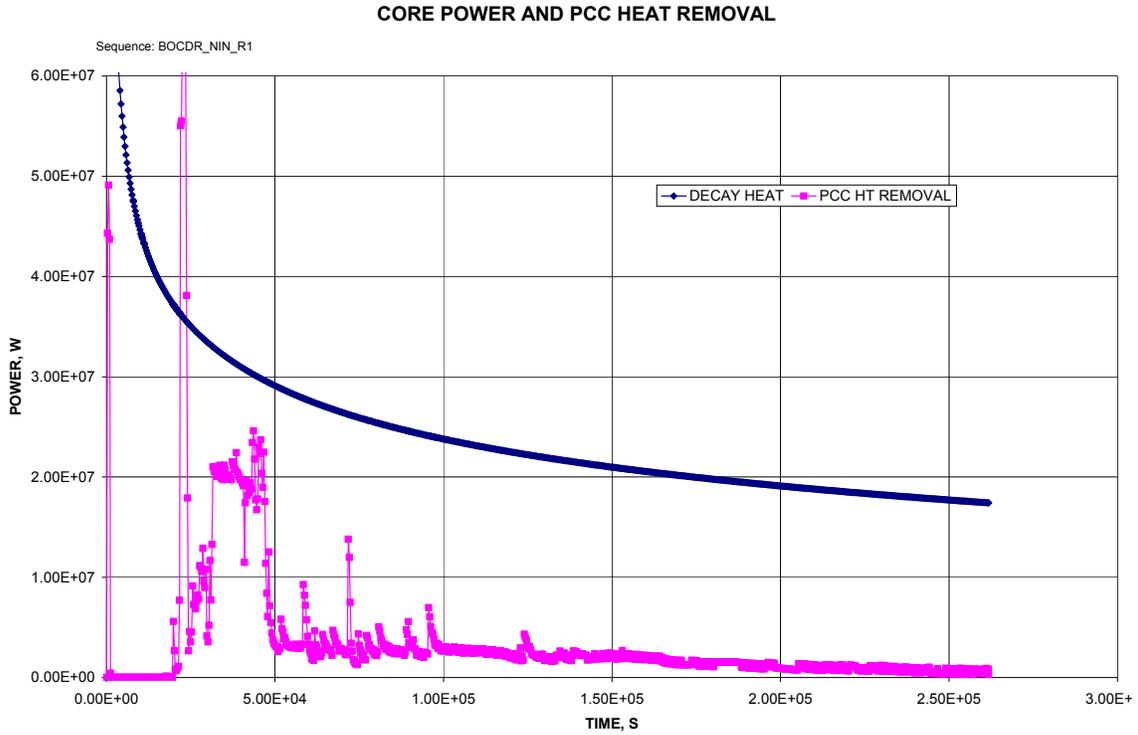


Figure9A-2e. BOCdr_nIN_R1 Core Power and PCC Heat Removal

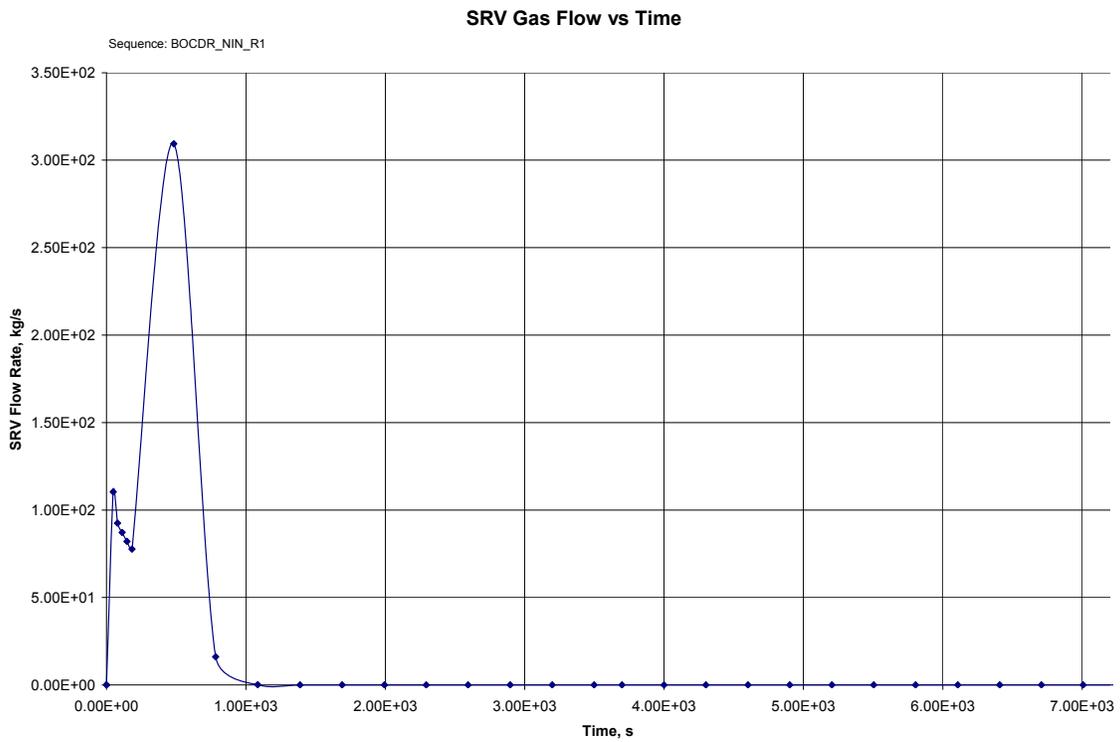


Figure 9A-2f. BOCdr_nIN_R1 SRV Gas Flow vs. Time

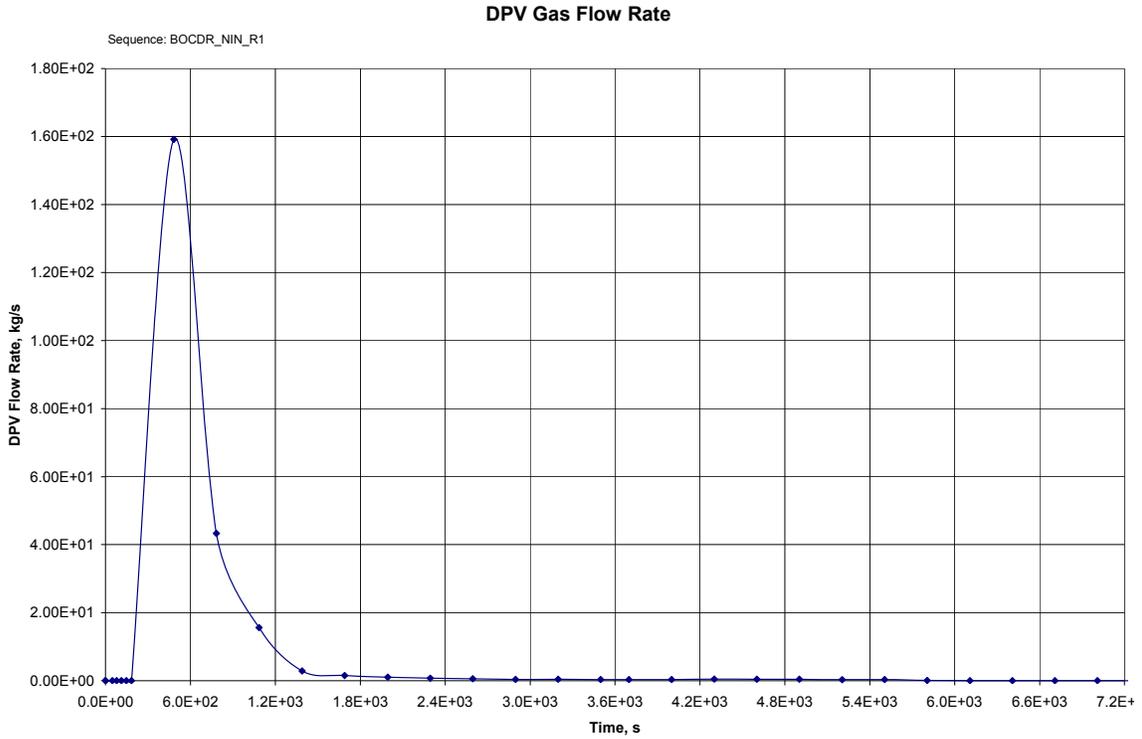


Figure 9A-2g. BOCdr_nIN_R1 DPV Gas Flow Rate

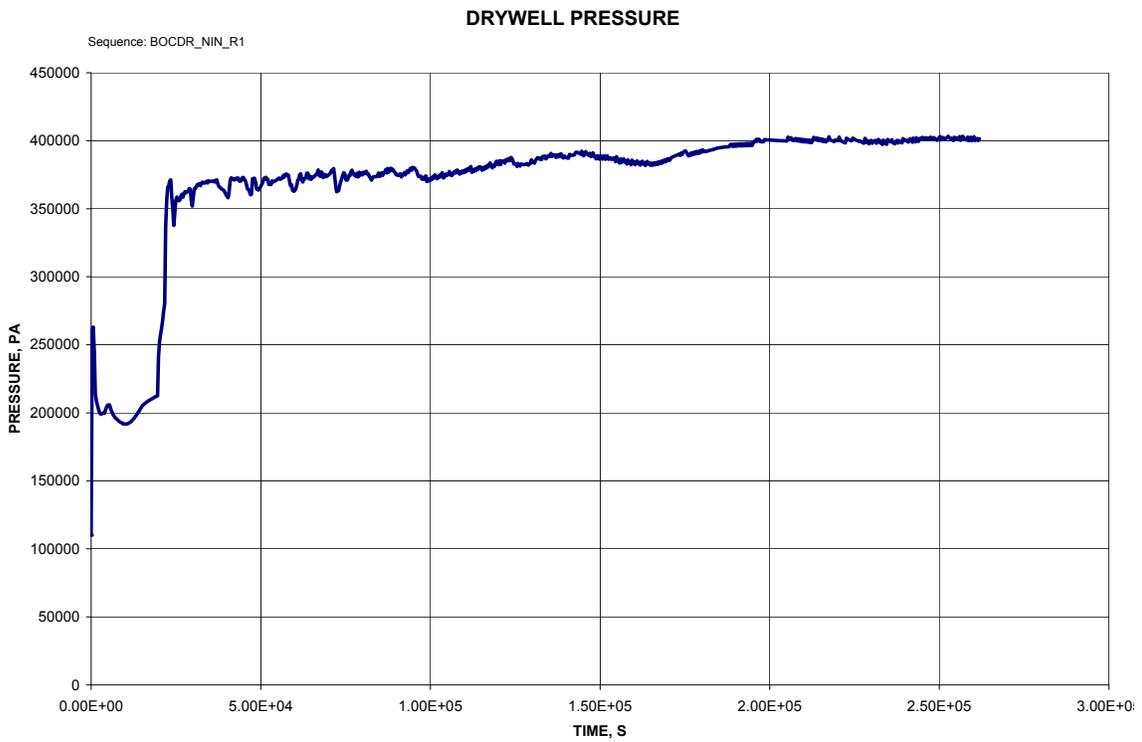


Figure 9A-2h. BOCdr_nIN_R1 Drywell Pressure

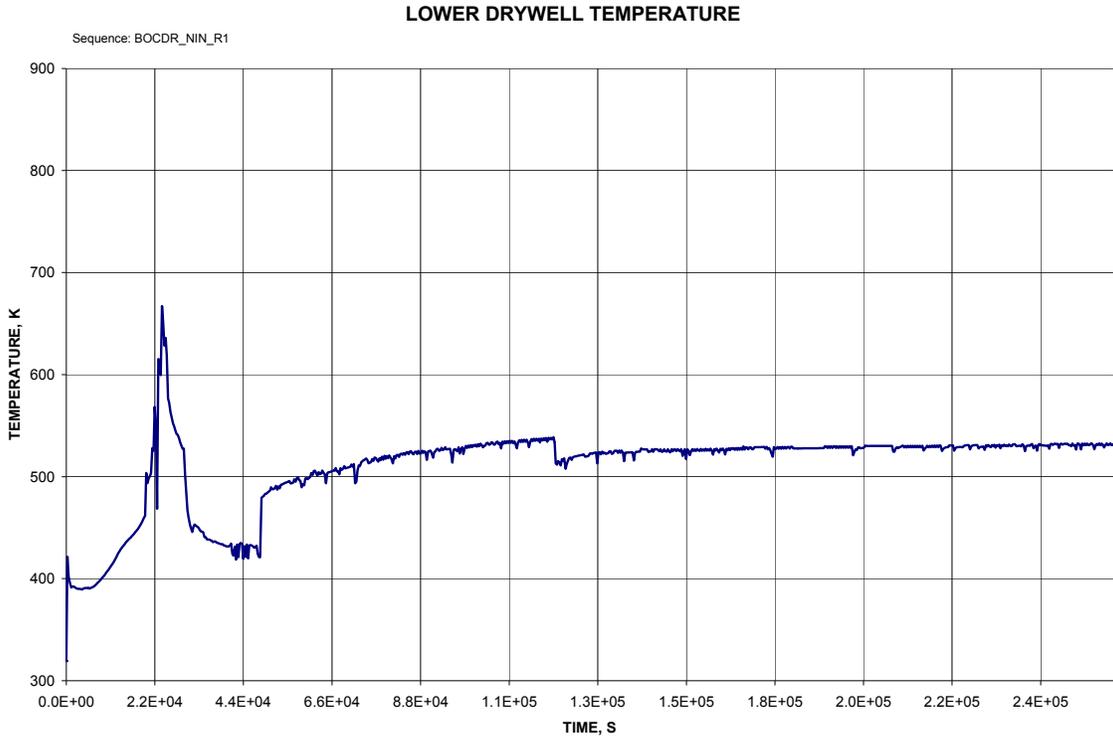


Figure 9A-2i. BOCdr_nIN_R1 Lower Drywell Temperature

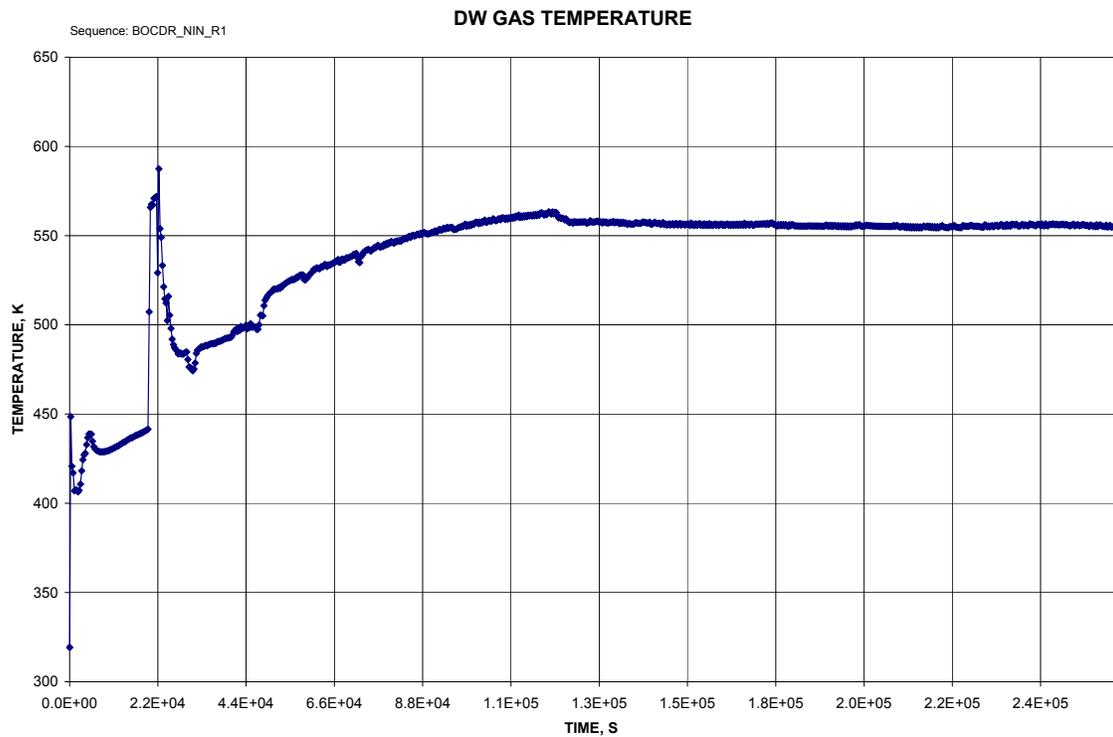


Figure 9A-2j. BOCdr_nIN_R1 DW Gas Temperature

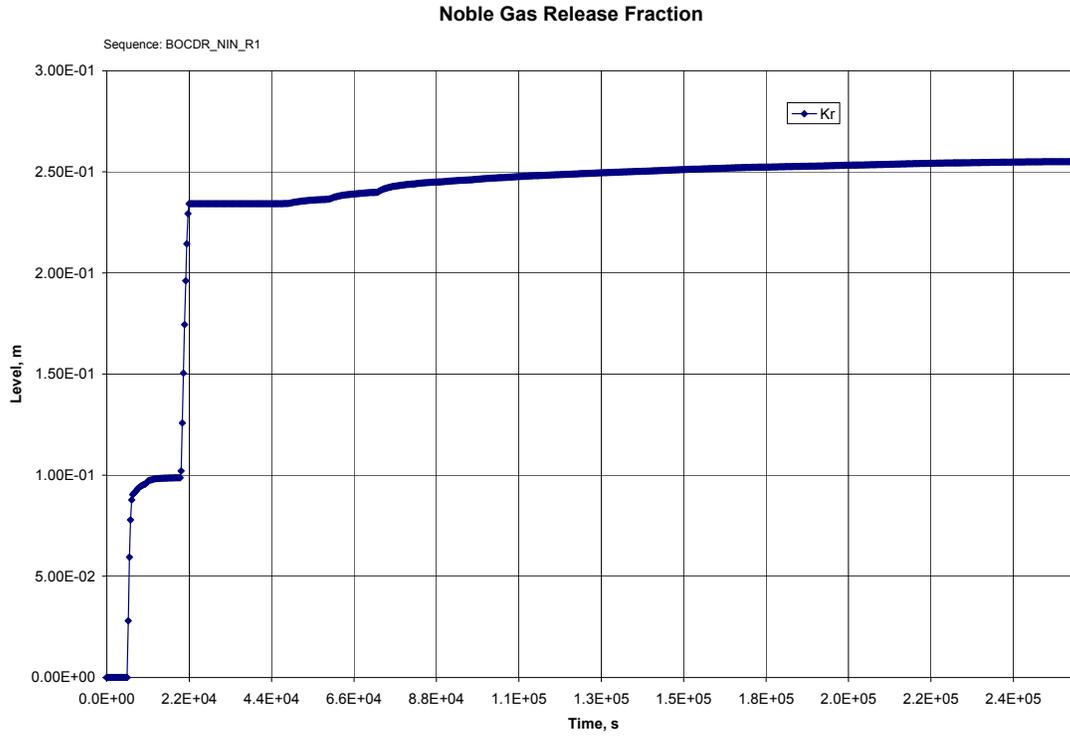


Figure 9A-2k. BOCDr_nIN_R1 Noble Gas Release Fraction

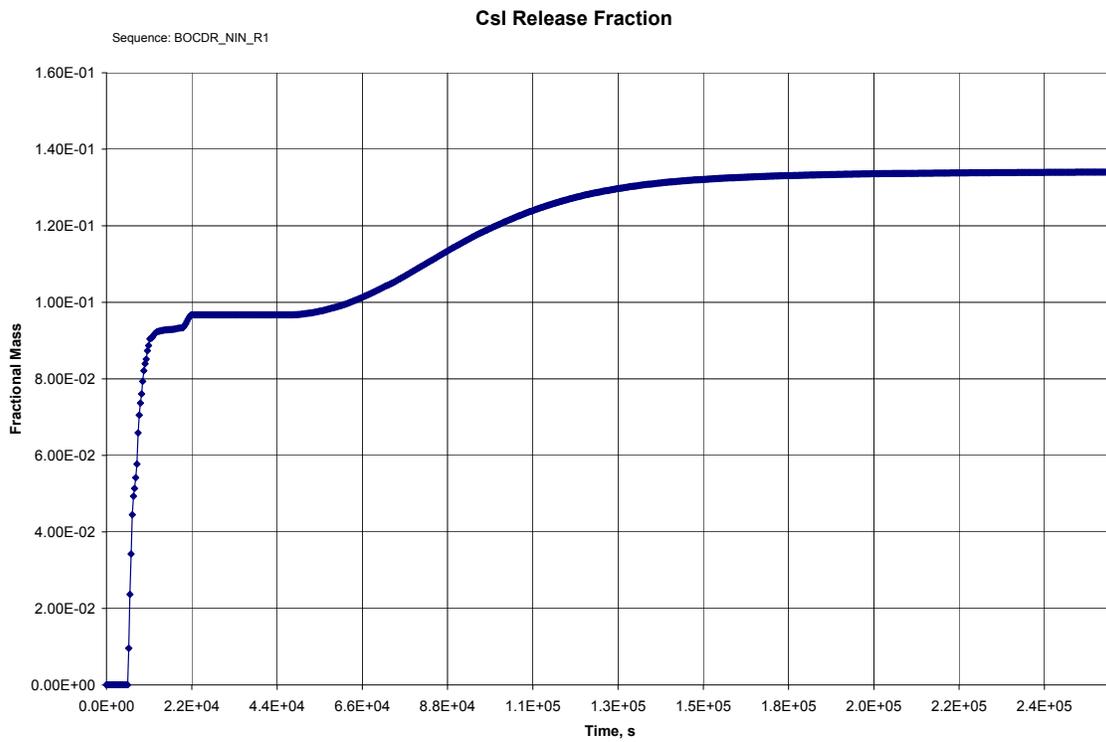


Figure 9A-2l. BOCDr_nIN_R1 CsI Release Fraction

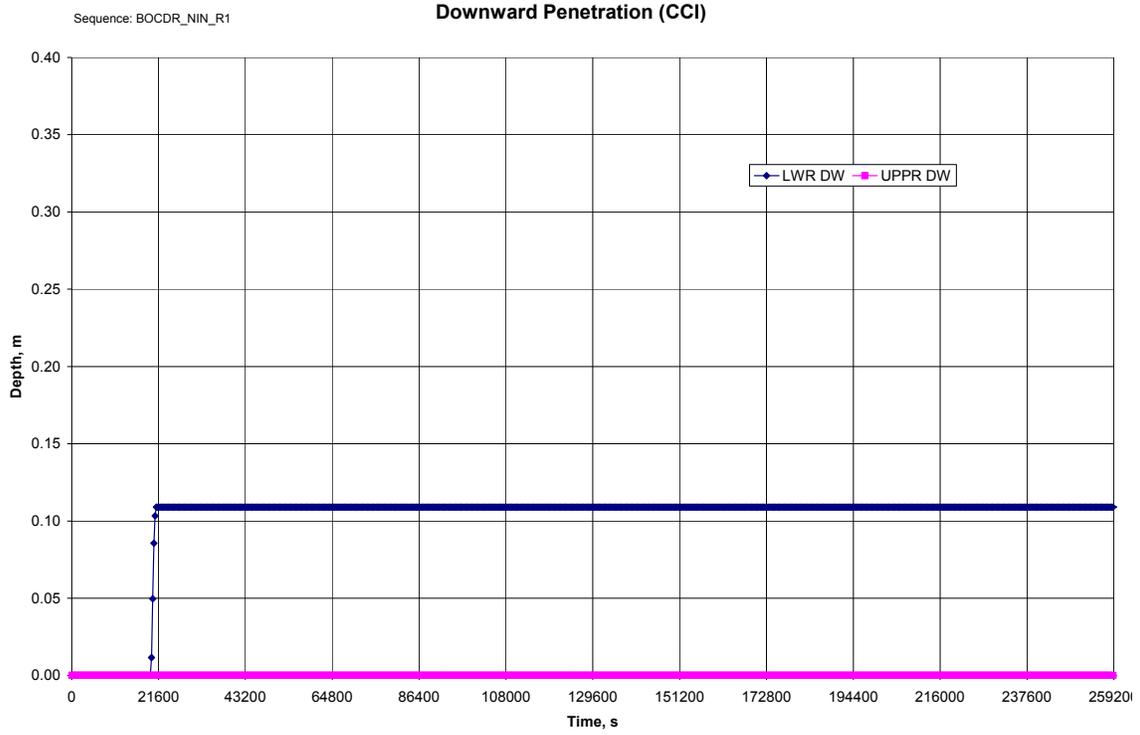


Figure 9A-2m. BOCdr_nIN_R1 Downward Penetration

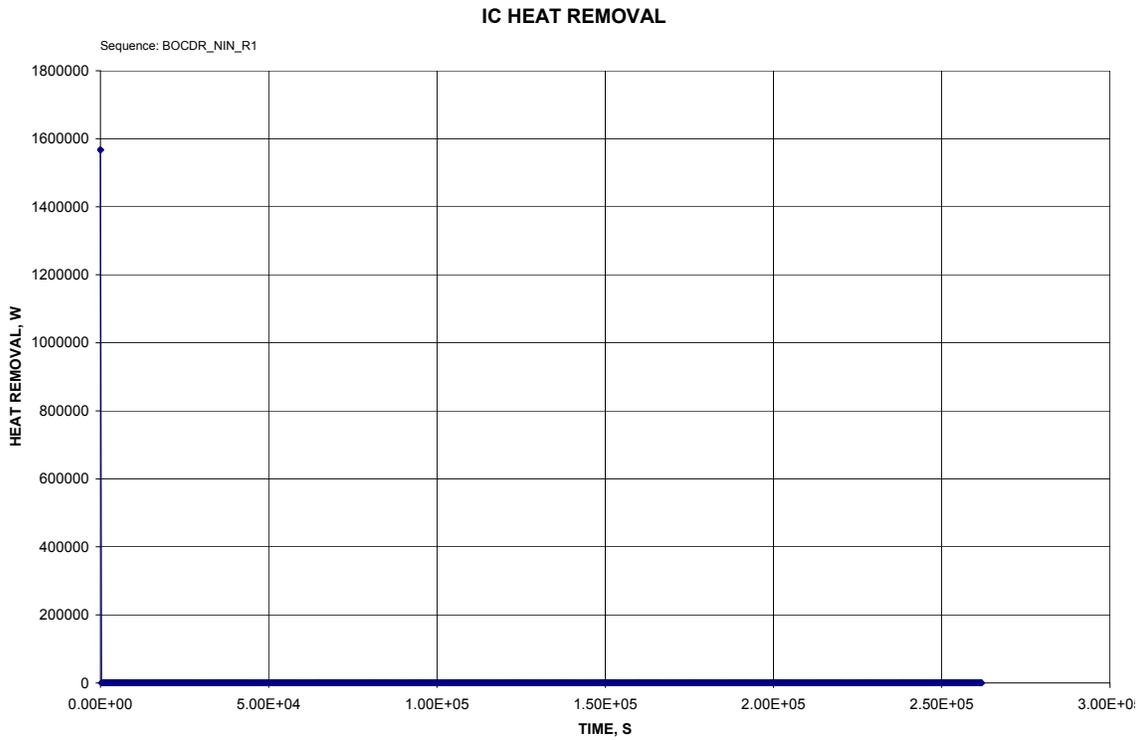


Figure 9A-2n. BOCdr_nIN_R1 IC Heat Removal

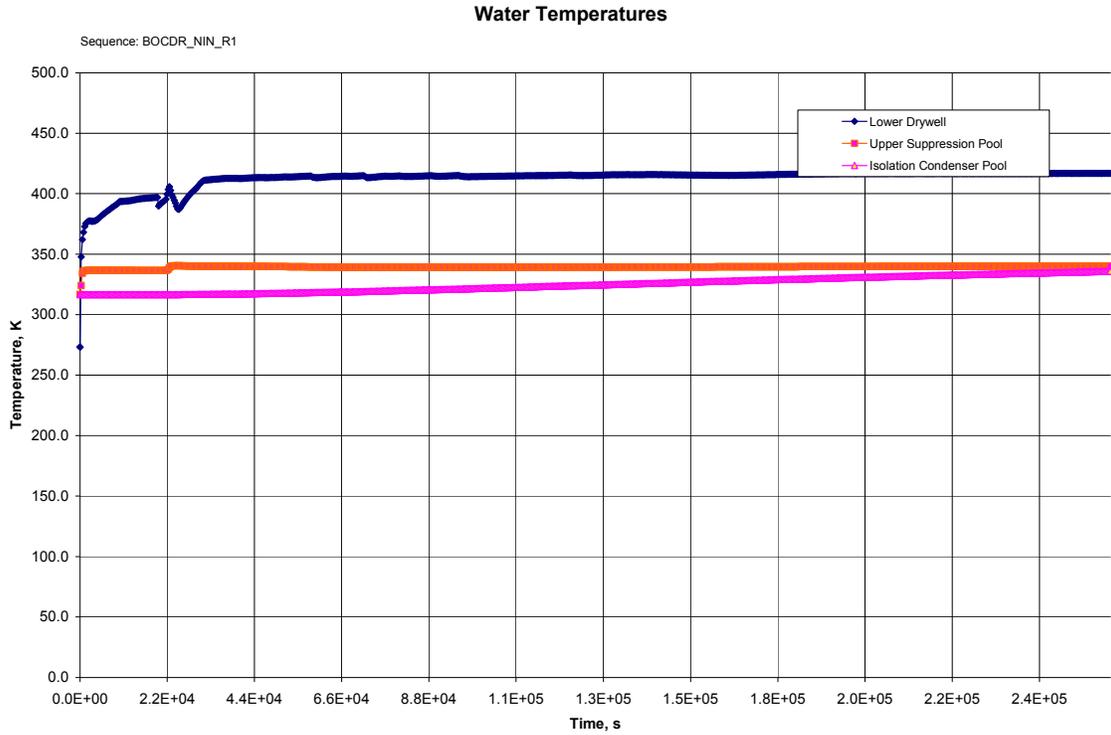


Figure 9A-2o. BOCdr_nIN_R1 Water Temperatures

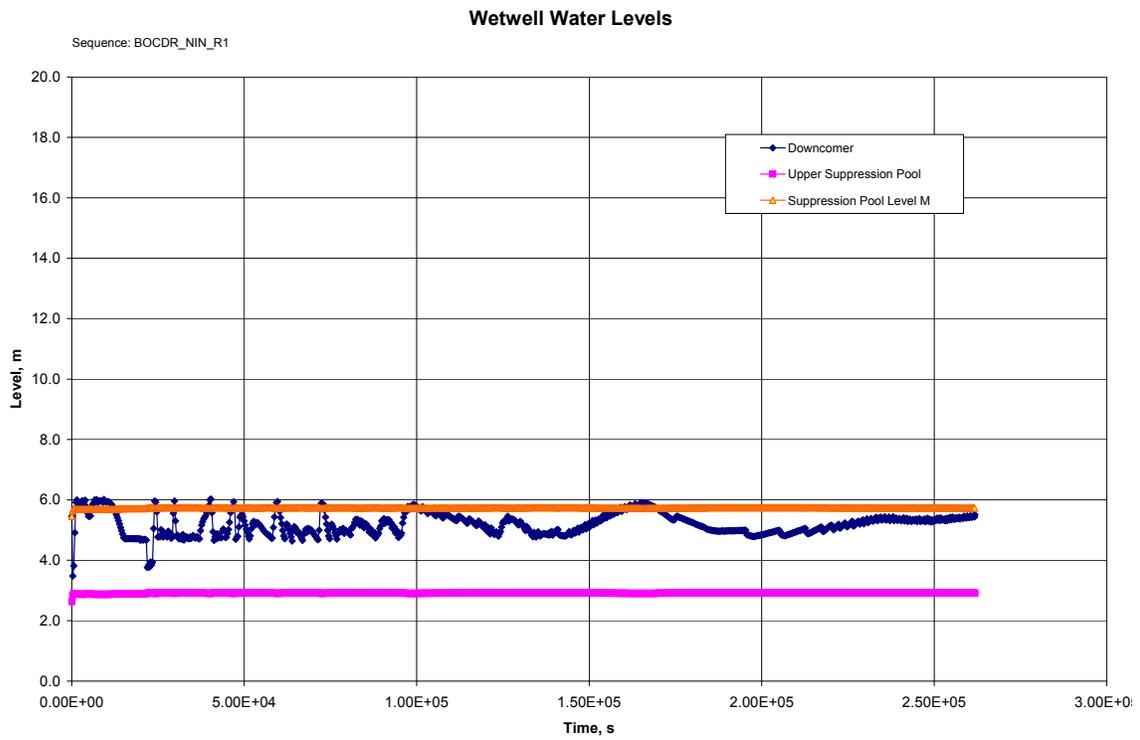


Figure 9A-2p. BOCdr_nIN_R1 Wetwell Water Levels

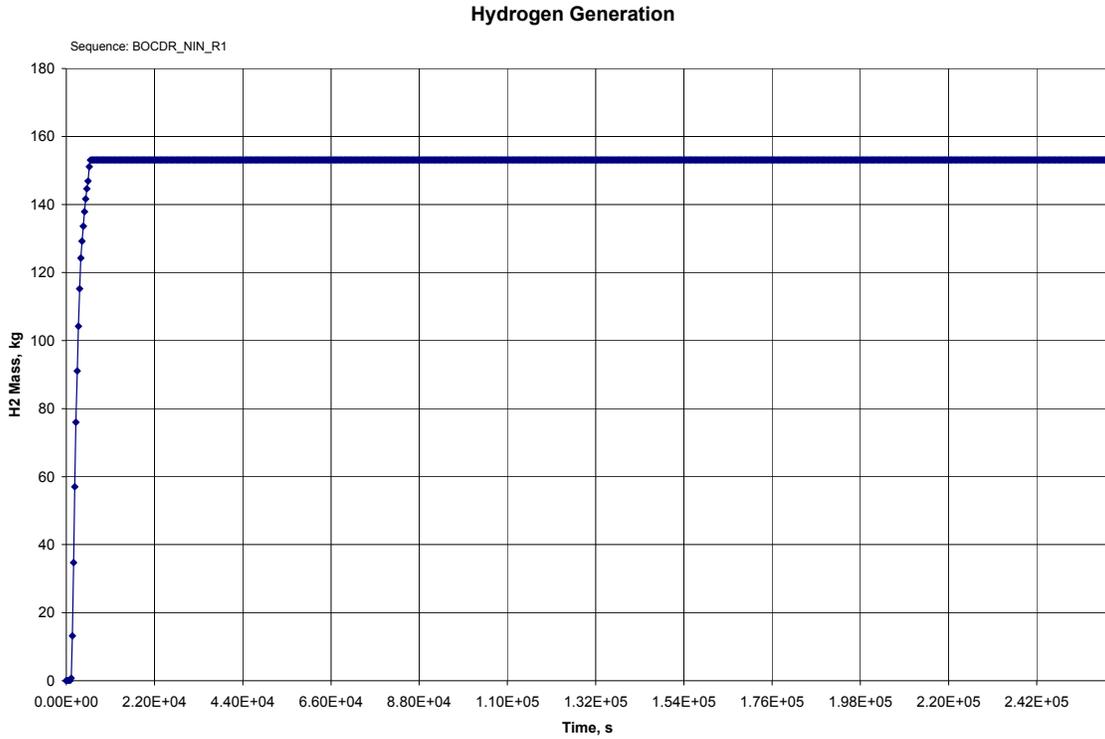


Figure 9A-2q. BOCdr_nIN_R1 Hydrogen Generation

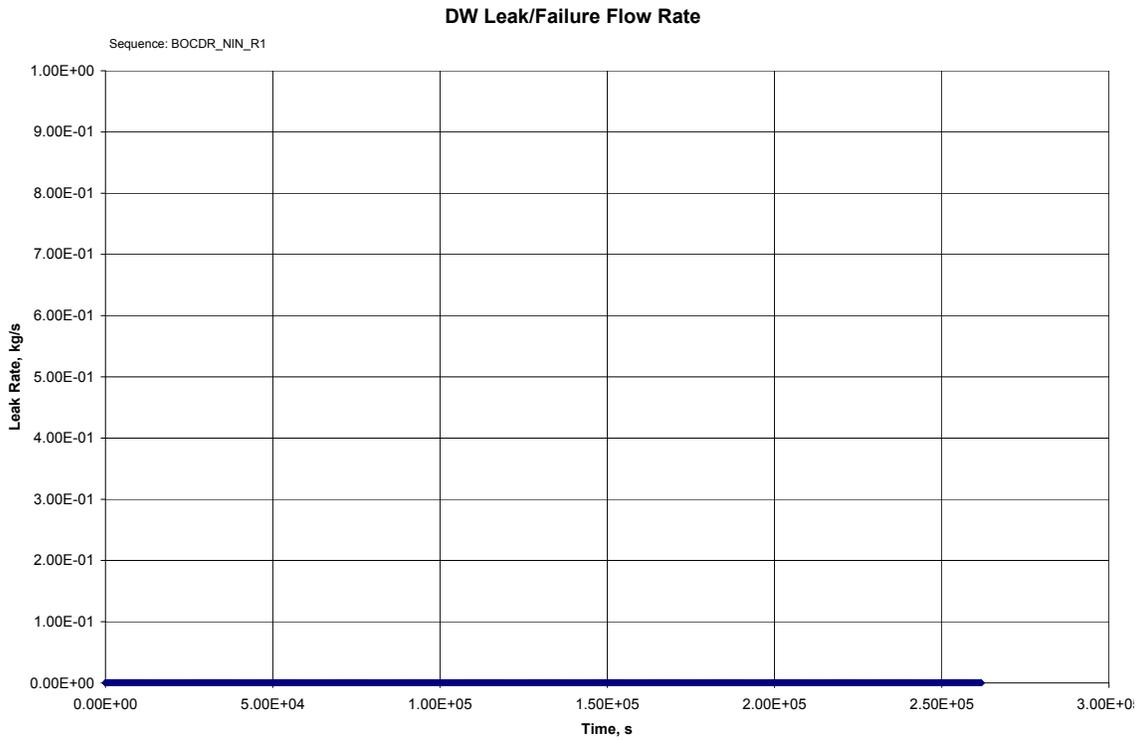


Figure 9A-2r. BOCdr_nIN_R1 DW Leak/Failure Flow Rate

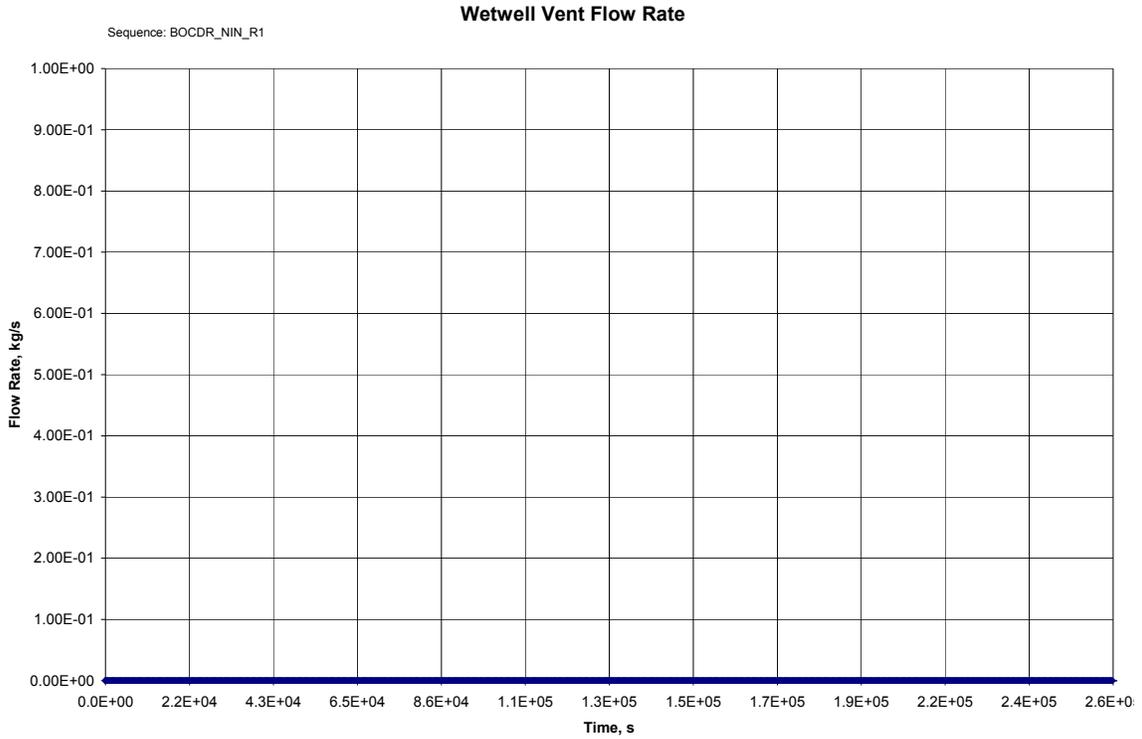


Figure 9A-2s. BOCdr_nIN_R1 Wetwell Vent Flow Rate

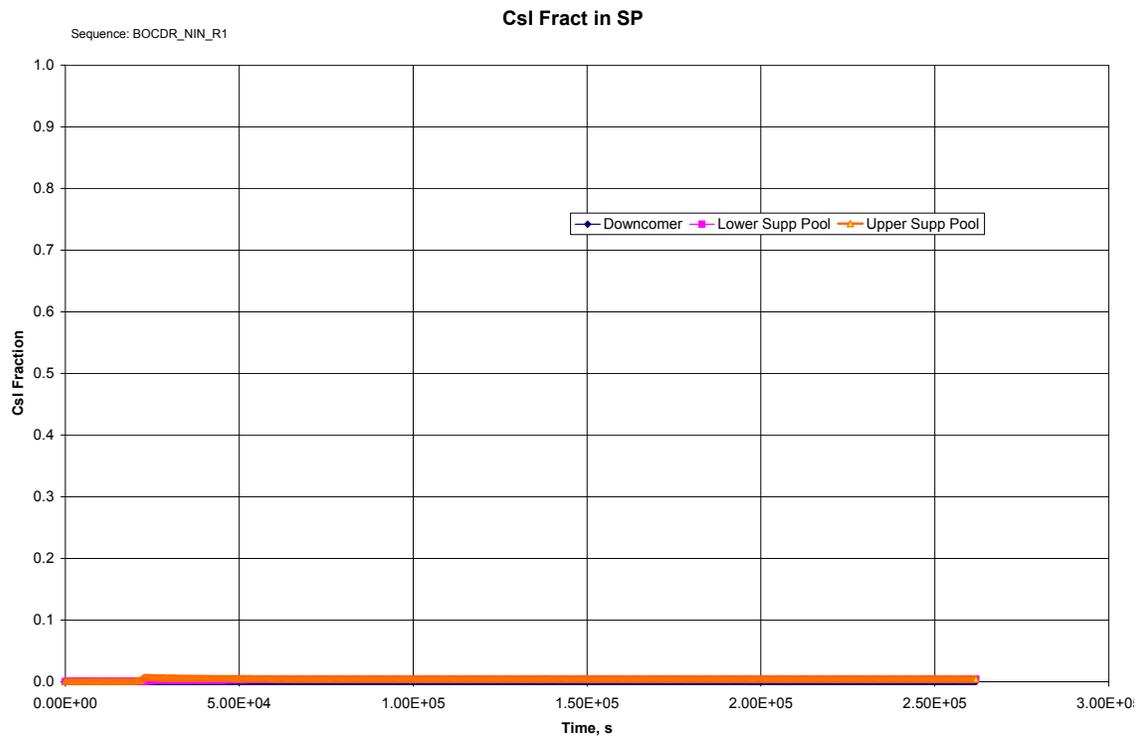


Figure 9A-2t. BOCdr_nIN_R1 Csi Fract in SP

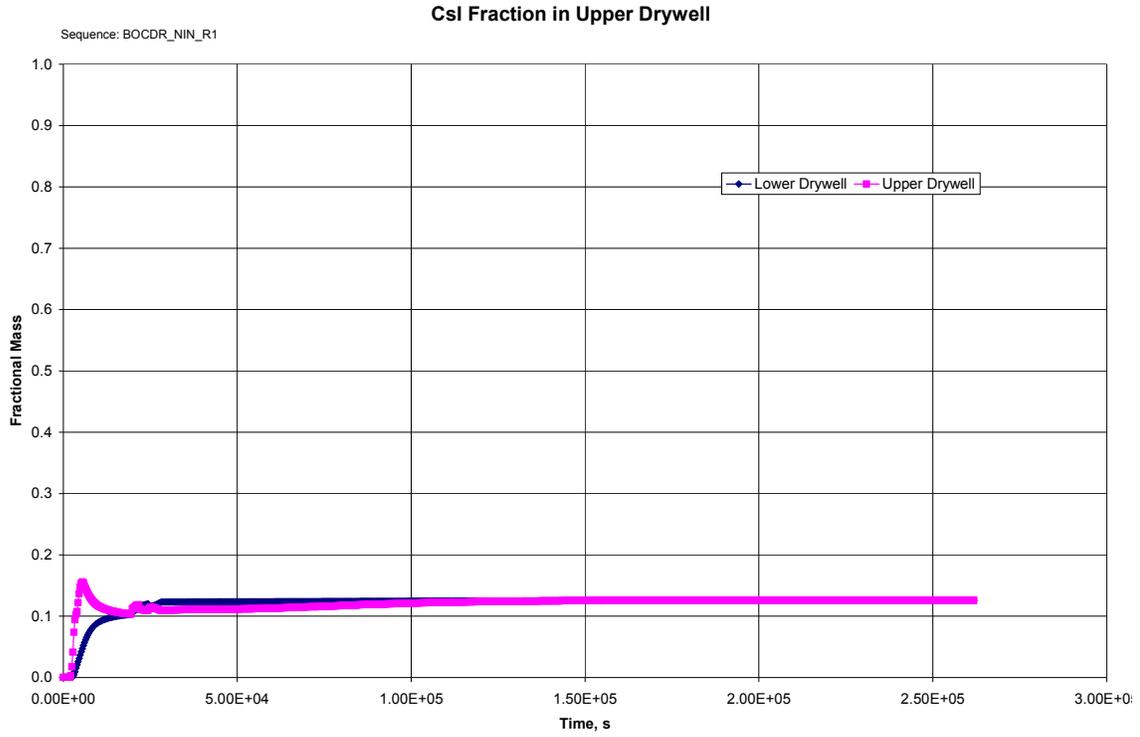


Figure 9A-2u. BOCdr_nIN_R1 CsI Fraction in Upper Drywell

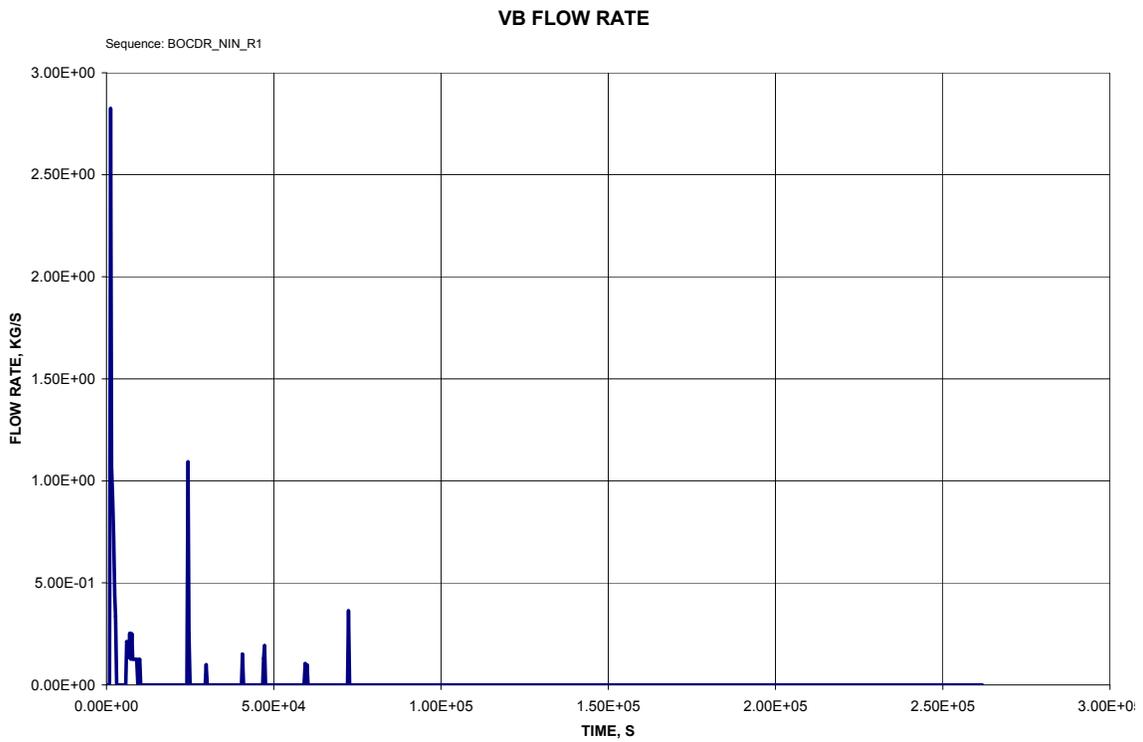


Figure 9A-2v. BOCdr_nIN_R1 VB Flow Rate

9A.3 Bypass Representative Sequence Low Pressure (T_nIN_BYP_R1)

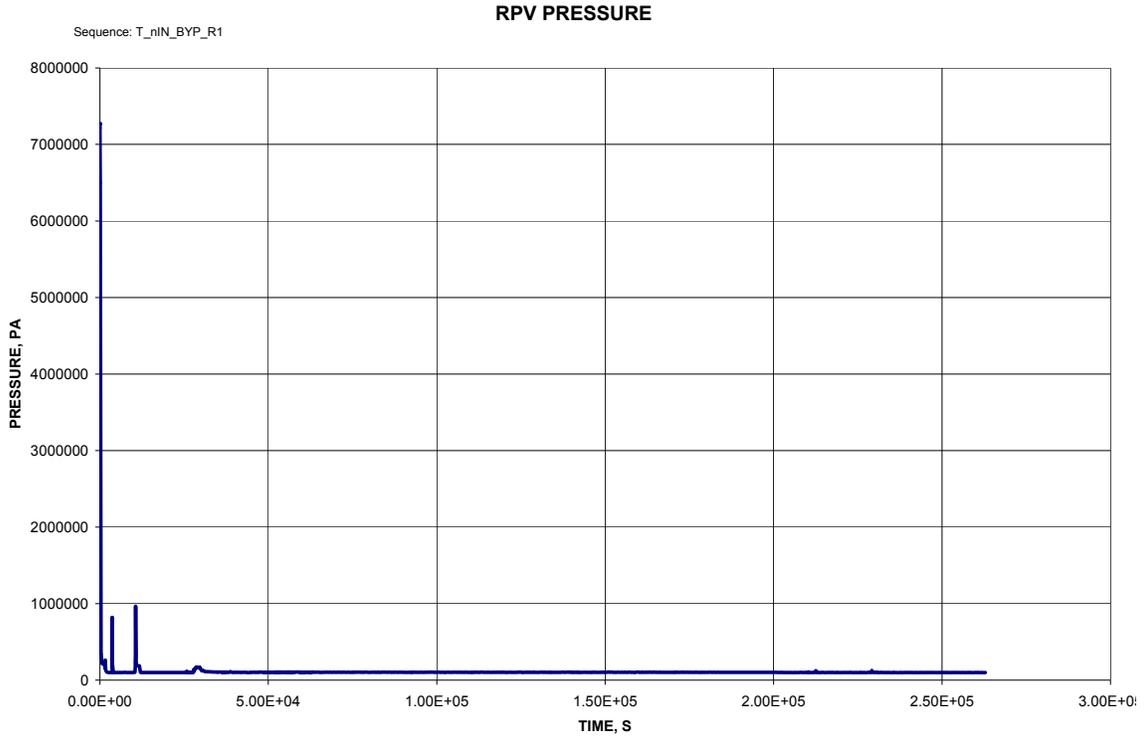


Figure 9A-3a. T_nIN_BYP_R1 RPV Pressure

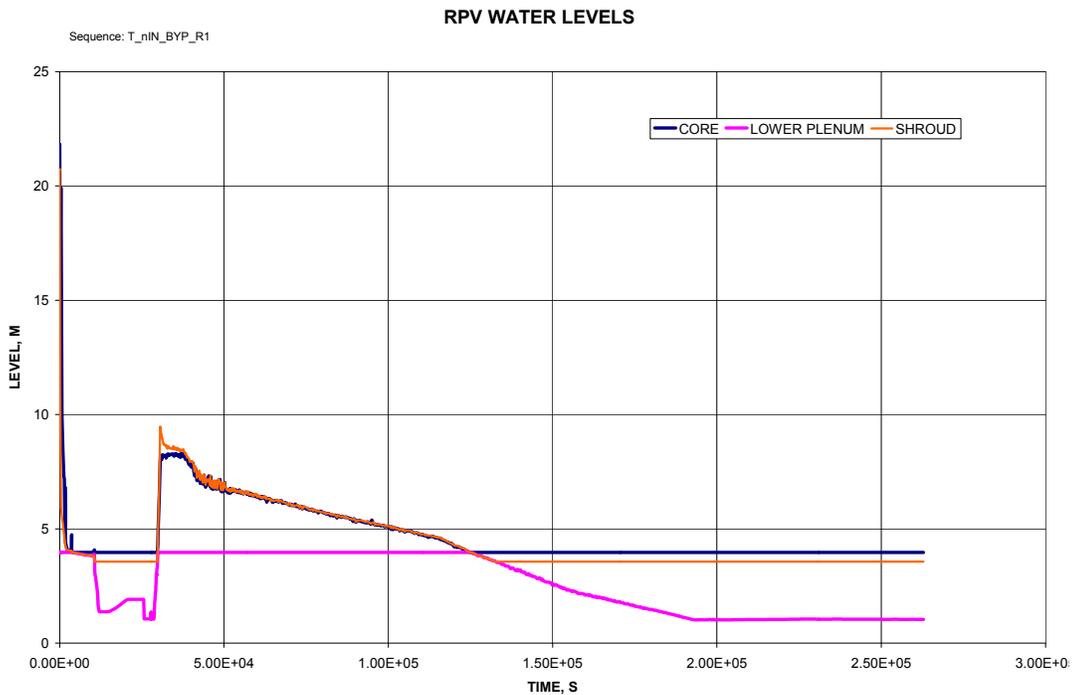


Figure 9A-3b. T_nIN_BYP_R1 RPV Water Levels

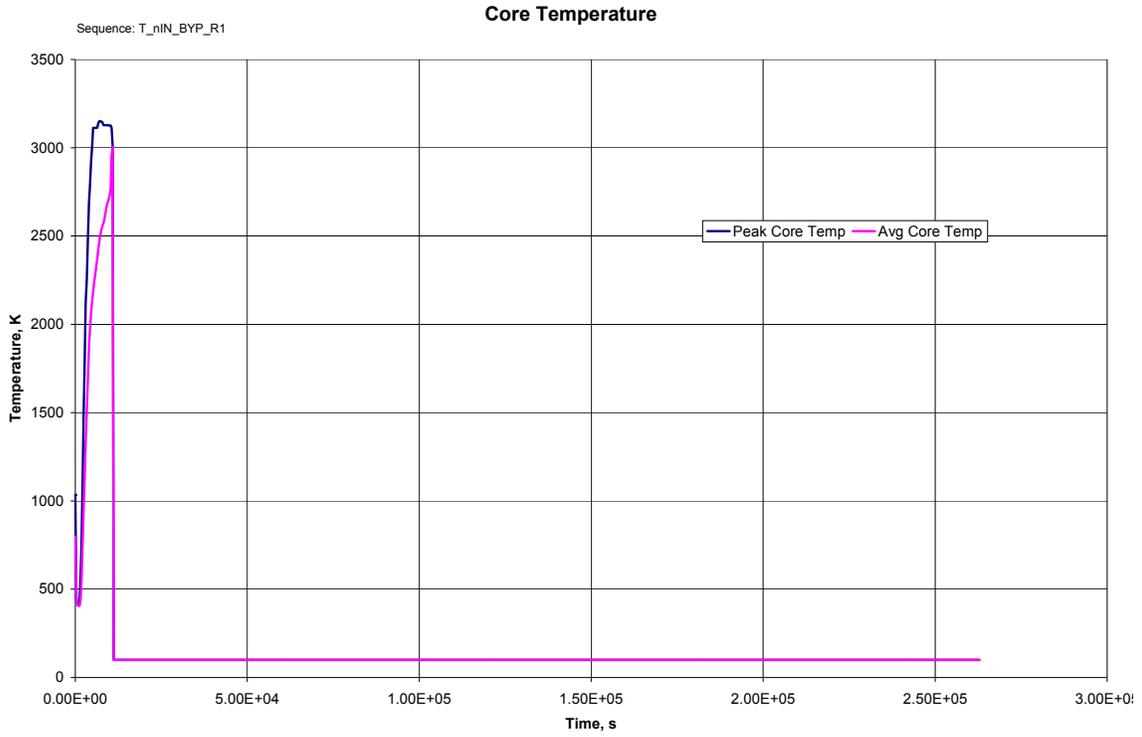


Figure 9A-3c. T_nIN_BYP_R1 Core Temperature

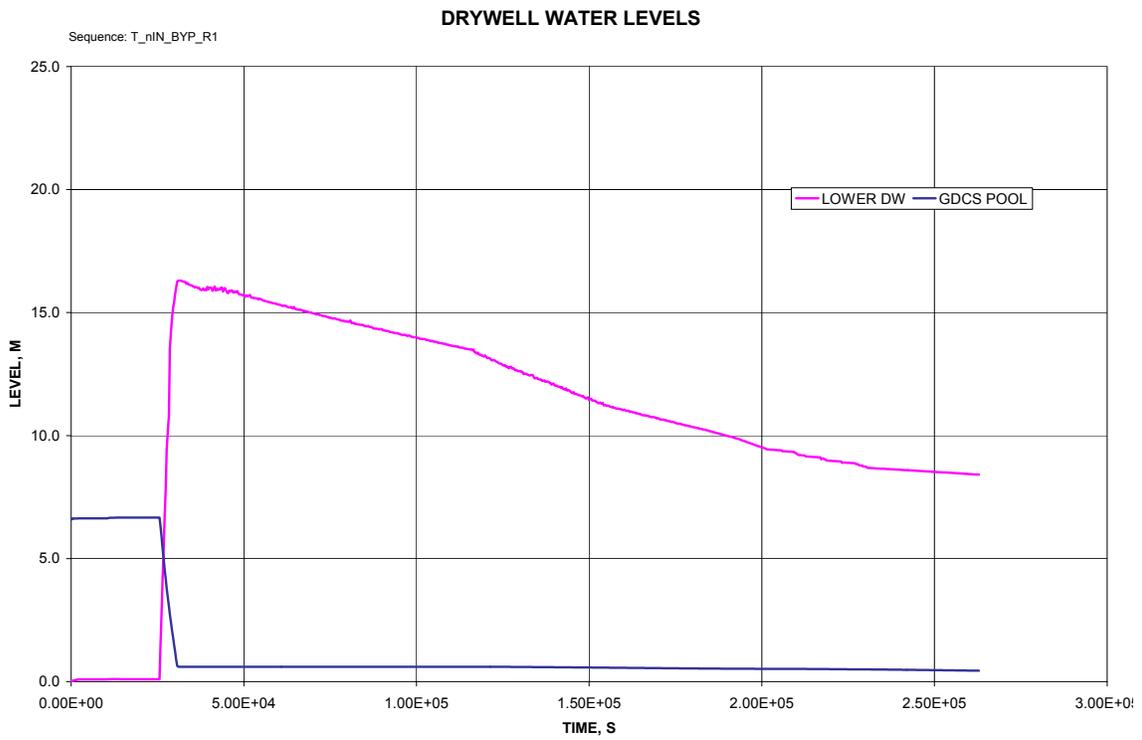


Figure 9A-3d. T_nIN_BYP_R1 Drywell Water Levels

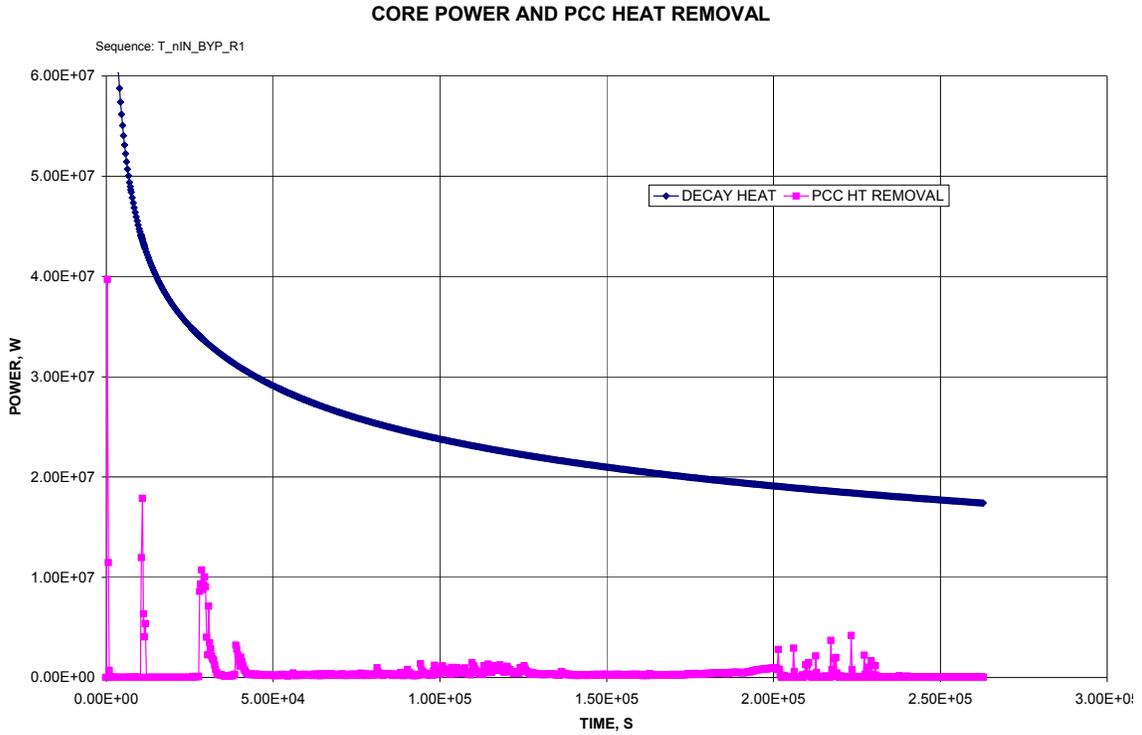


Figure 9A-3e. T_nIN_BYP_R1 Core Power and PCC Heat Removal

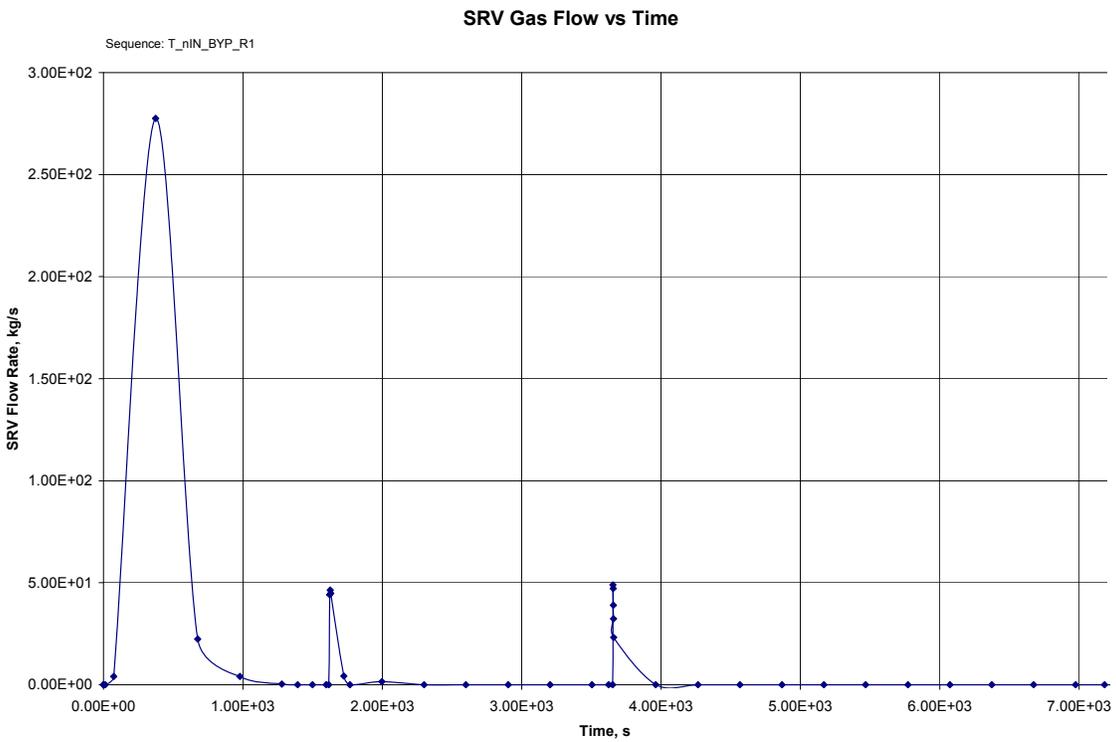


Figure 9A-3f. T_nIN_BYP_R1 SRV Gas Flow vs Time

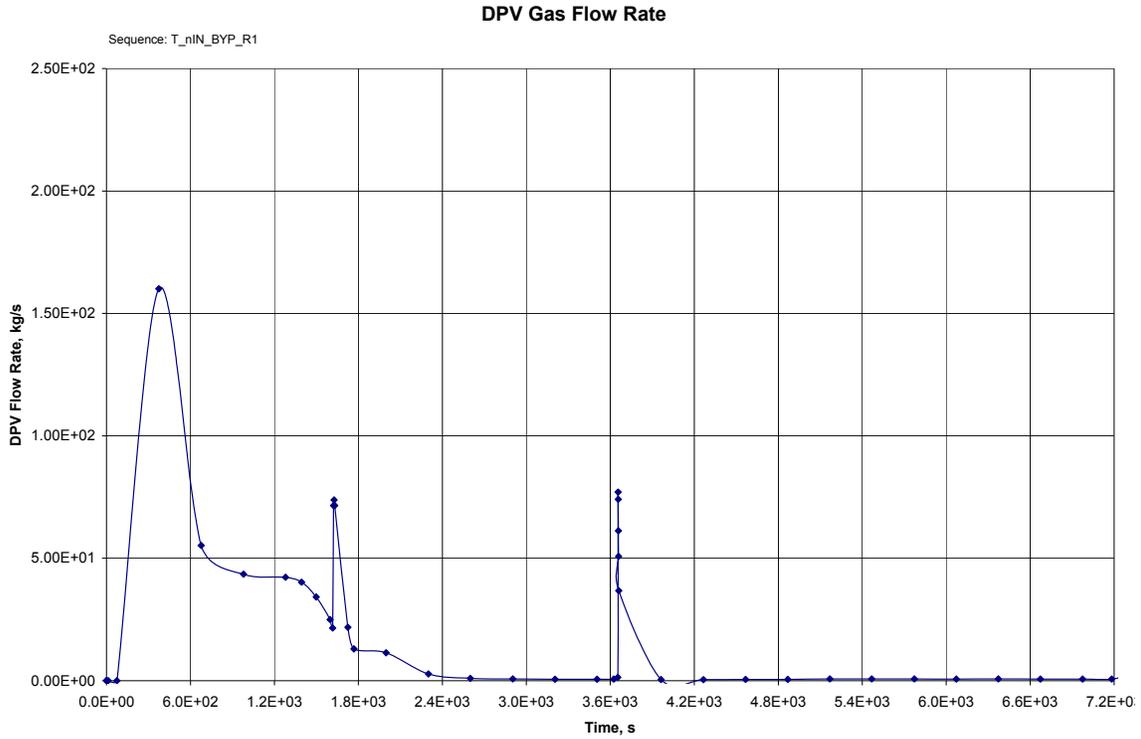


Figure 9A-3g. T_nIN_BYP_R1 DPV Gas Flow Rate

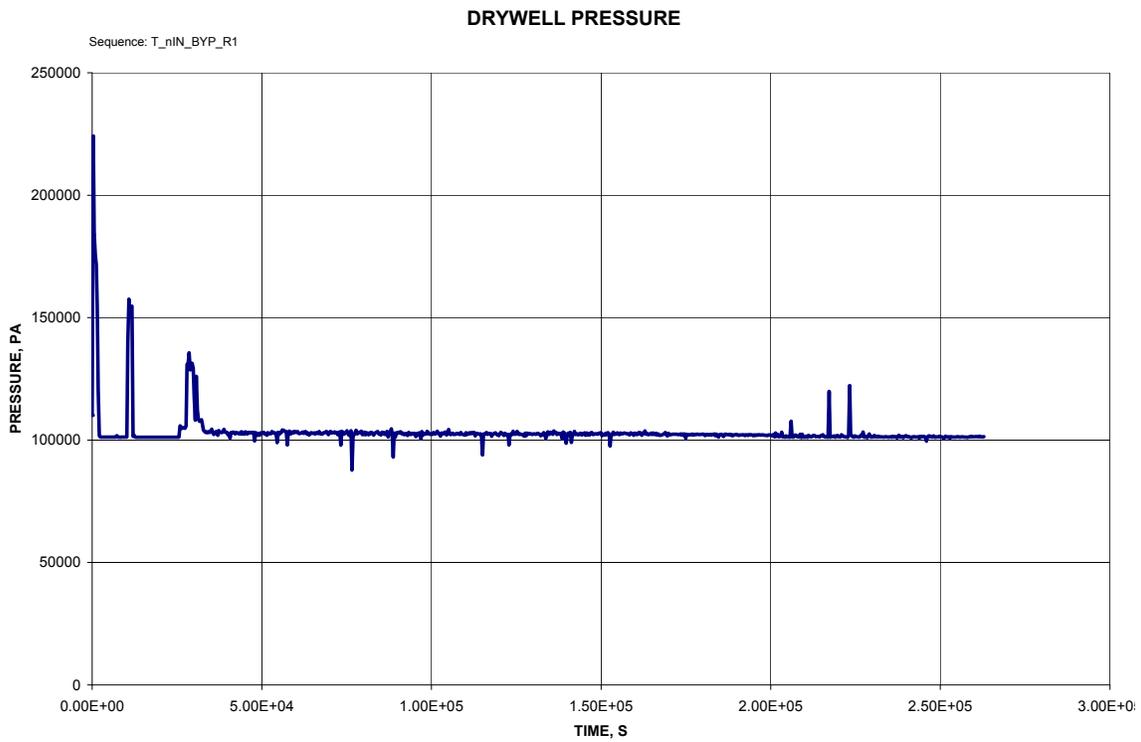


Figure 9A-3h. T_nIN_BYP_R1 Drywell Pressure

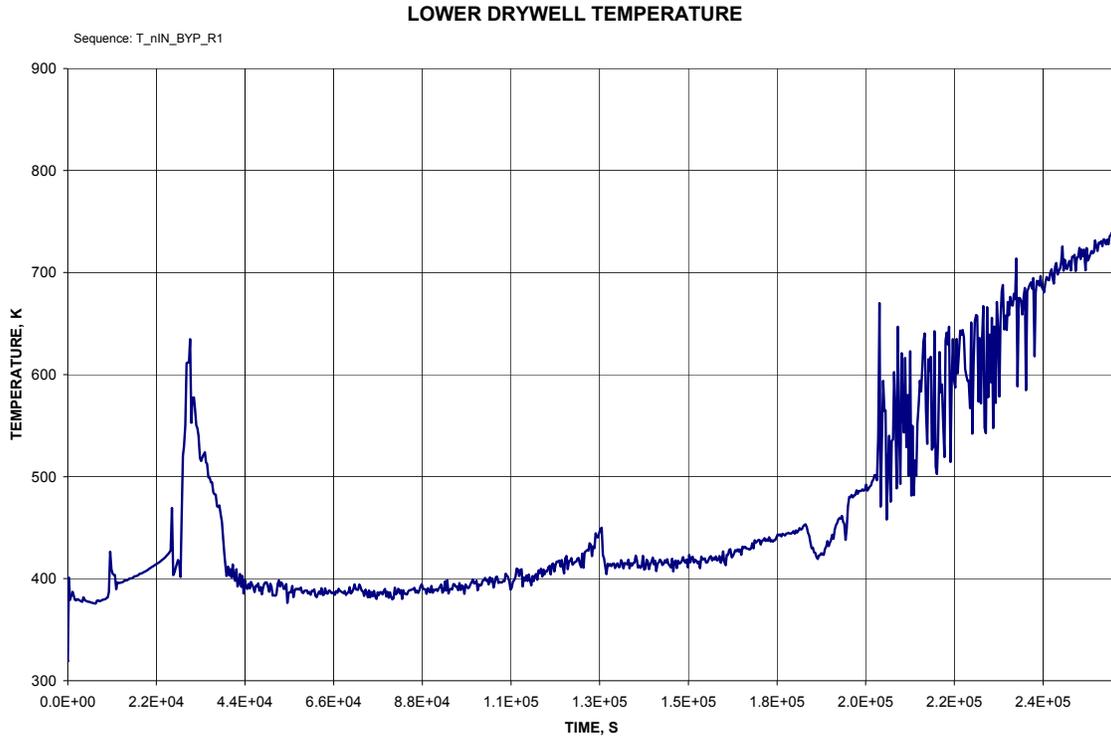


Figure 9A-3i. T_nIN_BYP_R1 Lower Drywell Temperature

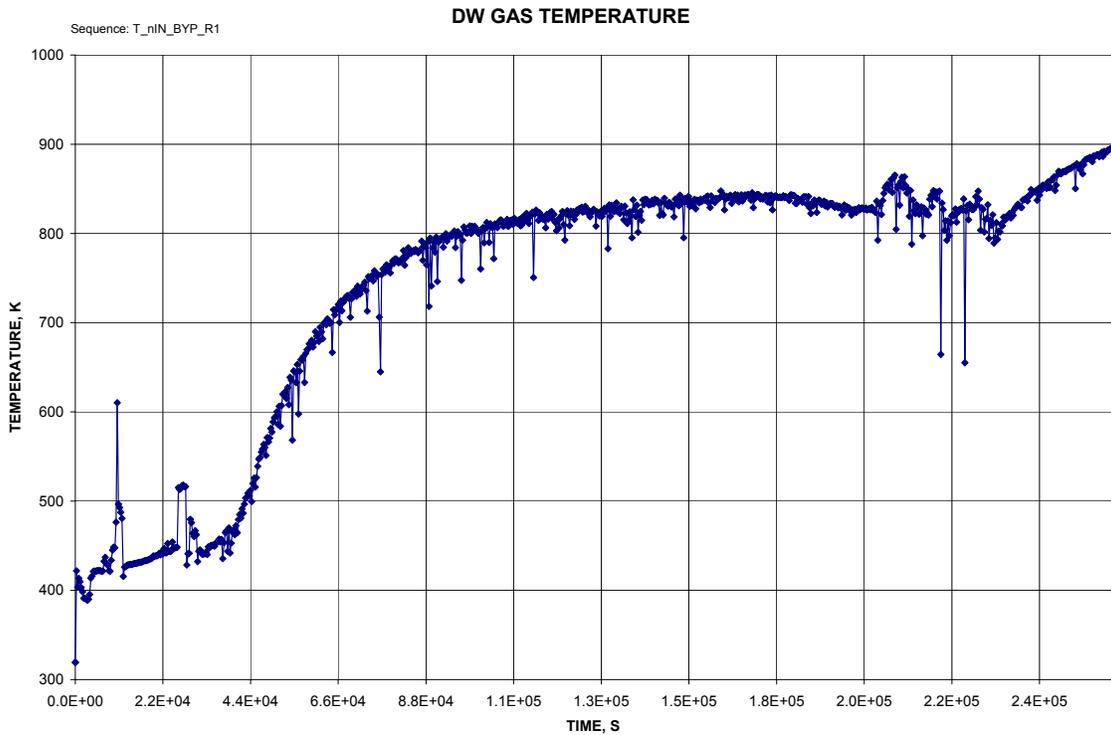


Figure 9A-3j. T_nIN_BYP_R1 DW Gas Temperature

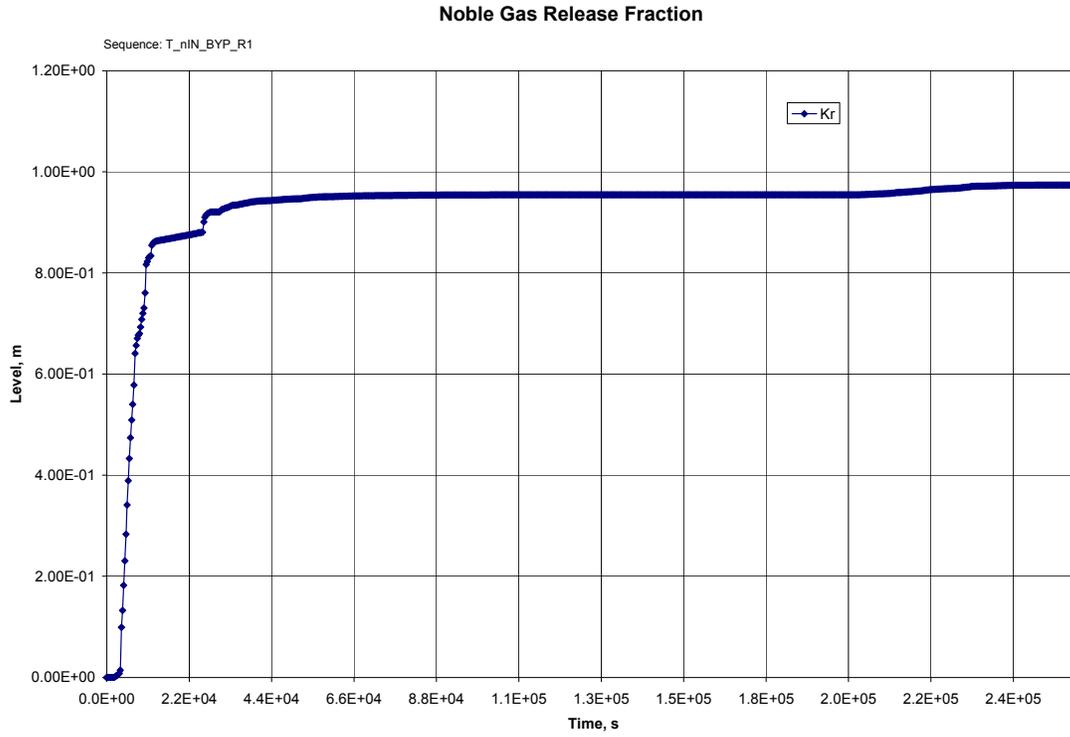


Figure 9A-3k. T_nIN_BYP_R1 Noble Gas Release Fraction

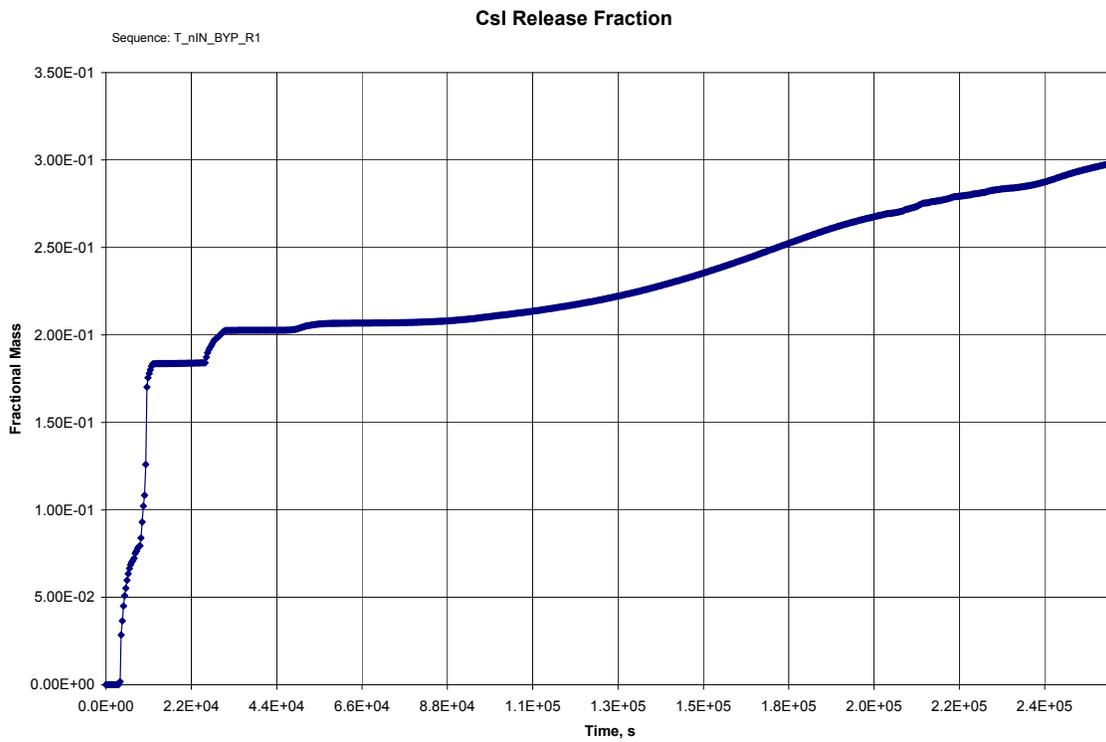


Figure 9A-3l. T_nIN_BYP_R1 CsI Release Fraction

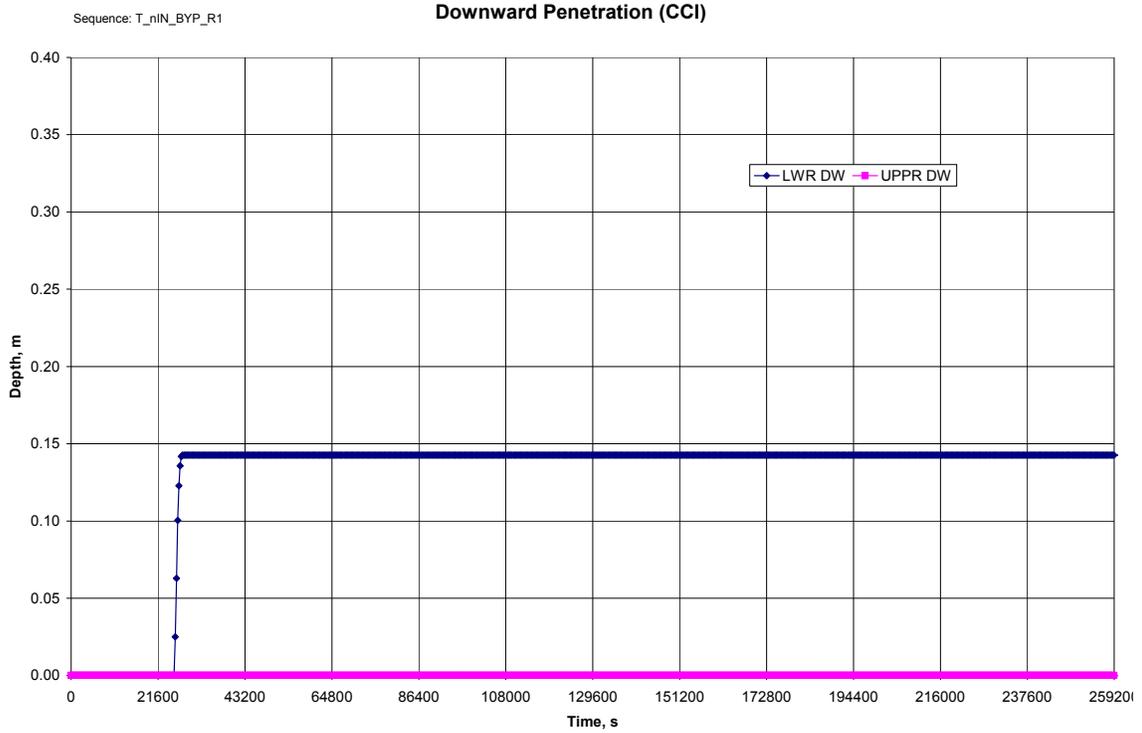


Figure 9A-3m. T_nIN_BYP_R1 Downward Penetration

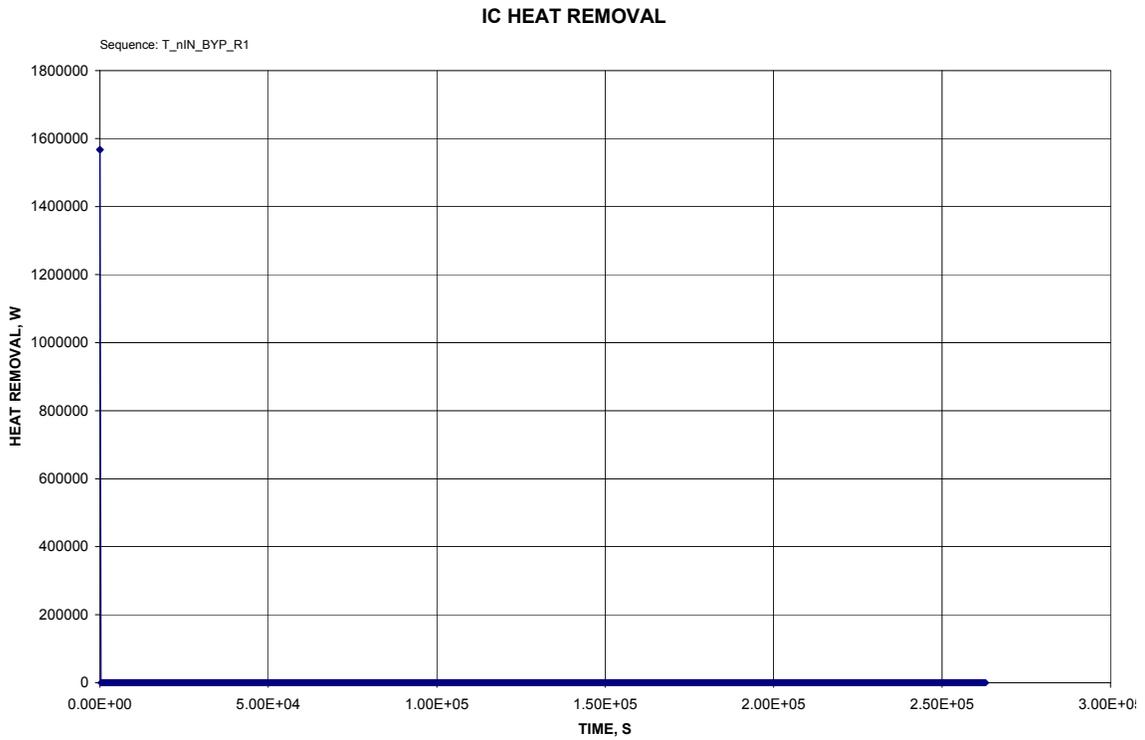


Figure 9A-3n. T_nIN_BYP_R1 IC Heat Removal

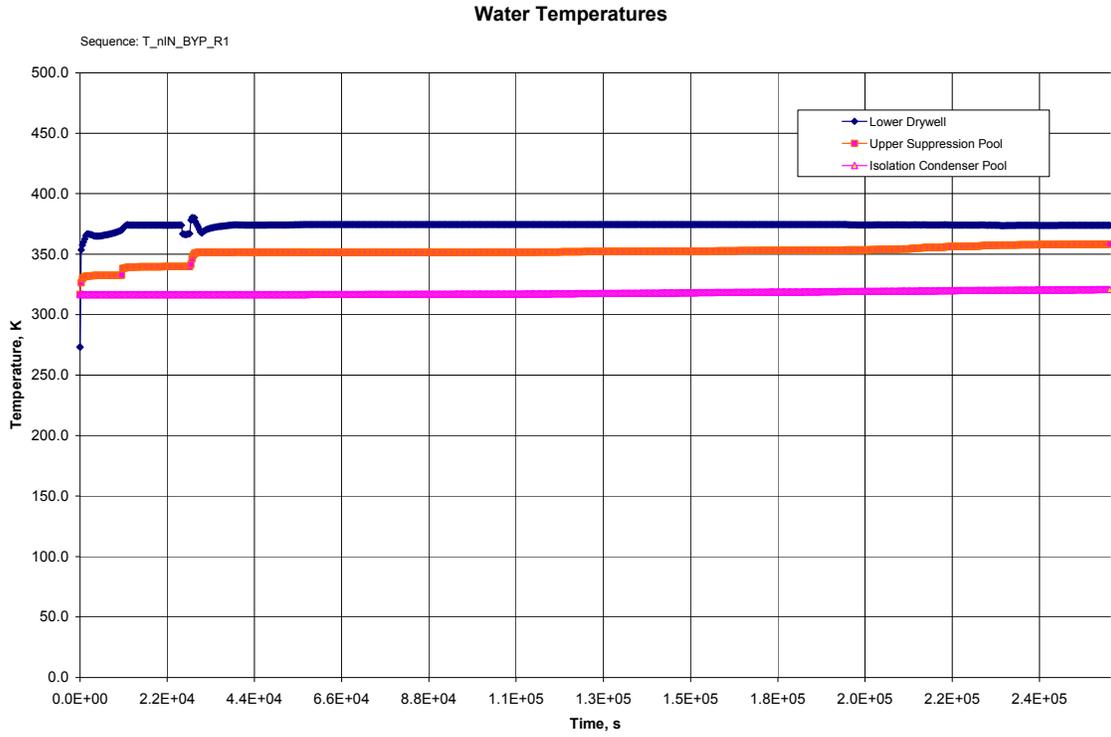


Figure 9A-3o. T_nIN_BYP_R1 Water Temperature

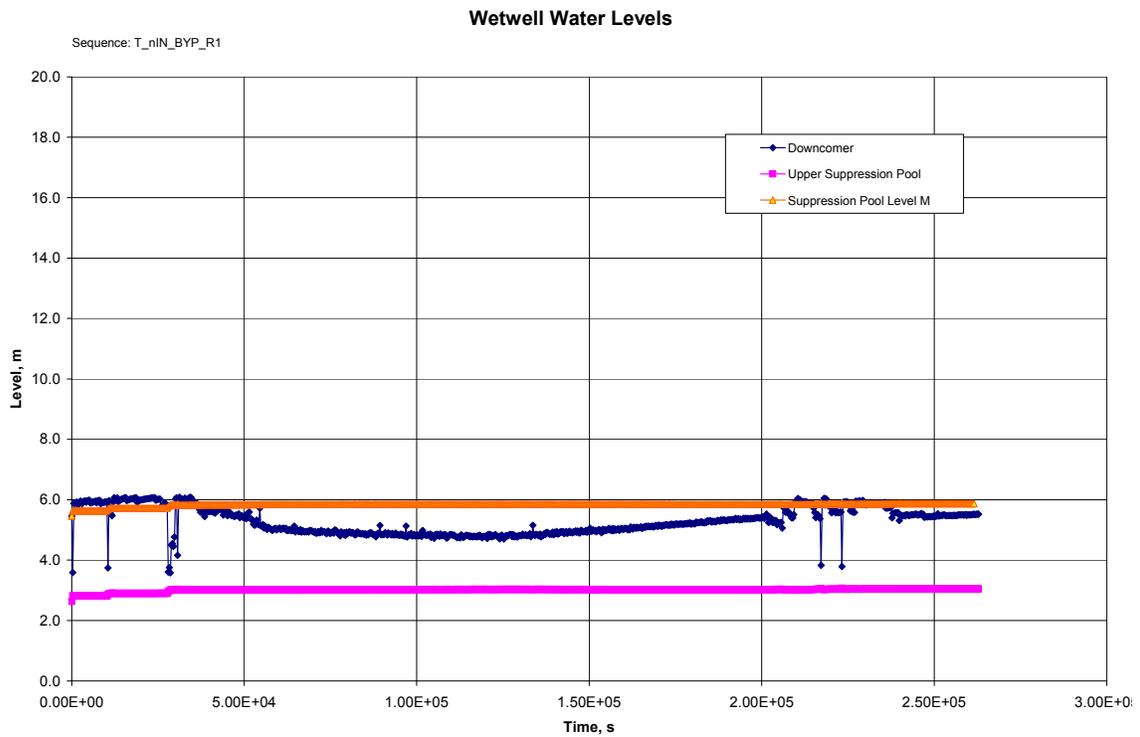


Figure 9A-3p. T_nIN_BYP_R1 Wetwell Water Levels

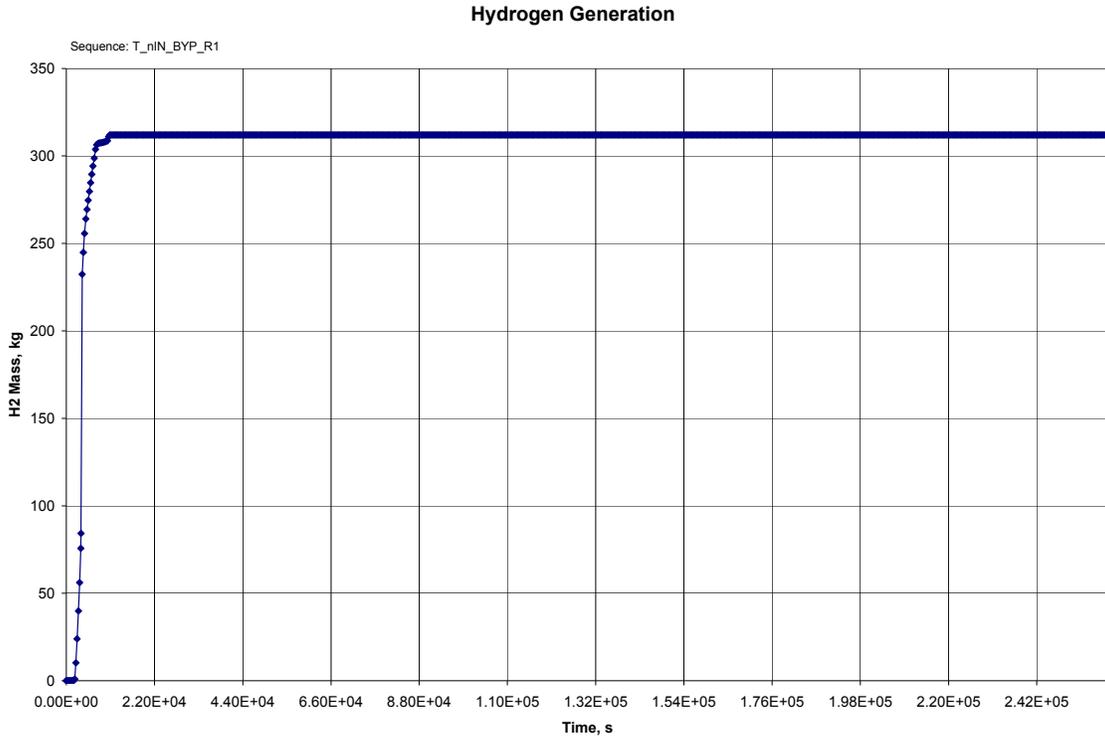


Figure 9A-3q. T_nIN_BYP_R1 Hydrogen Generation

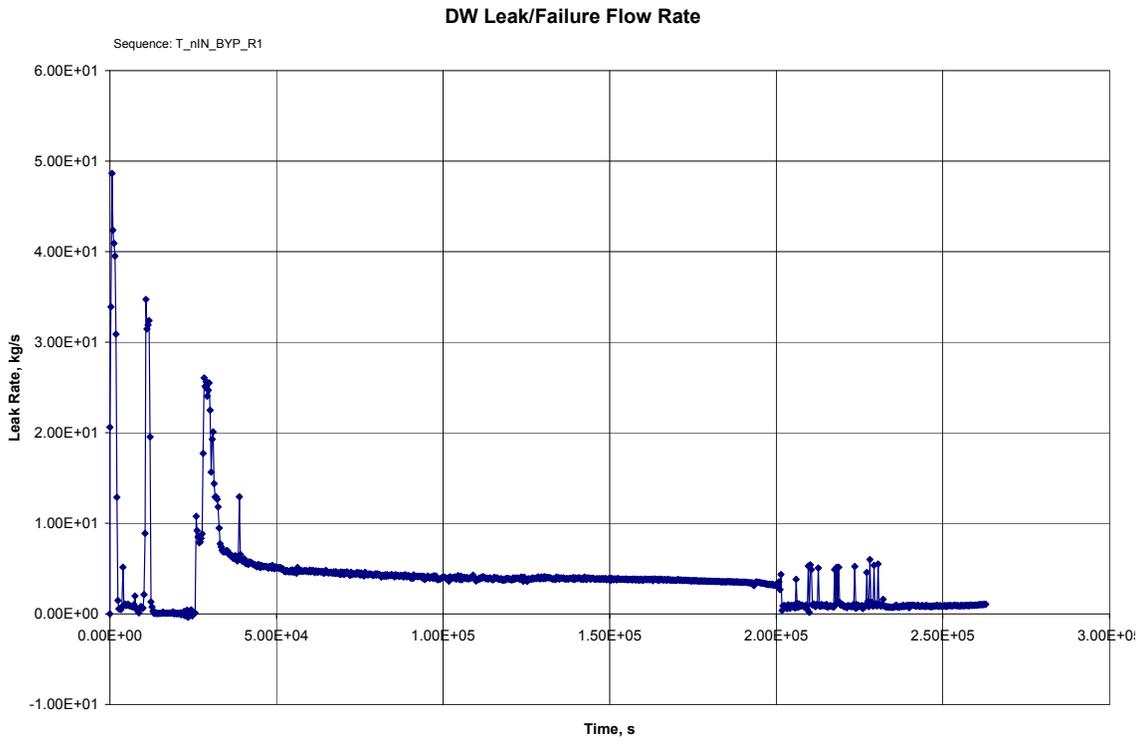


Figure 9A-3r. T_nIN_BYP_R1 DW Leak/Failure Flow Rate

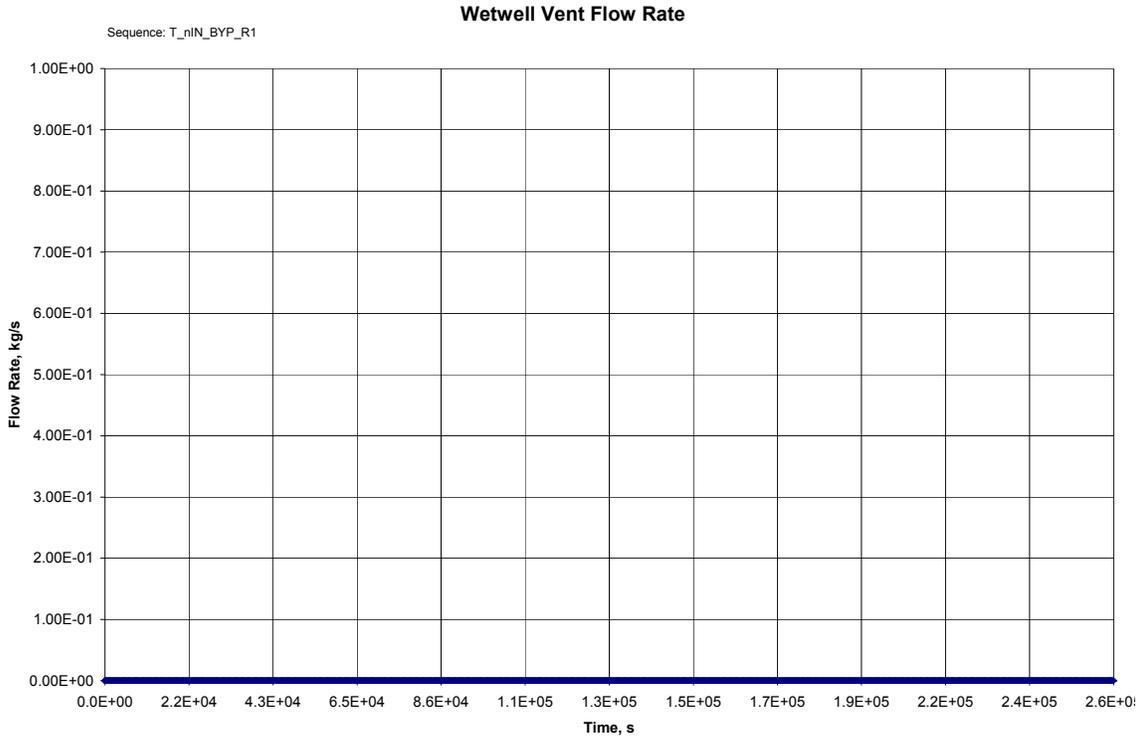


Figure 9A-3s. T_nIN_BYP_R1 Wetwell Vent Flow Rate

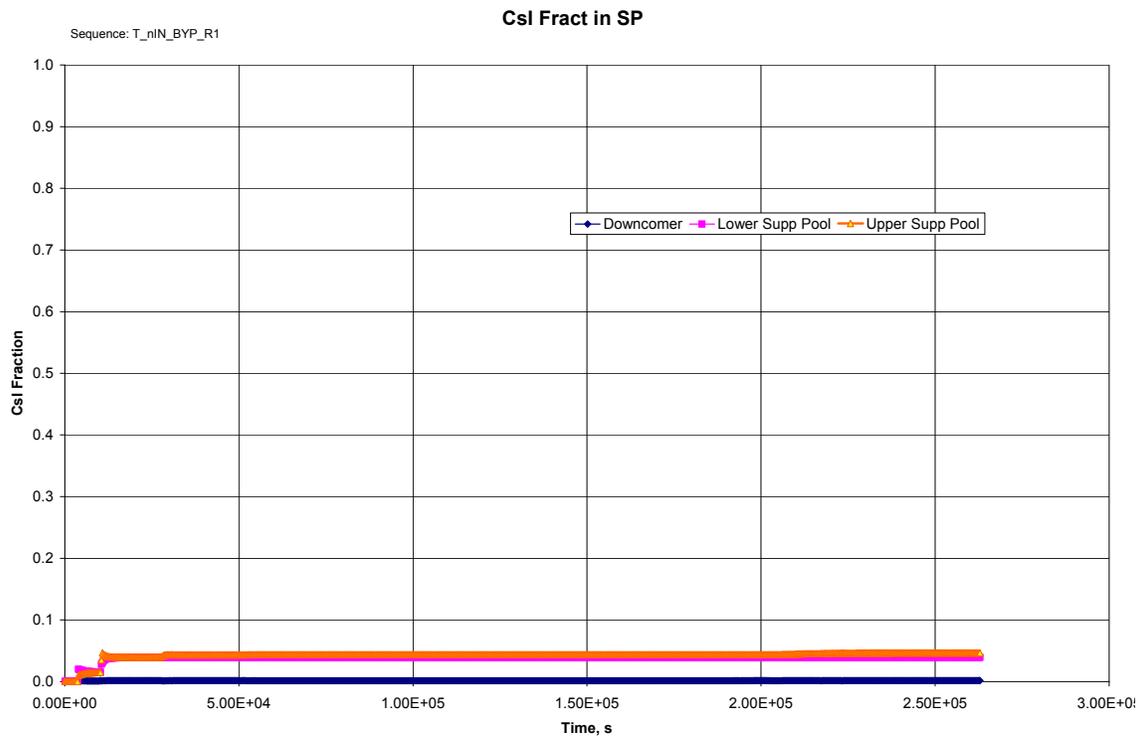


Figure 9A-3t. T_nIN_BYP_R1 Csl Fract in SP

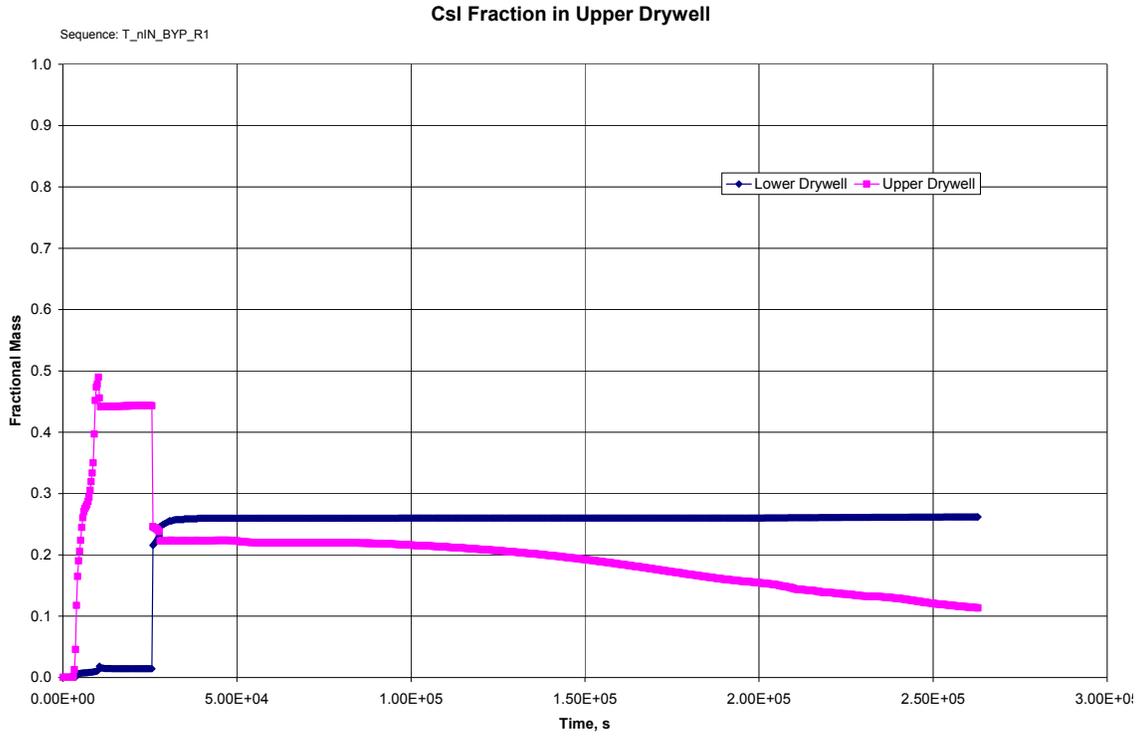


Figure 9A-3u. T_nIN_BYP_R1 CsI Fraction in Upper Drywell

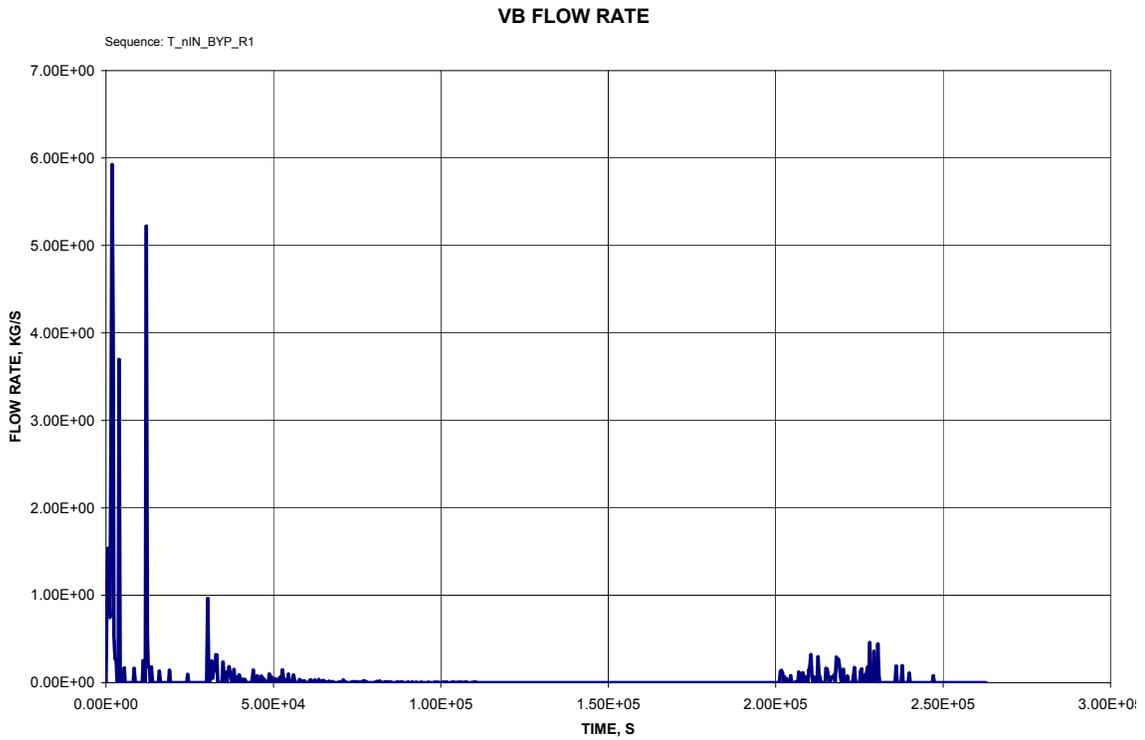


Figure 9A-3v. T_nIN_BYP_R1 VB Flow Rate

9A.4 Bypass RS (High Pressure) T_nDP_nIN_BYP_R1

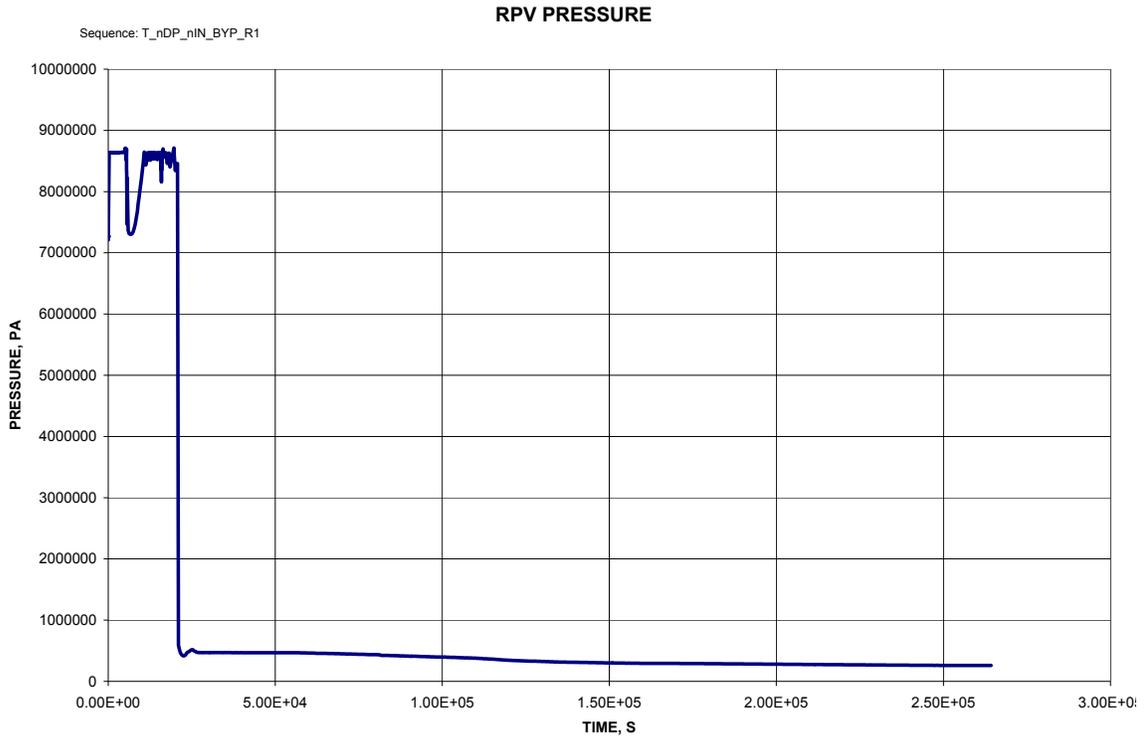


Figure 9A-4a. T_nDP_nIN_BYP_R1 RPV Pressure

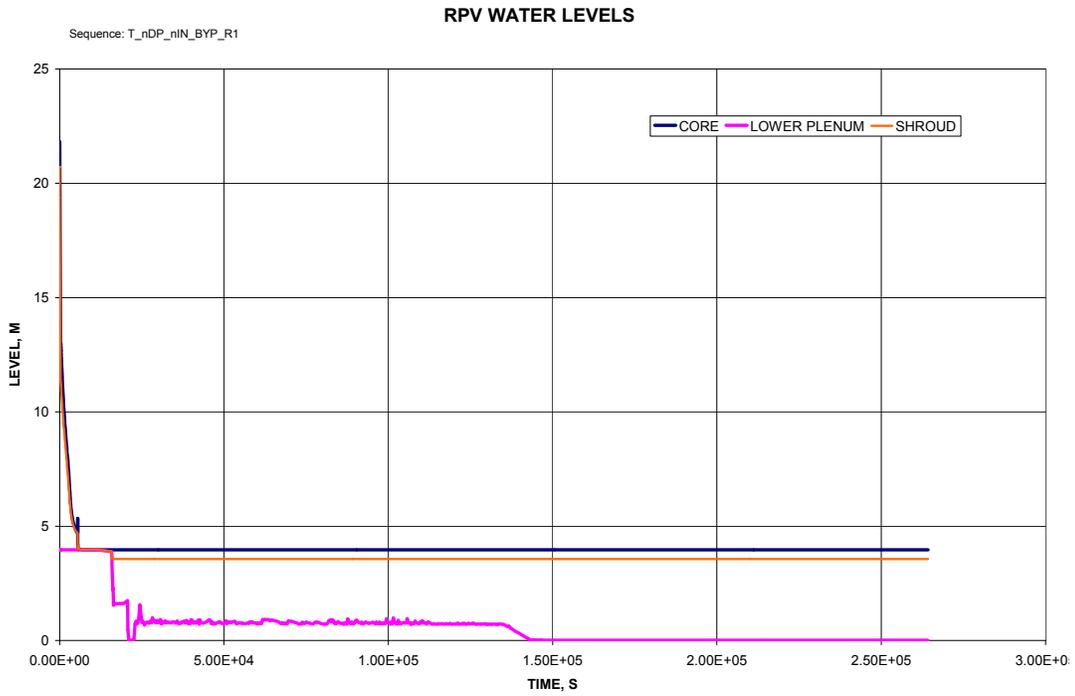


Figure 9A-4b. T_nDP_nIN_BYP_R1 RPV Water Levels

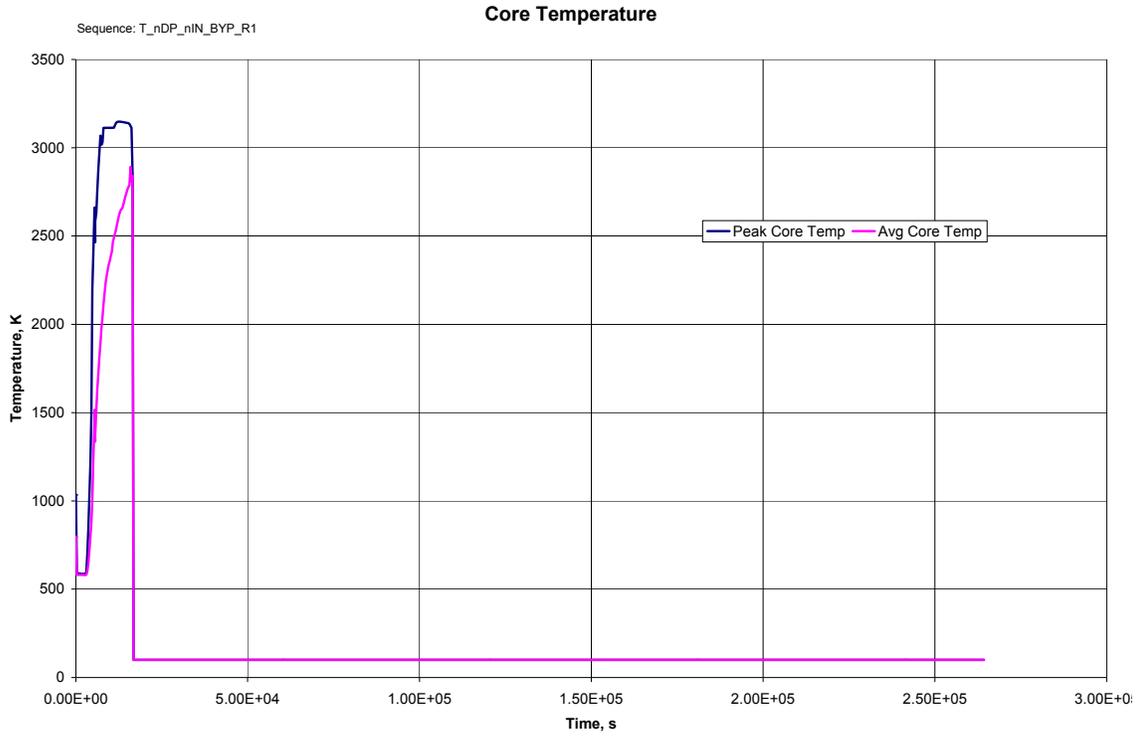


Figure 9A-4c. T_nDP_nIN_BYP_R1 Core Temperature

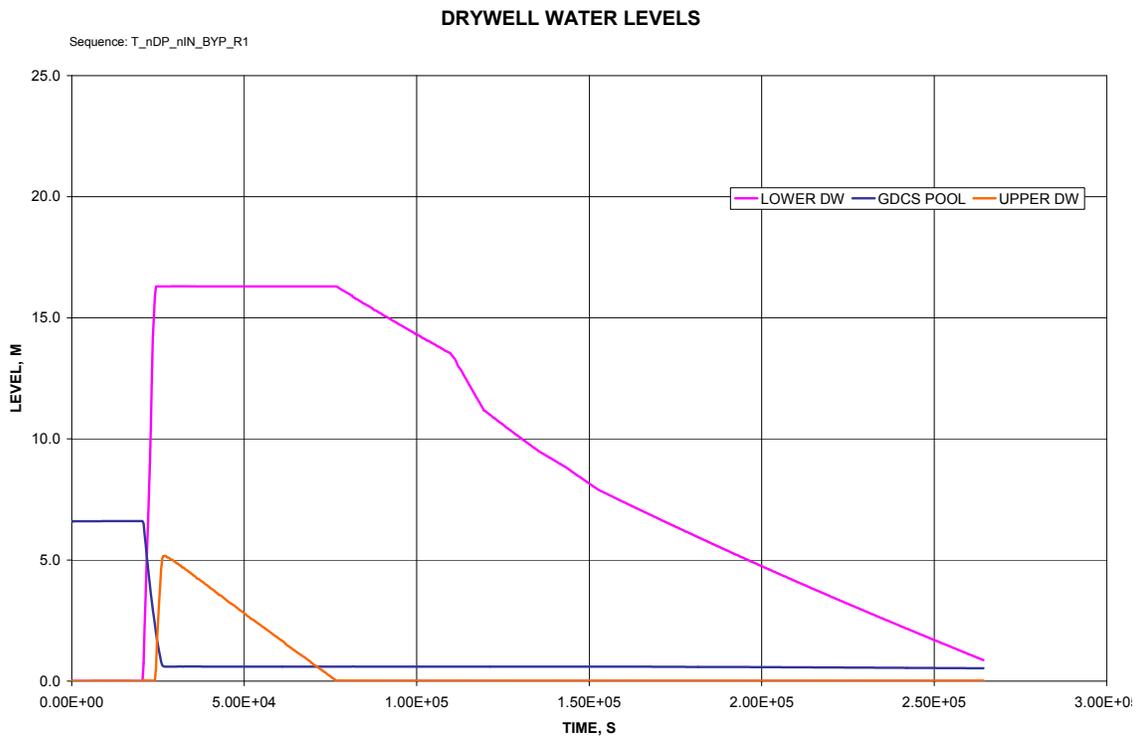


Figure 9A-4d. T_nDP_nIN_BYP_R1 Drywell Water Levels

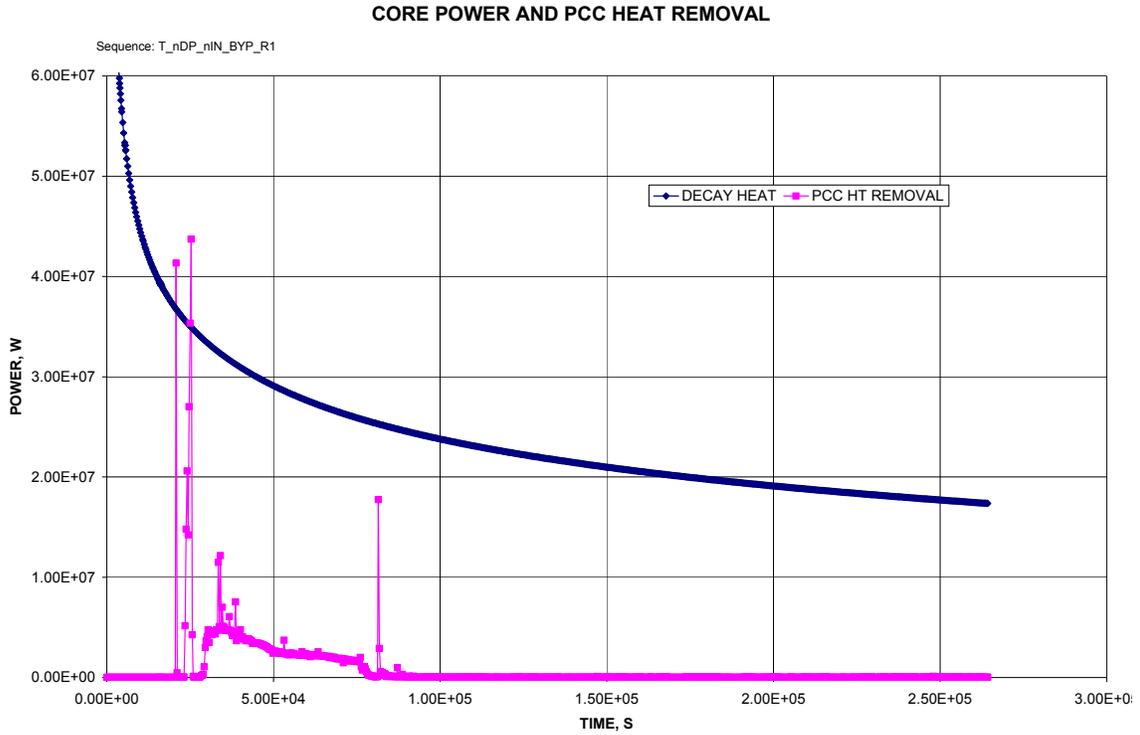


Figure 9A-4e. T_nDP_nIN_BYP_R1 Core Power and PCC Heat Removal

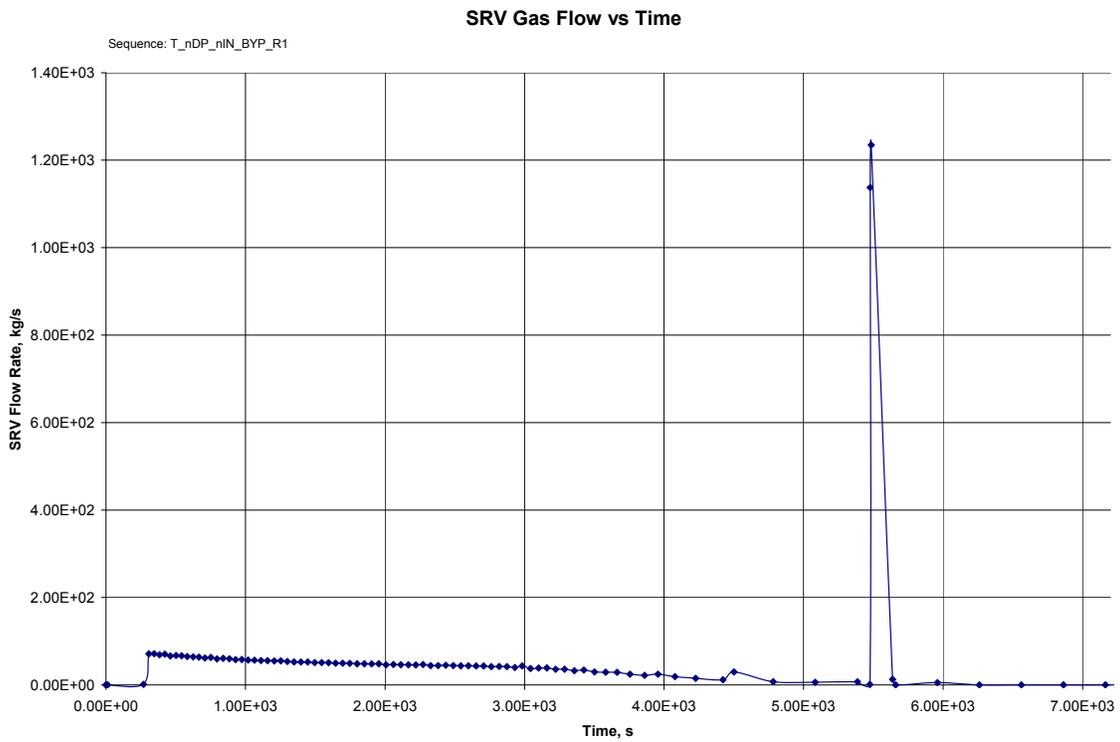


Figure 9A-4f. T_nDP_nIN_BYP_R1 SRV Gas Flow vs. Time

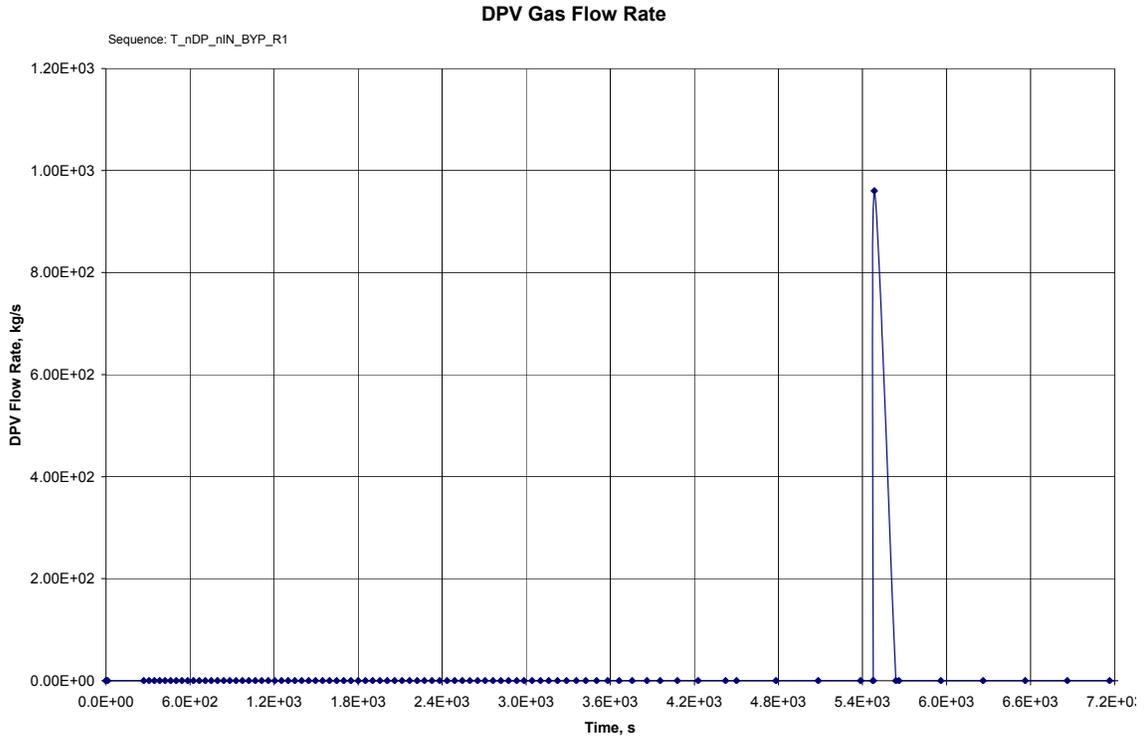


Figure 9A-4g. T_nDP_nIN_BYP_R1 DPV Gas Flow Rate

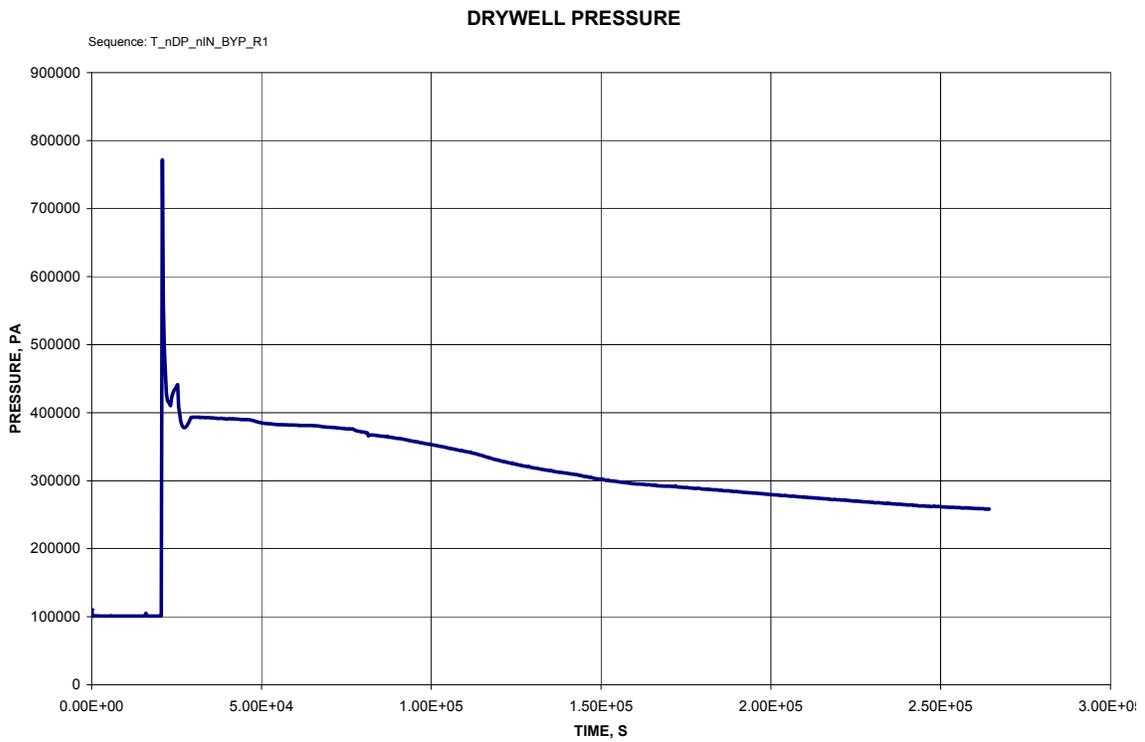


Figure 9A-4h. T_nDP_nIN_BYP_R1 Drywell Pressure

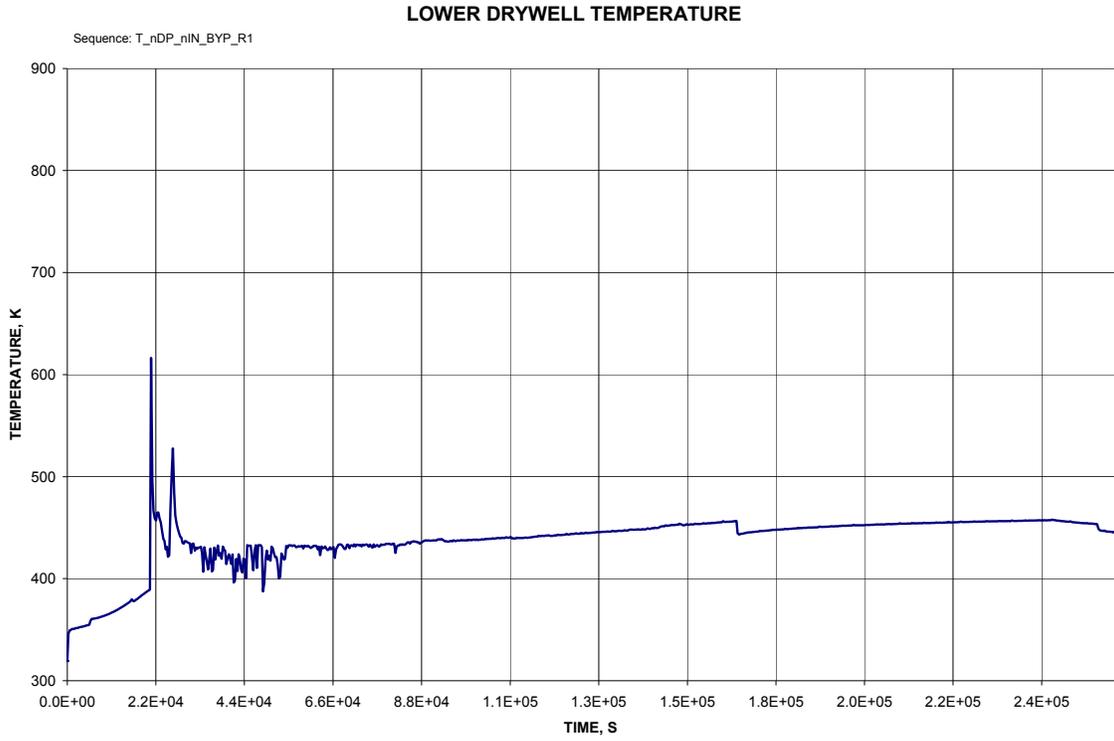


Figure 9A-4i. T_nDP_nIN_BYP_R1 Lower Drywell Temperature

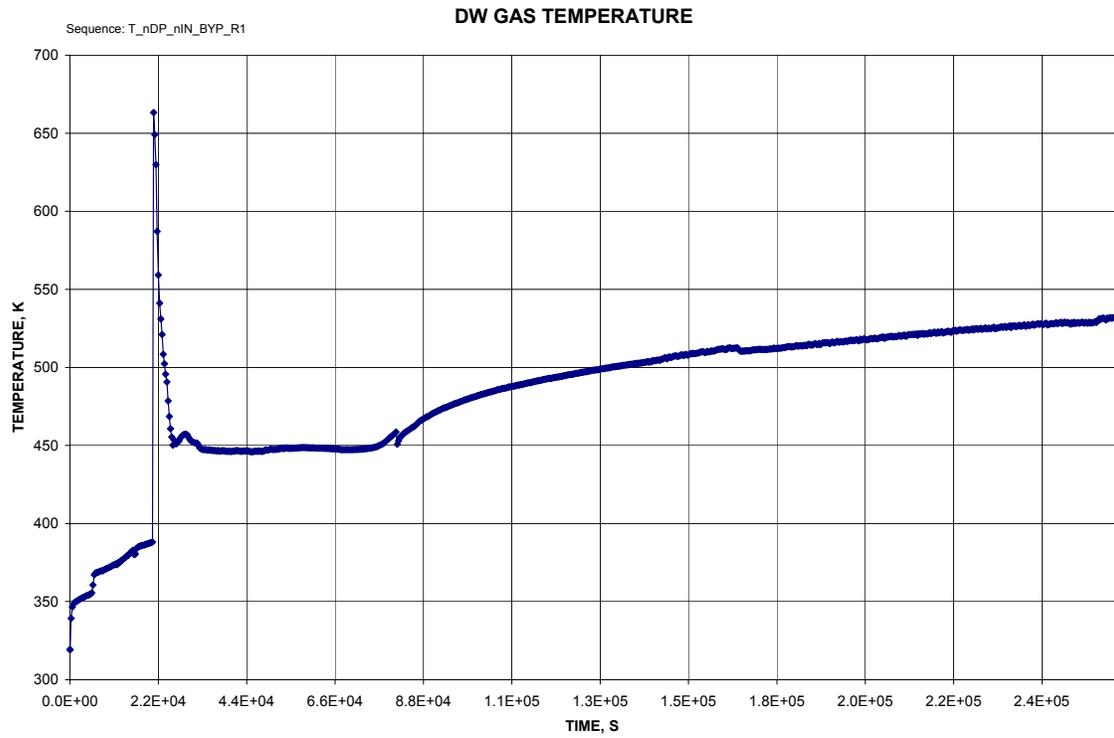


Figure 9A-4j. T_nDP_nIN_BYP_R1 DW Gas Temperature

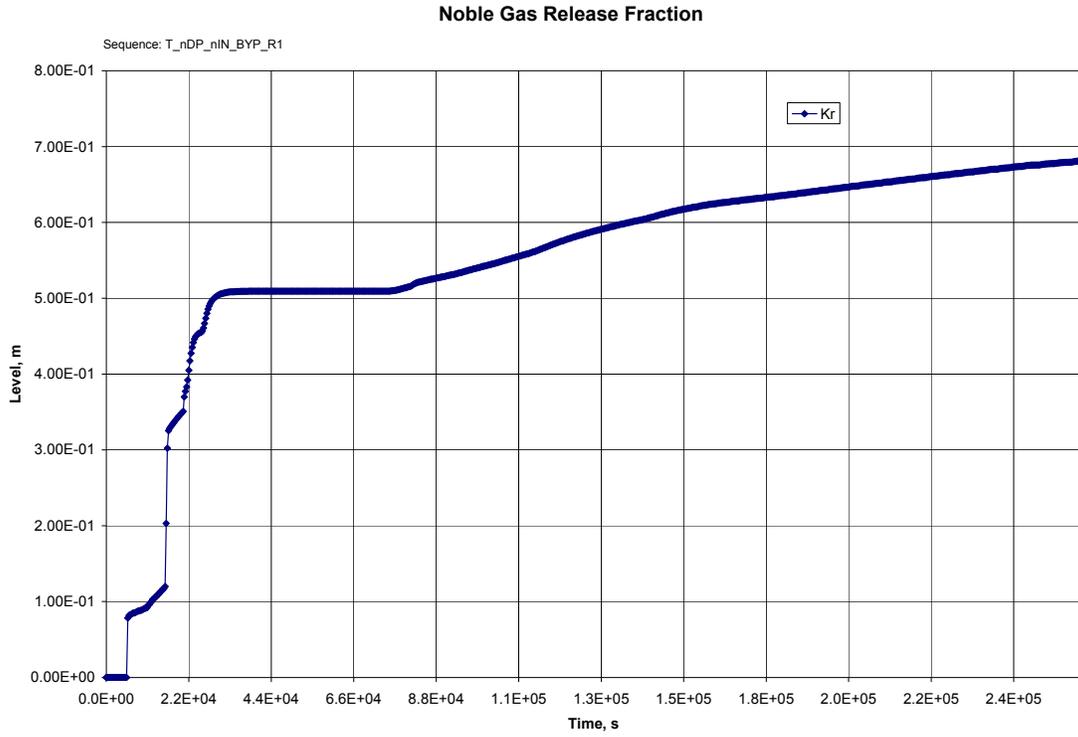


Figure 9A-4k. T_nDP_nIN_BYP_R1 Noble Gas Release Fraction

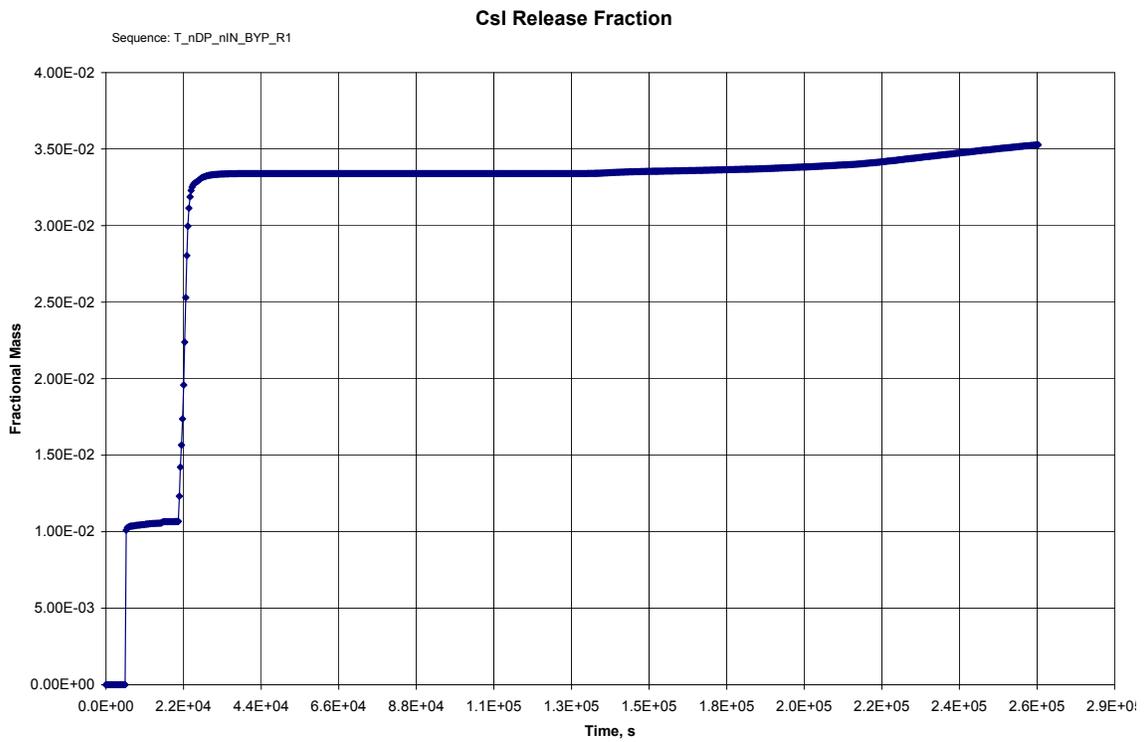


Figure 9A-4l. T_nDP_nIN_BYP_R1 Csl Release Fraction

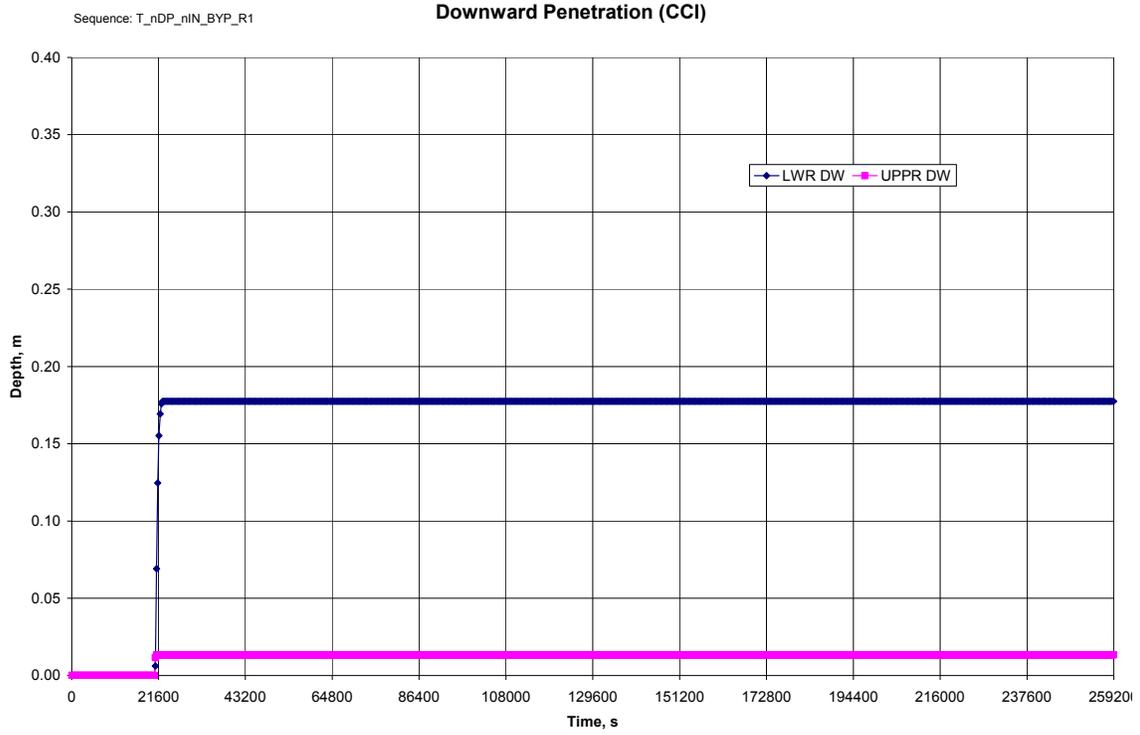


Figure 9A-4m. T_nDP_nIN_BYP_R1 Downward Penetration (CCI)

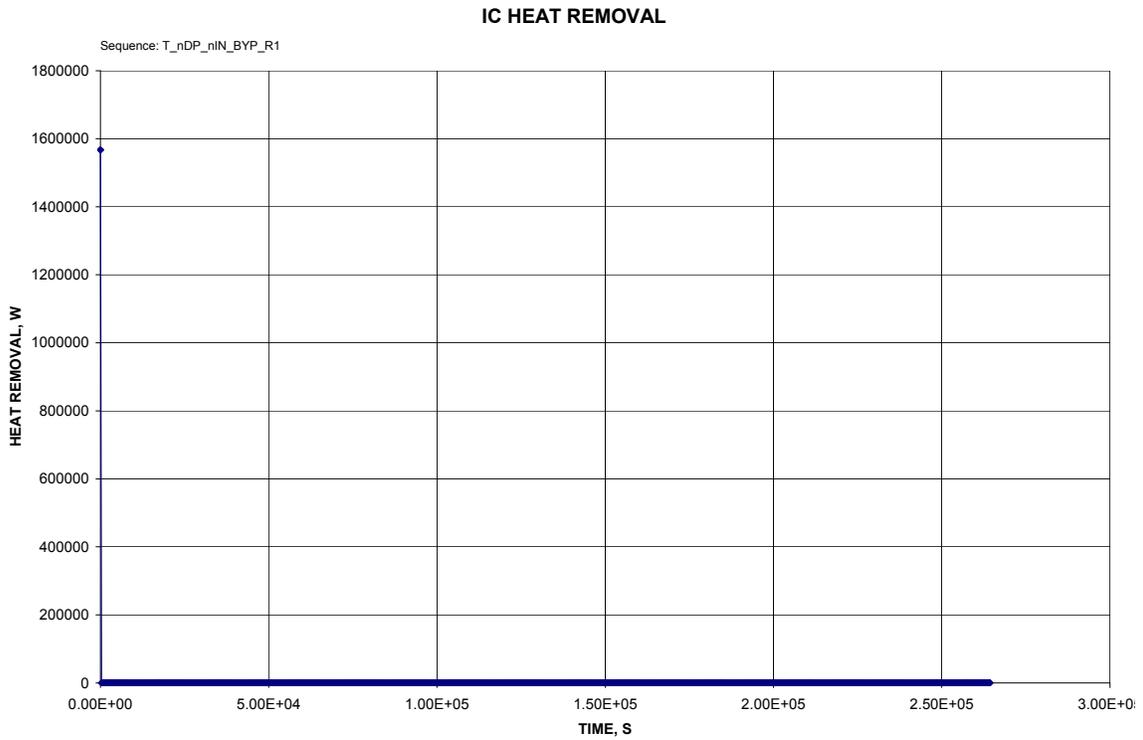


Figure 9A-4n. T_nDP_nIN_BYP_R1 IC Heat Removal

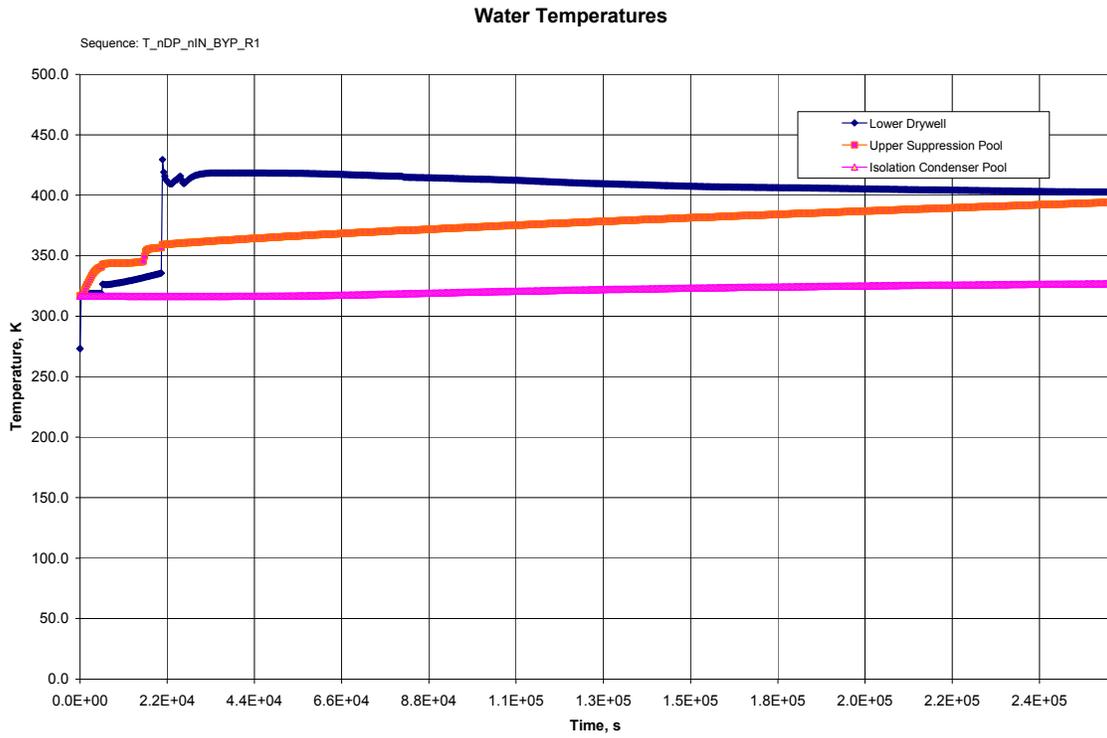


Figure 9A-4o. T_nDP_nIN_BYP_R1 IC Water Temperatures

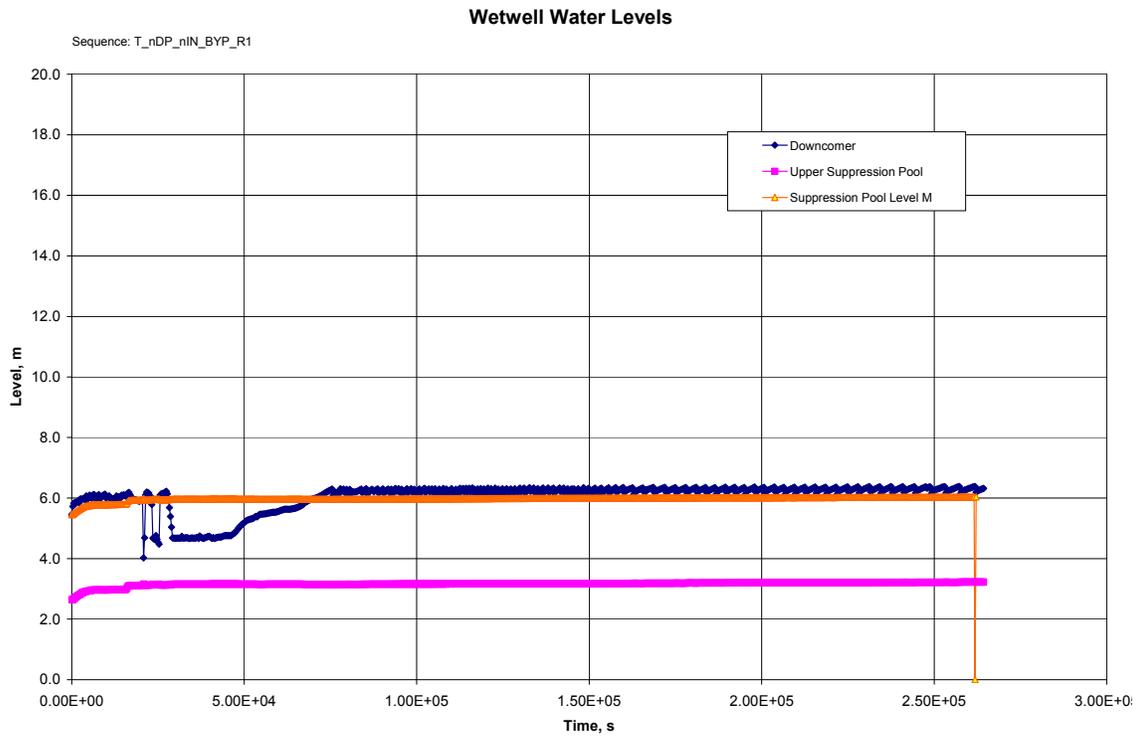


Figure 9A-4p. T_nDP_nIN_BYP_R1 Wetwell Water Levels

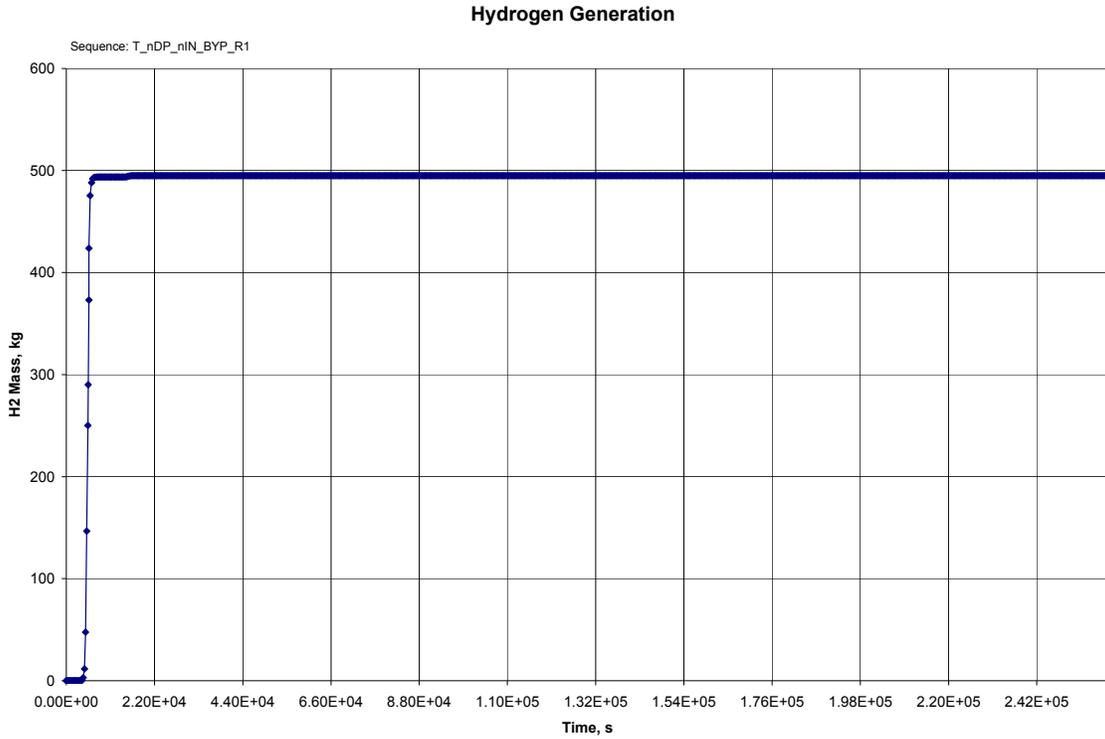


Figure 9A-4q. T_nDP_nIN_BYP_R1 Hydrogen Generation

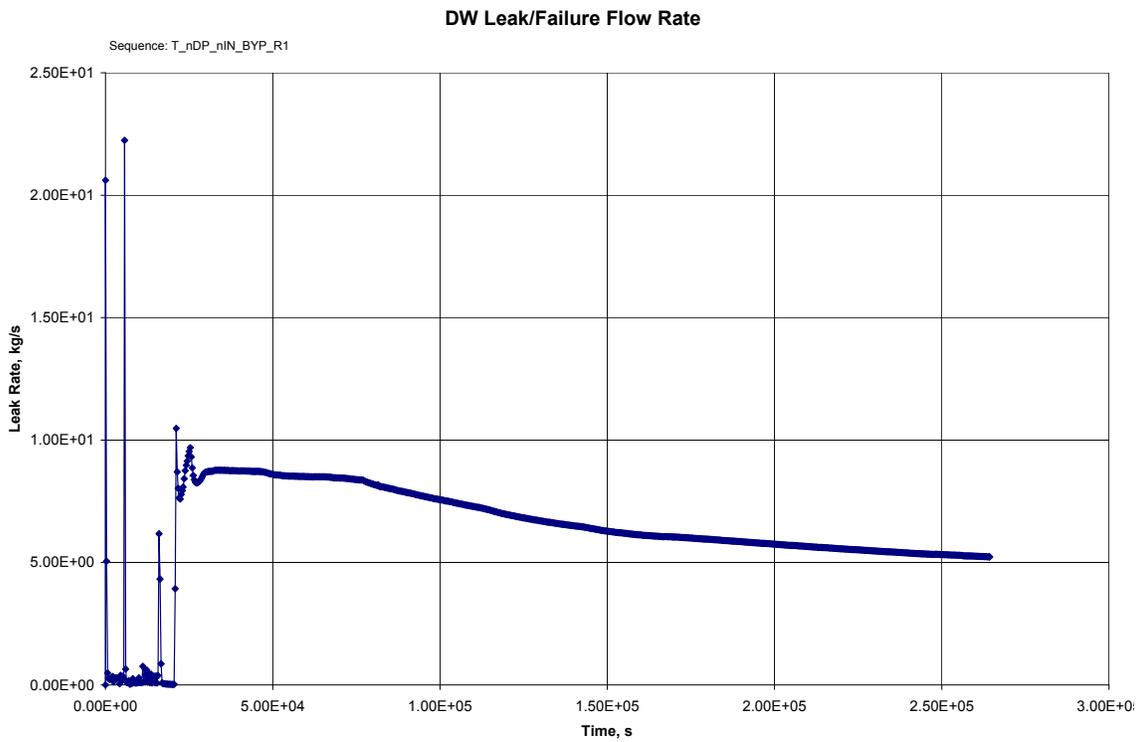


Figure 9A-4r. T_nDP_nIN_BYP_R1 DW Leak/Failure Flow Rate

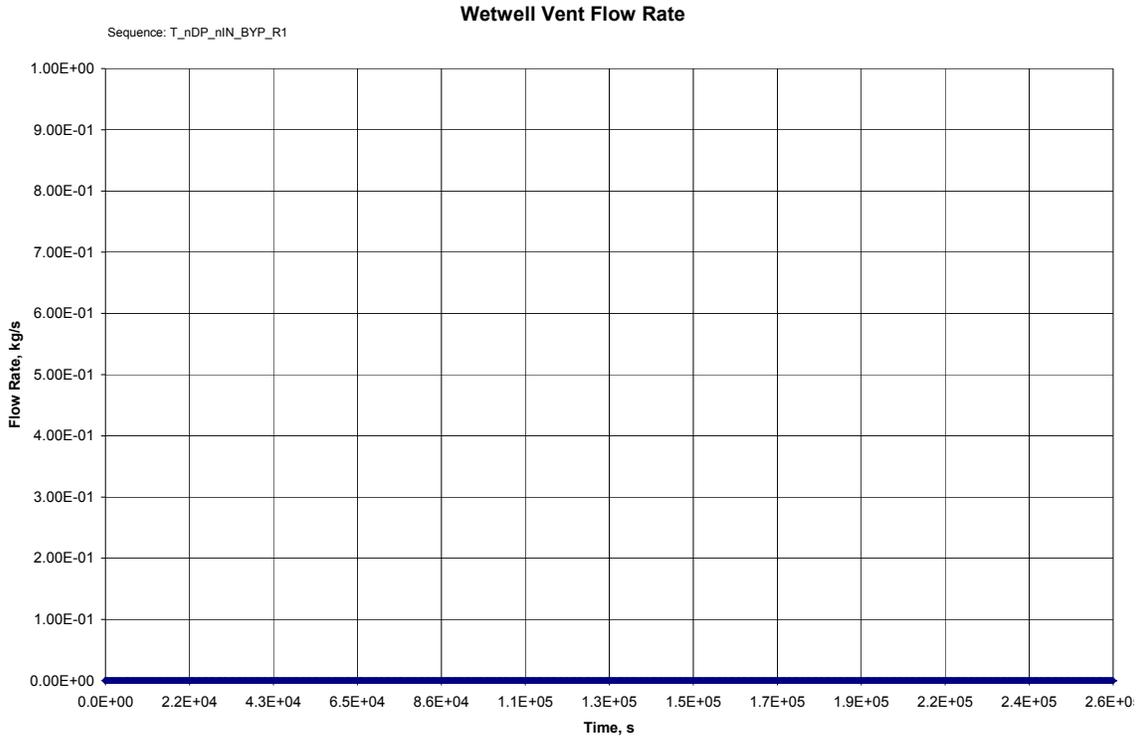


Figure 9A-4s. T_nDP_nIN_BYP_R1 Wetwell Vent Flow Rate

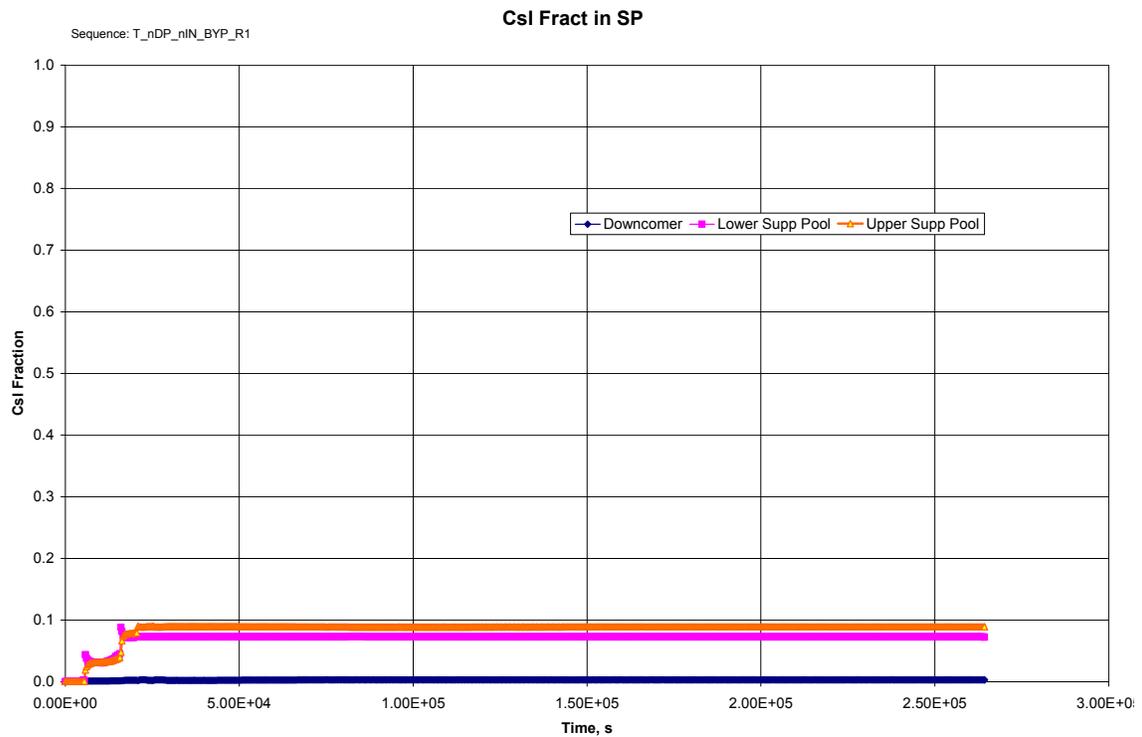


Figure 9A-4t. T_nDP_nIN_BYP_R1 Csl Fract in SP

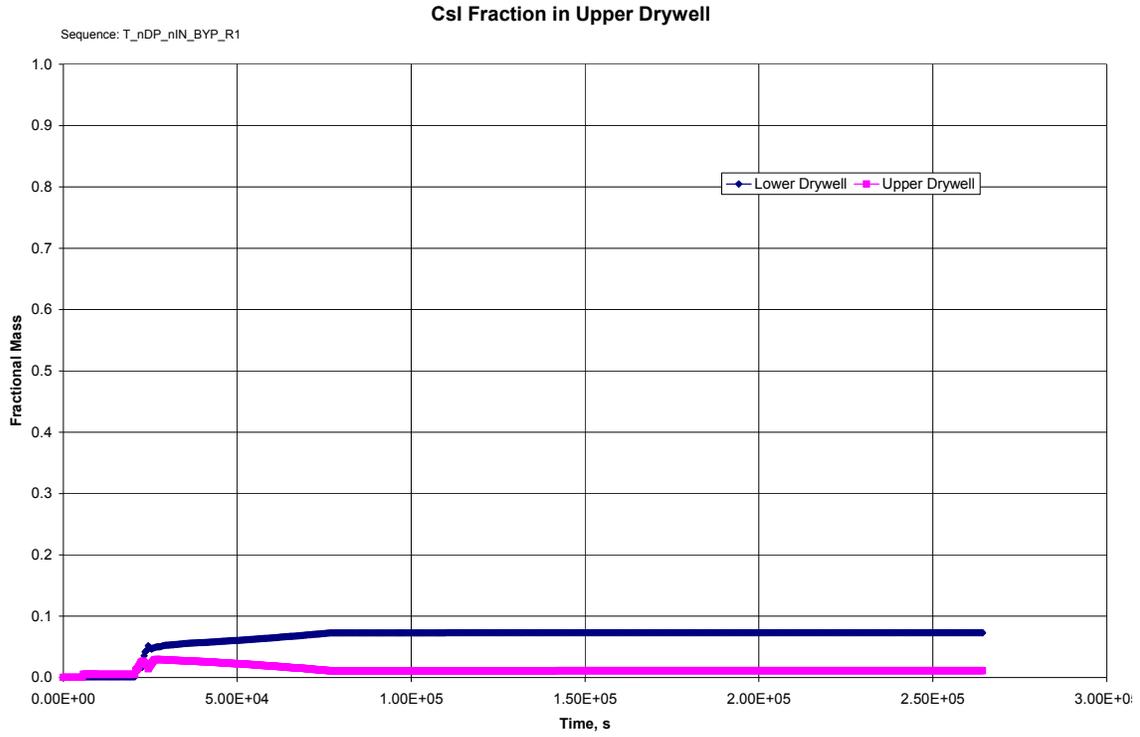


Figure 9A-4u. T_nDP_nIN_BYP_R1 CsI Fraction in Upper Drywell

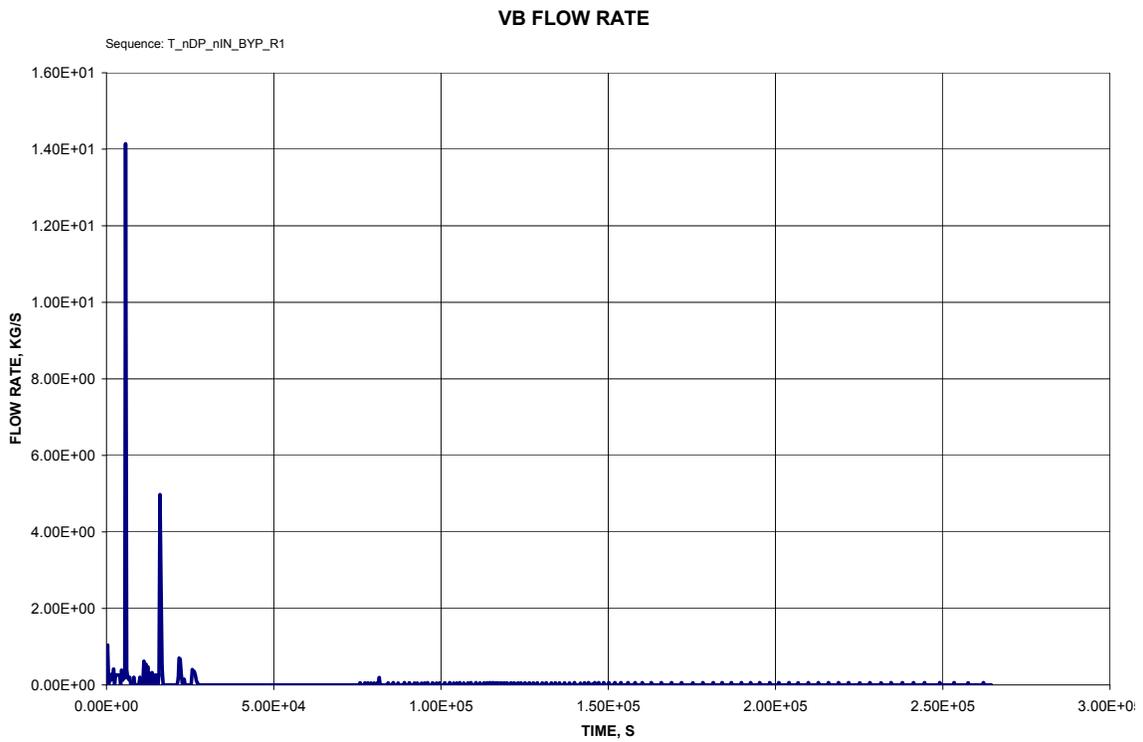


Figure 9A-4v. T_nDP_nIN_BYP_R1 VB Flow Rate

9A.5 Core Concrete Interaction (Dry) - Low Pressure T_nIN_nD_CCID_R4

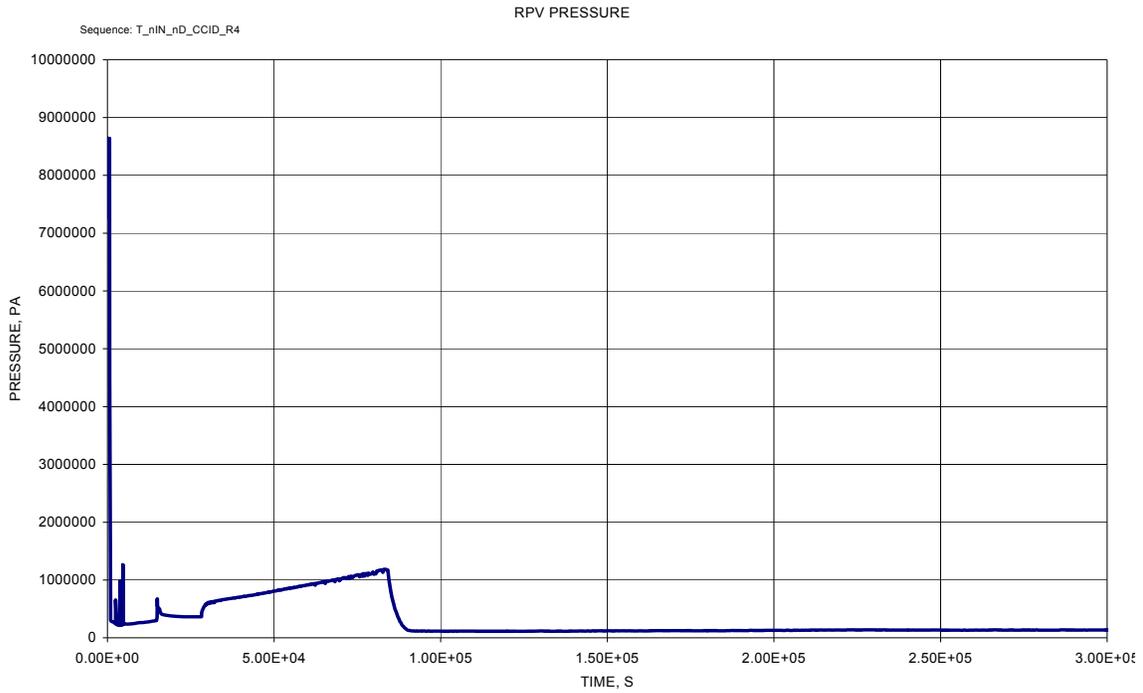


Figure 9A-5a. T_nIN_nD_CCID_R4 RPV Pressure

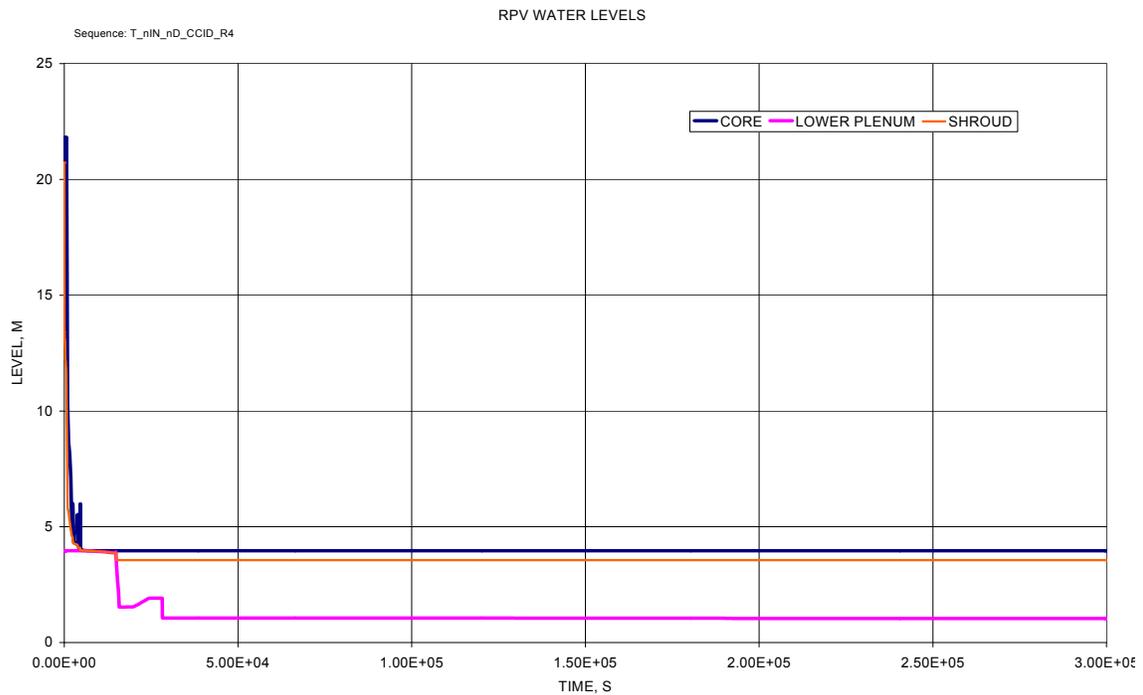


Figure 9A-5b. T_nIN_nD_CCID_R4 RPV Water Levels

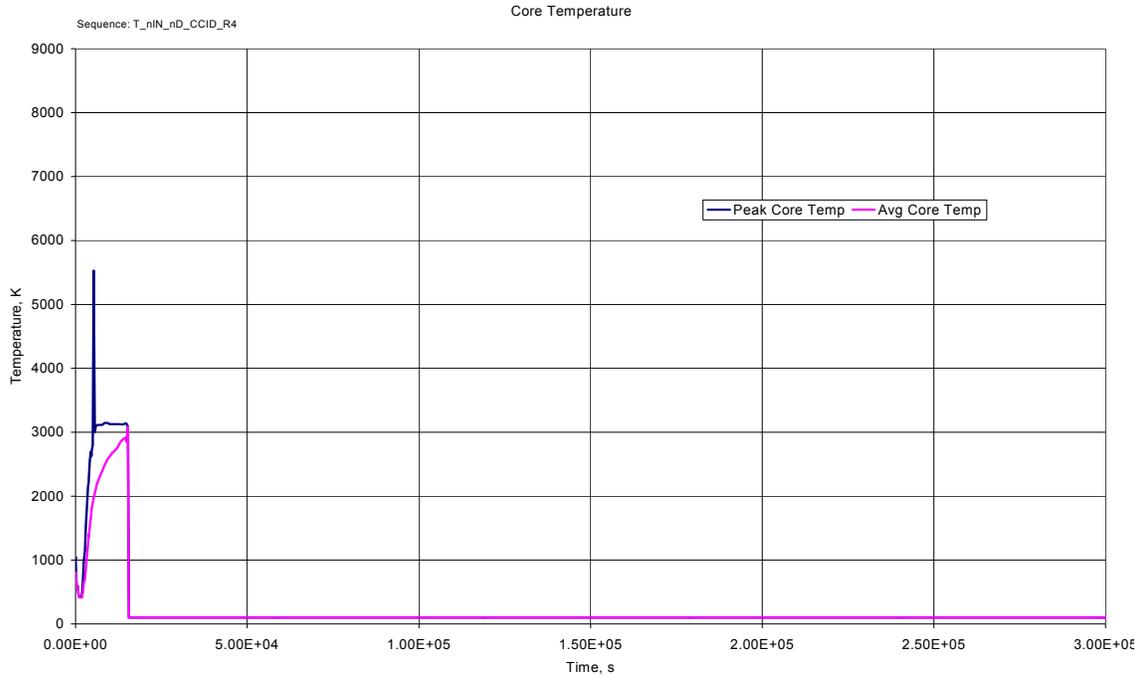


Figure 9A-5c. T_nIN_nD_CCID_R4 Core Temperature

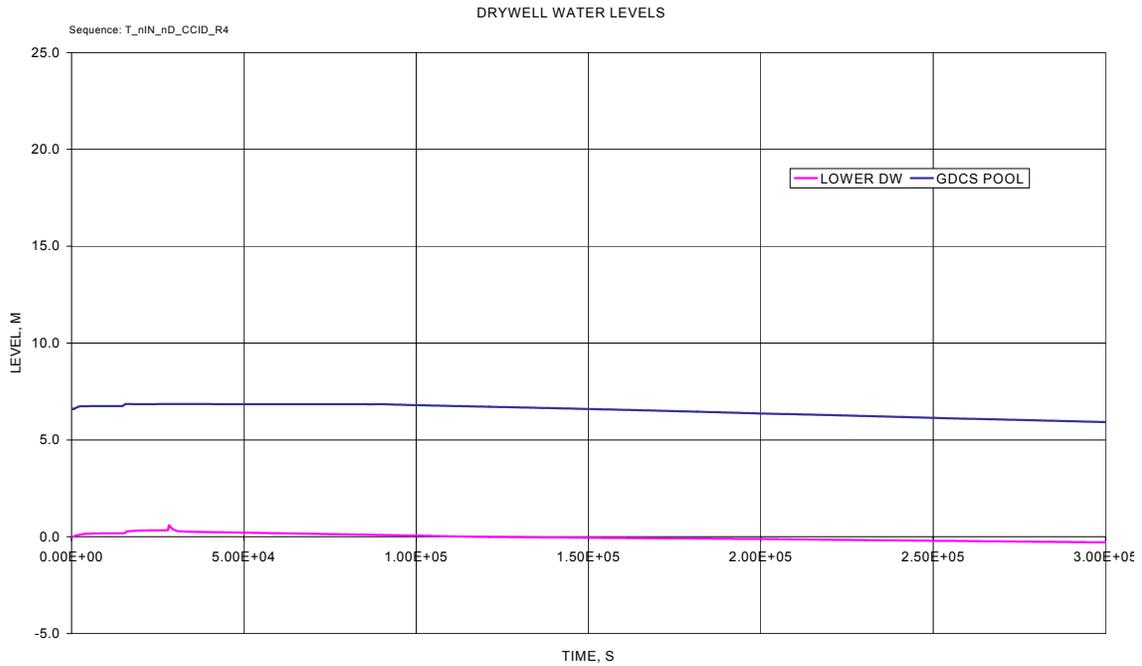


Figure 9A-5d. T_nIN_nD_CCID_R4 Drywell Water Levels

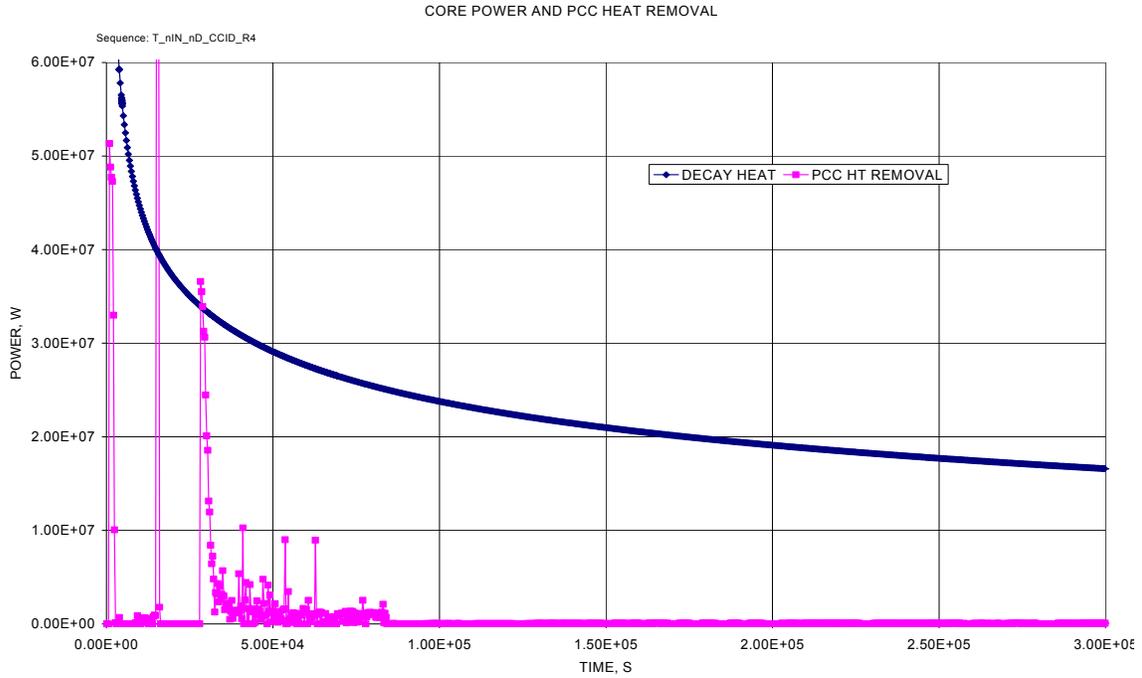


Figure 9A-5e. T_nIN_nD_CCID_R4 Core Power and PCCS Heat Removal

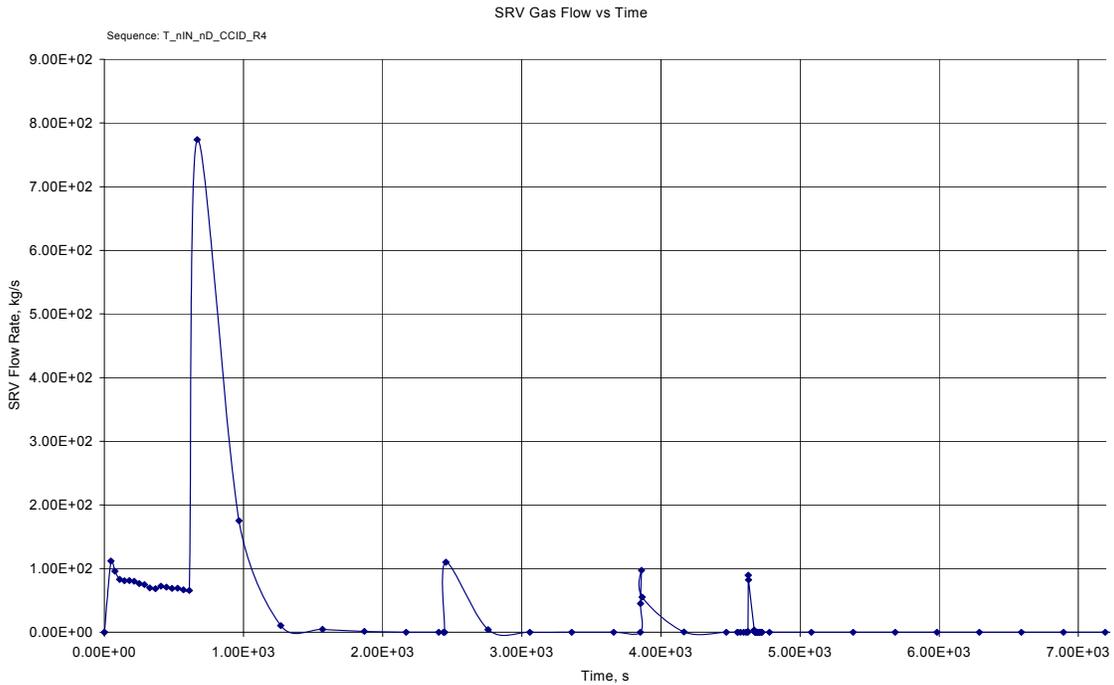


Figure 9A-5f. T_nIN_nD_CCID_R4 SRV Gas Flow vs Time

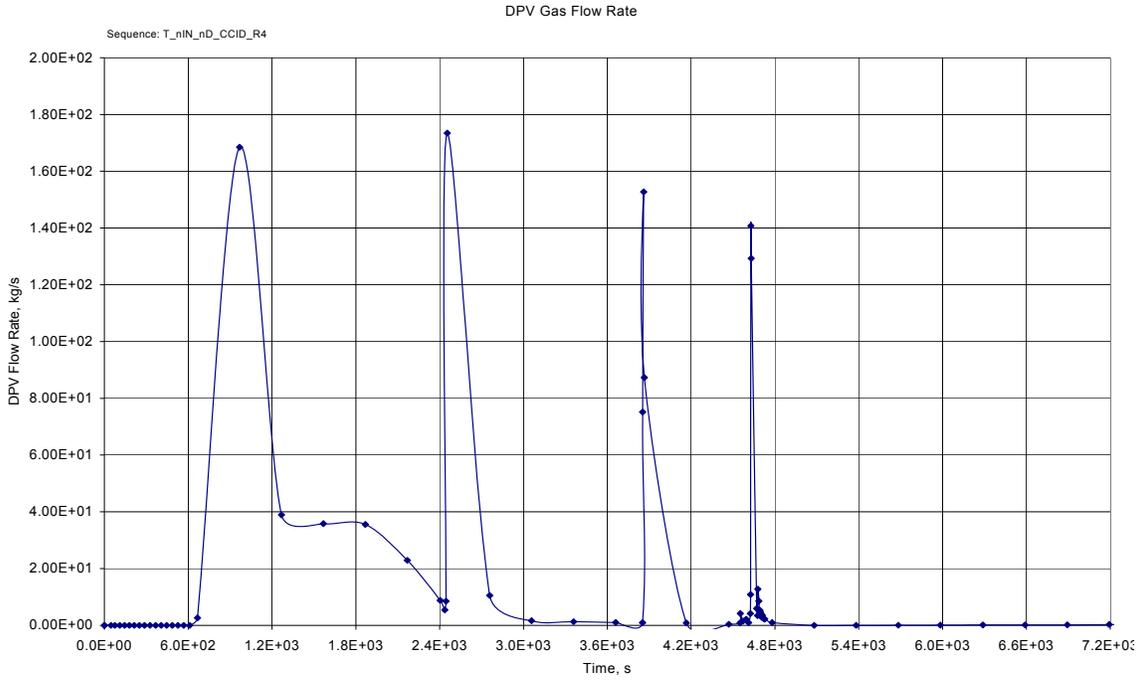


Figure 9A-5g. T_nIN_nD_CCID_R4 DPV Gas Flow Rate

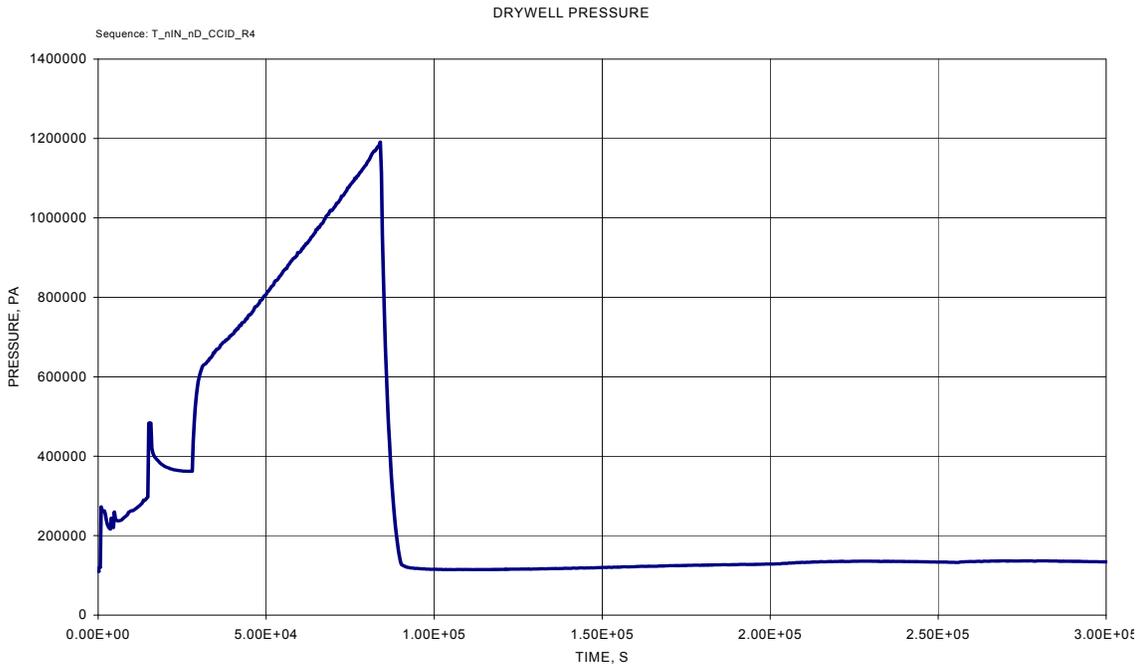


Figure 9A-5h. T_nIN_nD_CCID_R4 Drywell Pressure

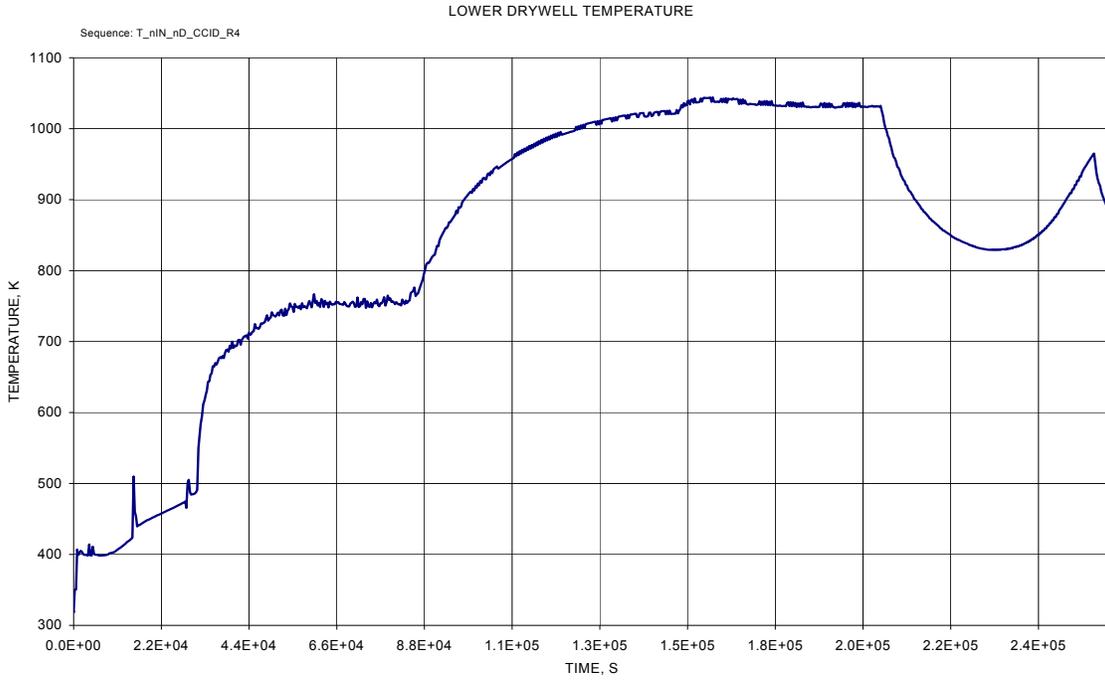


Figure 9A-5i. T_nIN_nD_CCID_R4 Lower Drywell Temperature

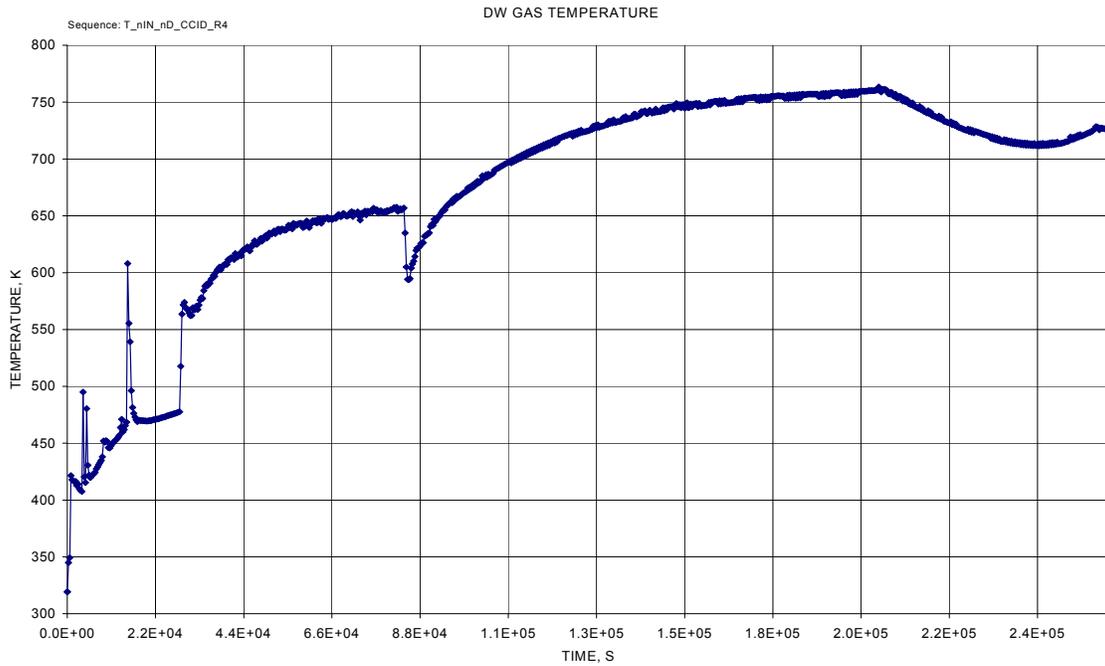


Figure 9A-5j. T_nIN_nD_CCID_R4 DW Gas Temperature

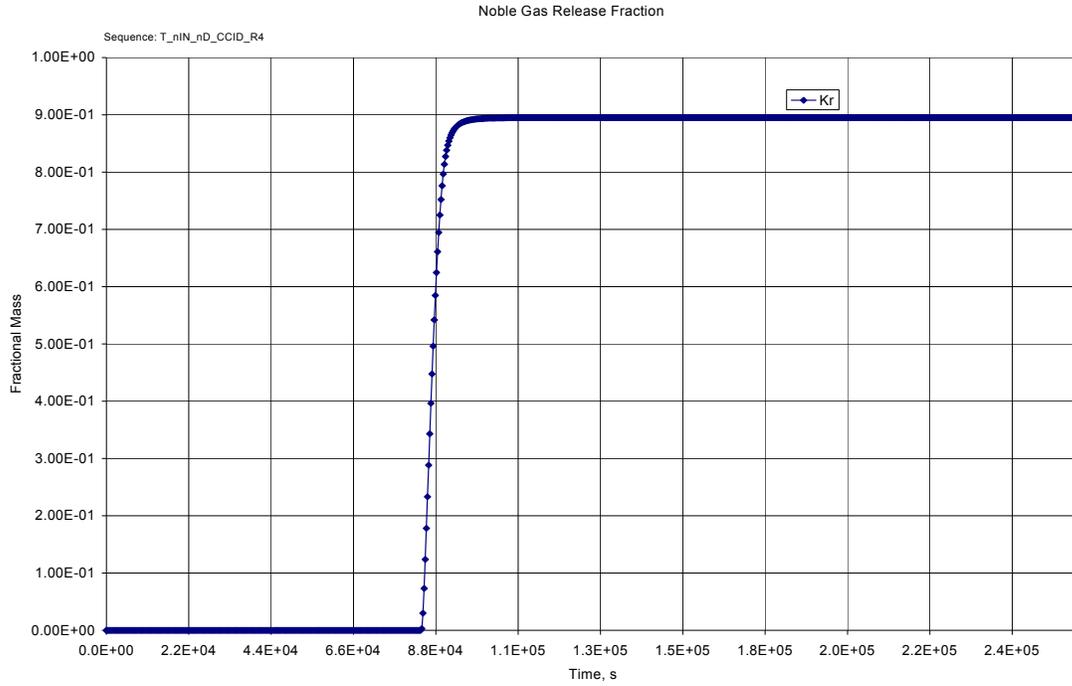


Figure 9A-5k. T_nIN_nD_CCID_R4 Noble Gas Release Fraction

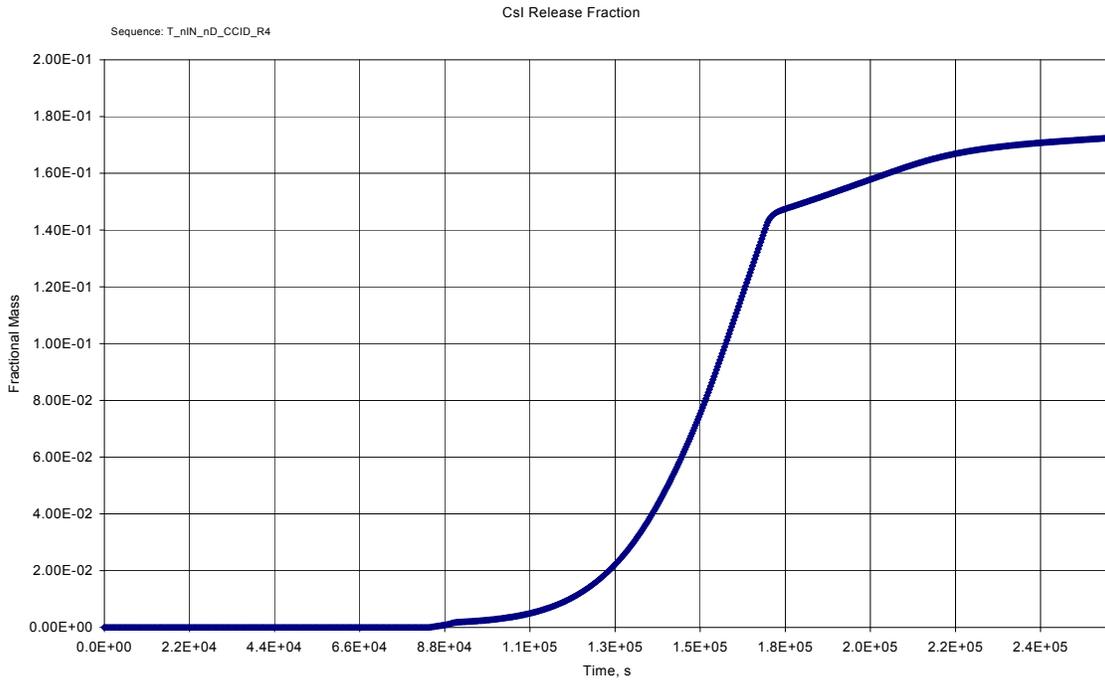


Figure 9A-5l. T_nIN_nD_CCID_R4 Csl Release Fraction

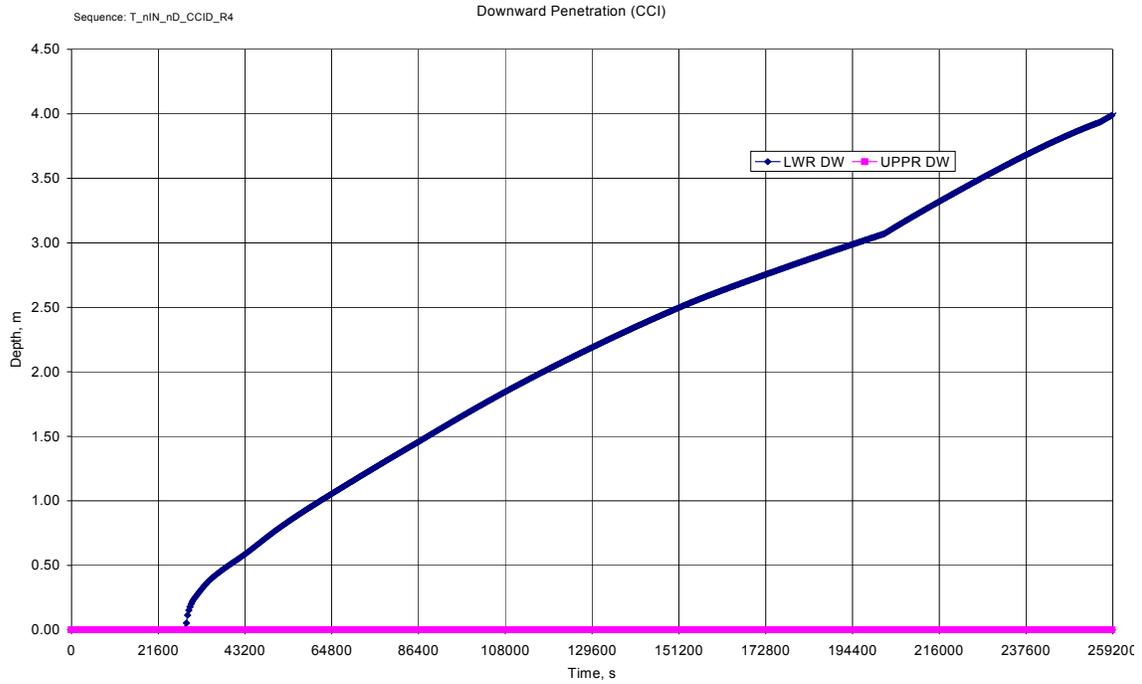


Figure 9A-5m. T_nIN_nD_CCID_R4 Downward Penetration

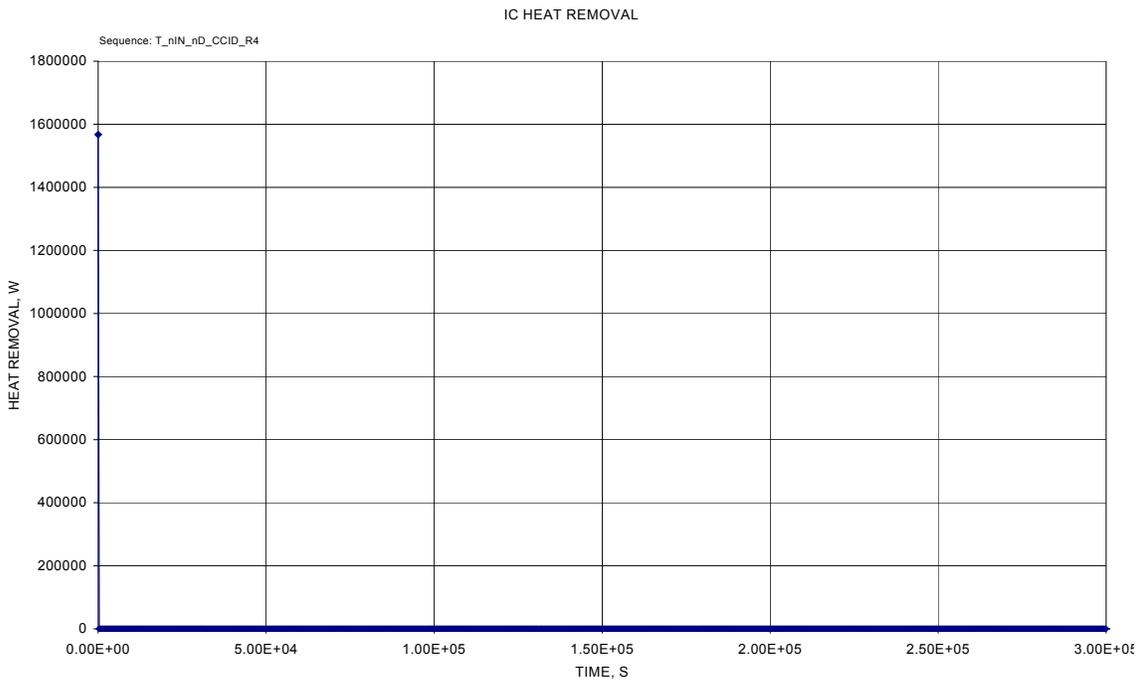


Figure 9A-5n. T_nIN_nD_CCID_R4 ICS Heat Removal

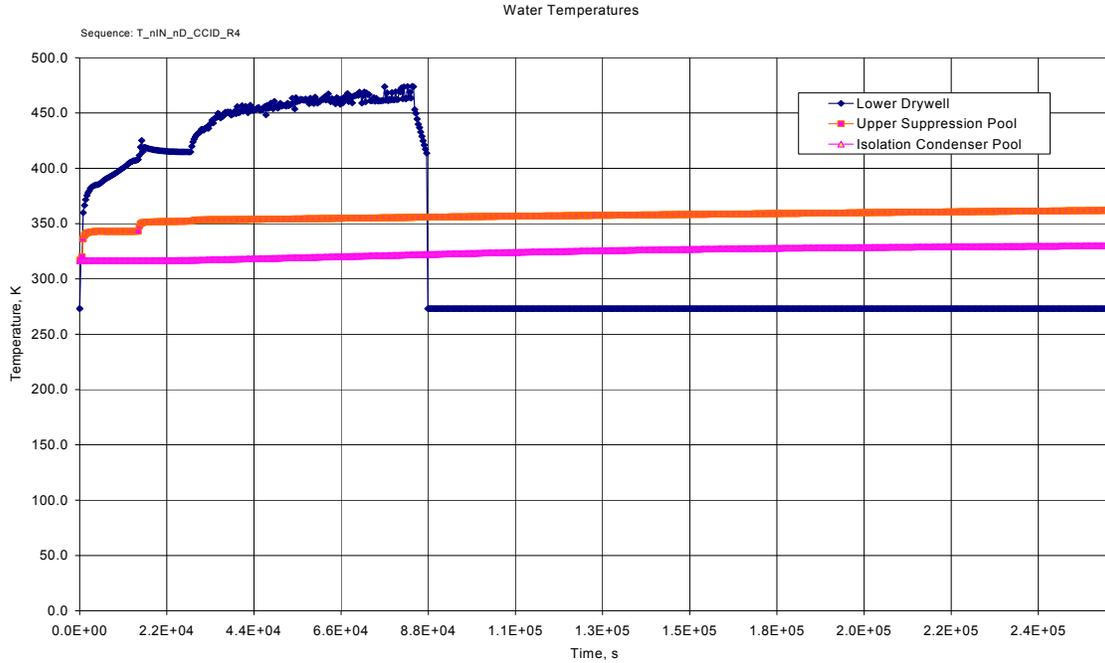


Figure 9A-5o. T_nIN_nD_CCID_R4 Water Temperatures

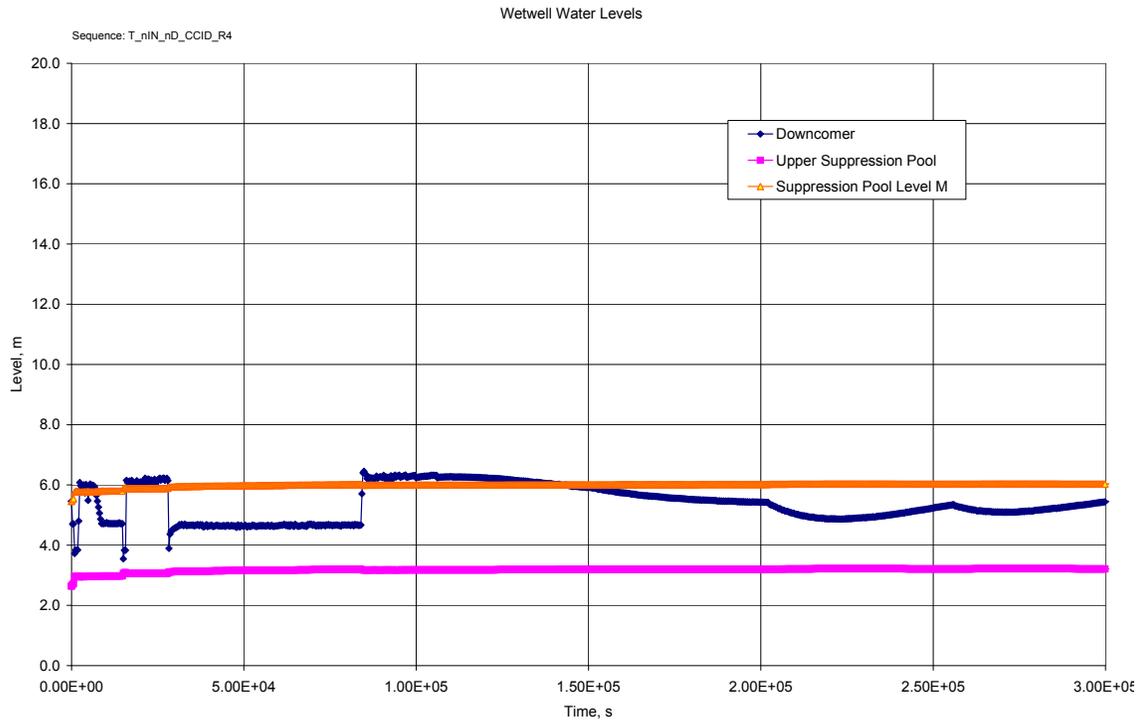


Figure 9A-5p. T_nIN_nD_CCID_R4 Wetwell Water Levels

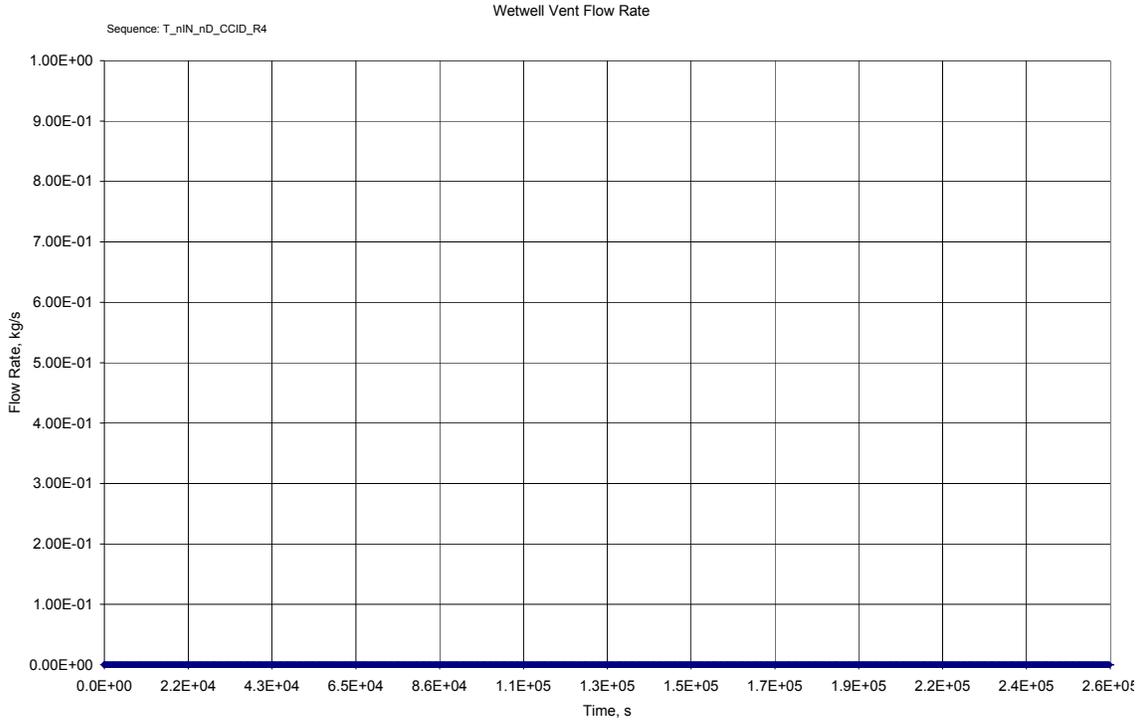


Figure 9A-5s. T_nIN_nD_CCID_R4 Wetwell Vent Flow Rate

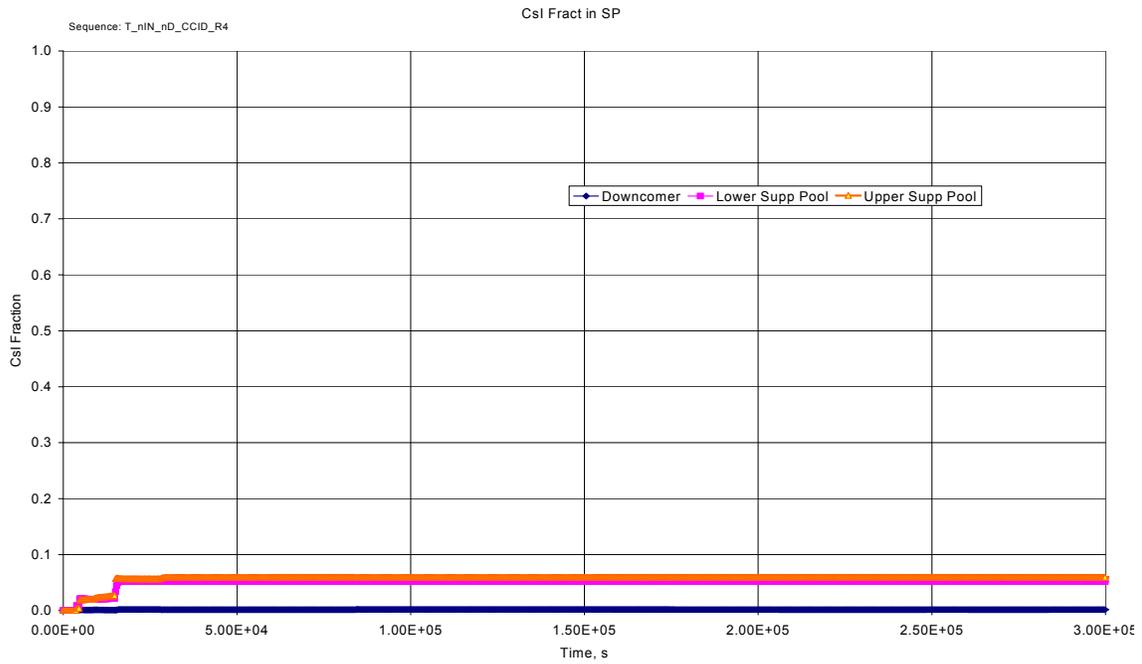


Figure 9A-5t. T_nIN_nD_CCID_R4 Csl Fract in SP

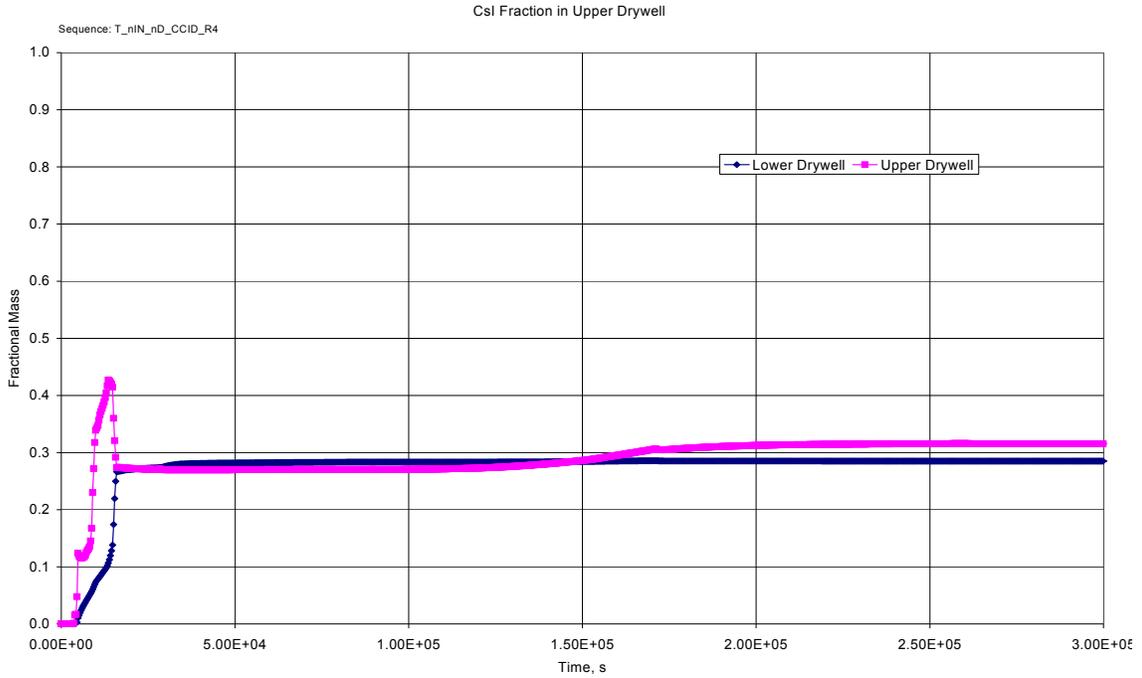


Figure 9A-5u. T_nIN_nD_CCID_R4 CsI Fraction in Upper Drywell

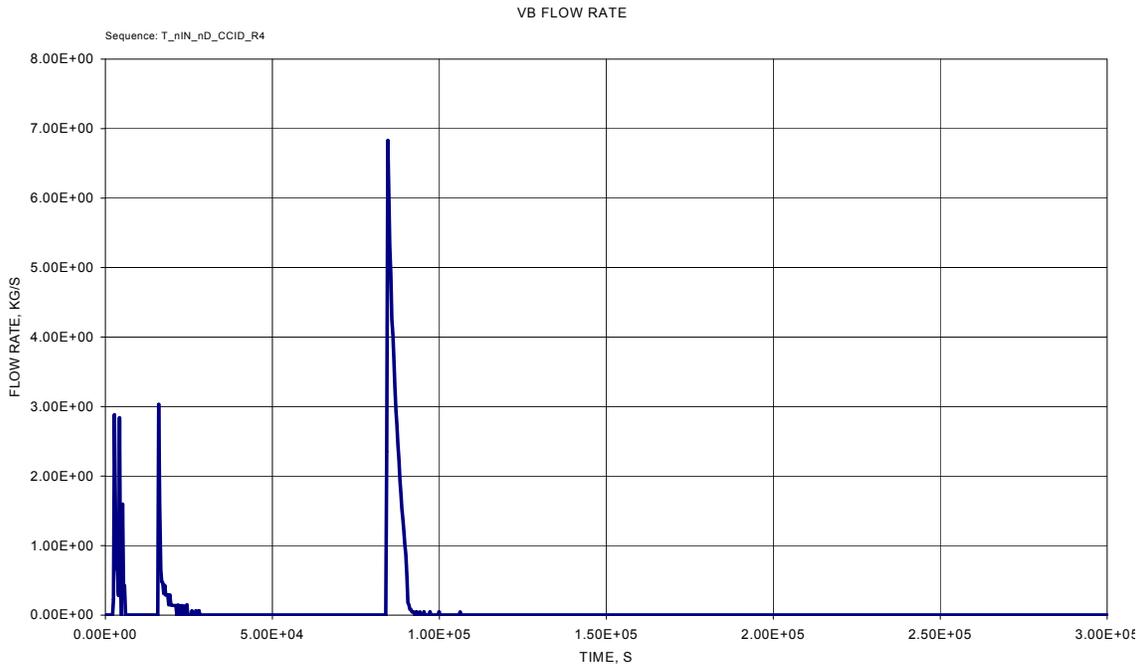


Figure 9A-5v. T_nIN_nD_CCID_R4 VB Flow Rate

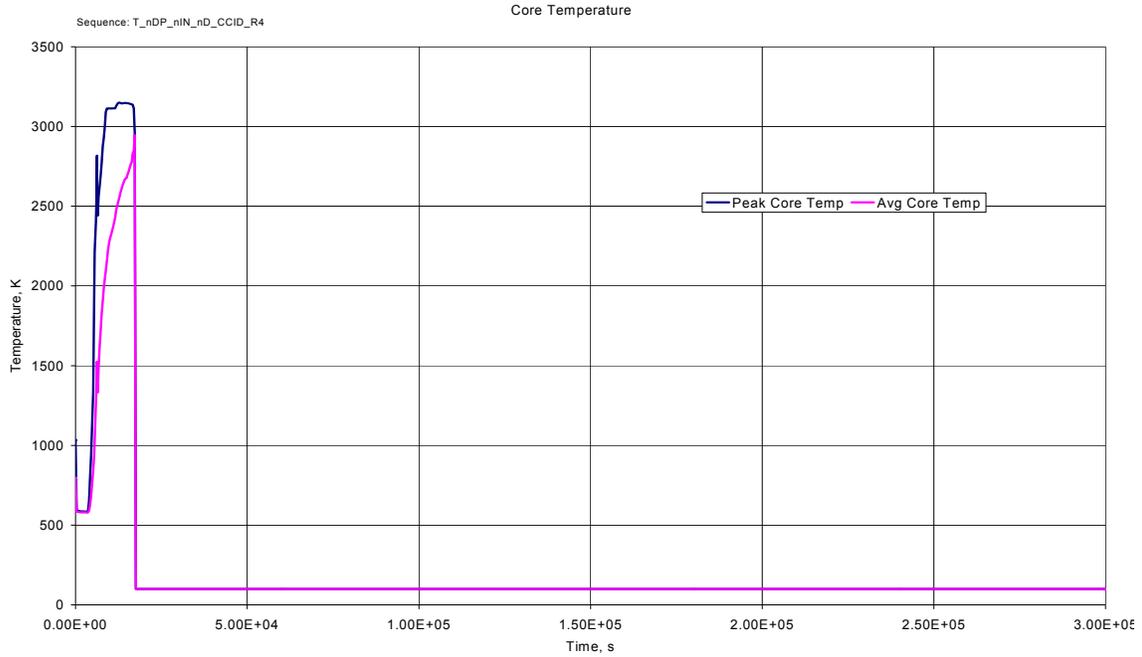


Figure 9A-6c. T_nDP_nIN_nD_CCID_R4 Core Temperature

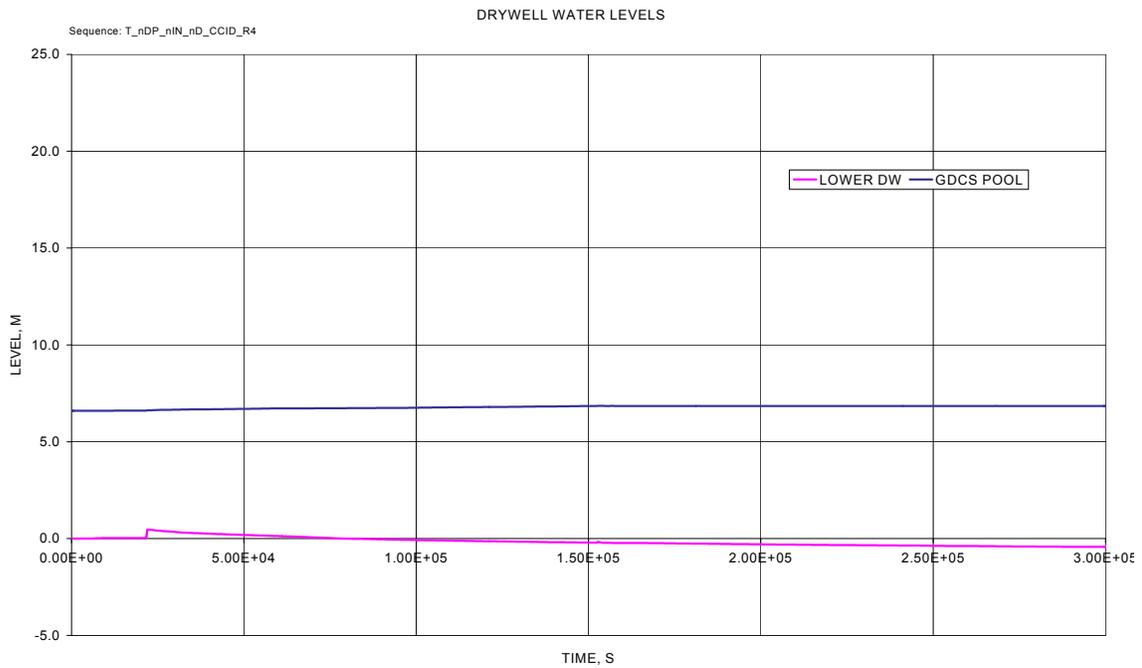


Figure 9A-6d. T_nDP_nIN_nD_CCID_R4 Drywell Water Levels

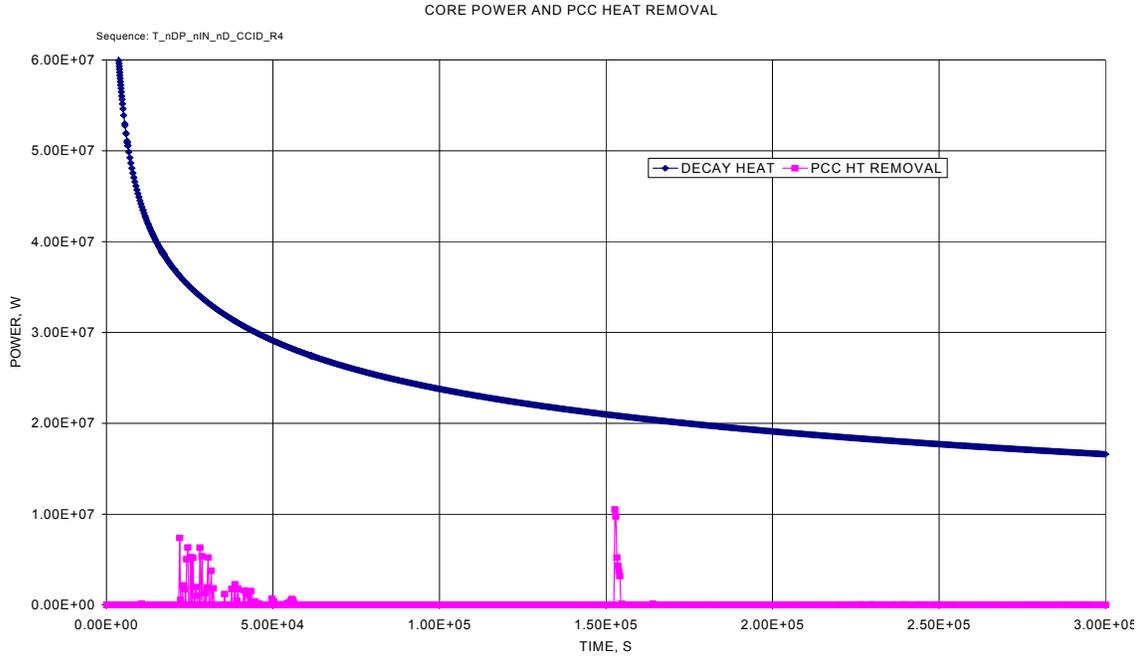


Figure 9A-6e. T_nDP_nIN_nD_CCID_R4 Core Power and PCC Heat Removal

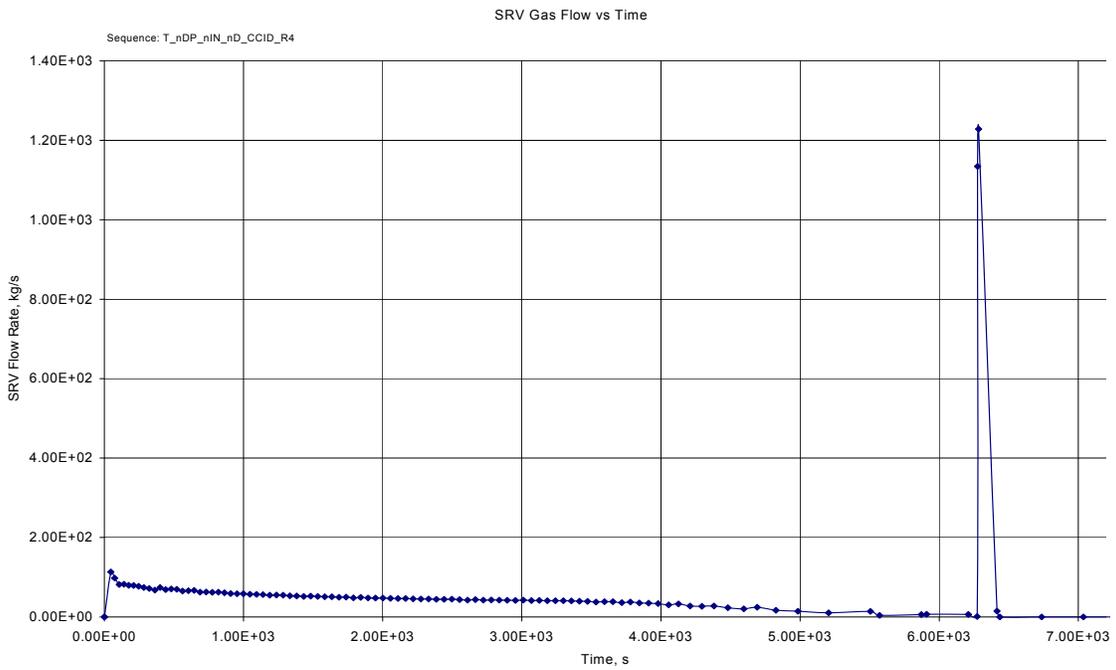


Figure 9A-6f. T_nDP_nIN_nD_CCID_R4 SRV Gas Flow vs Time

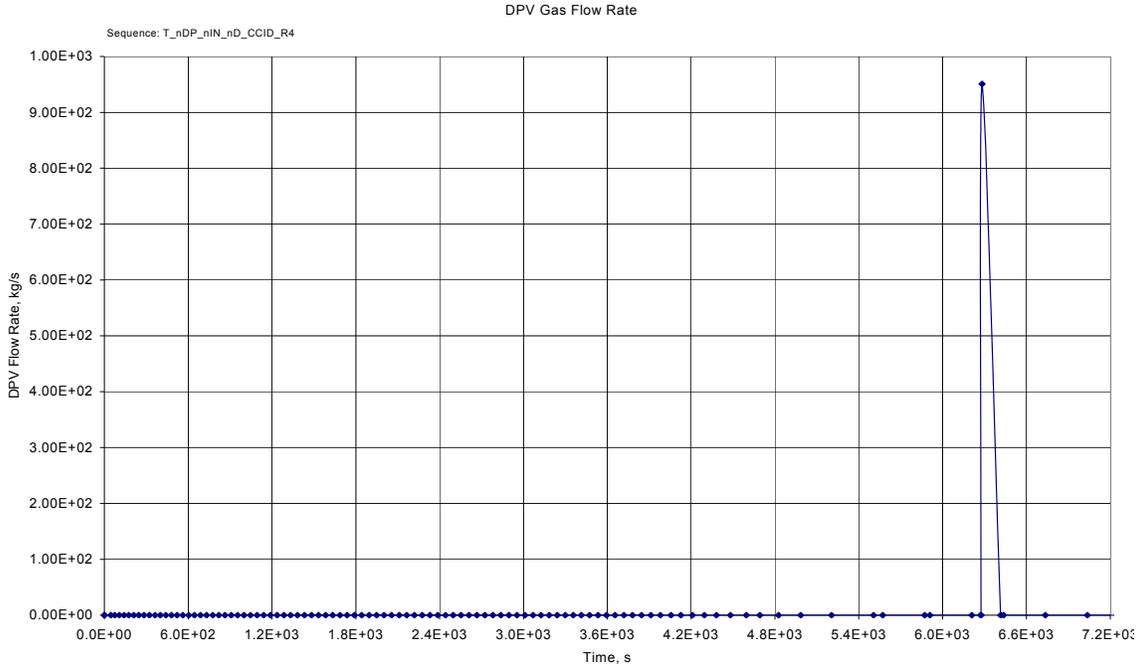


Figure 9A-6g. T_nDP_nIN_nD_CCID_R4 DPV Flow Rate

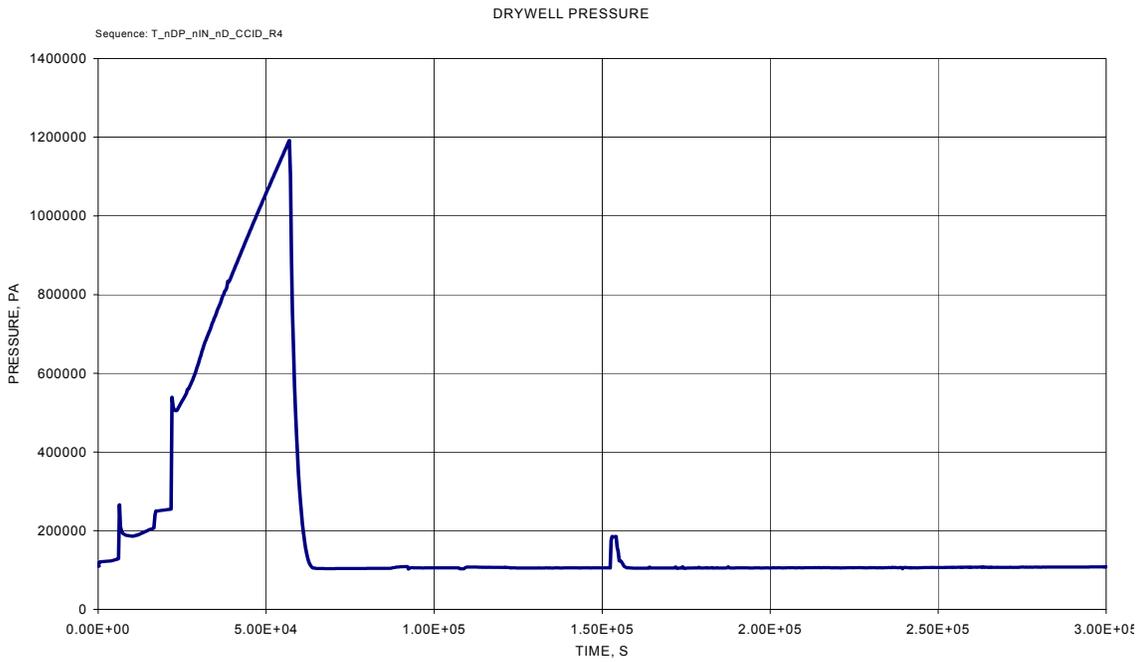


Figure 9A-6h. T_nDP_nIN_nD_CCID_R4 Drywell Pressure

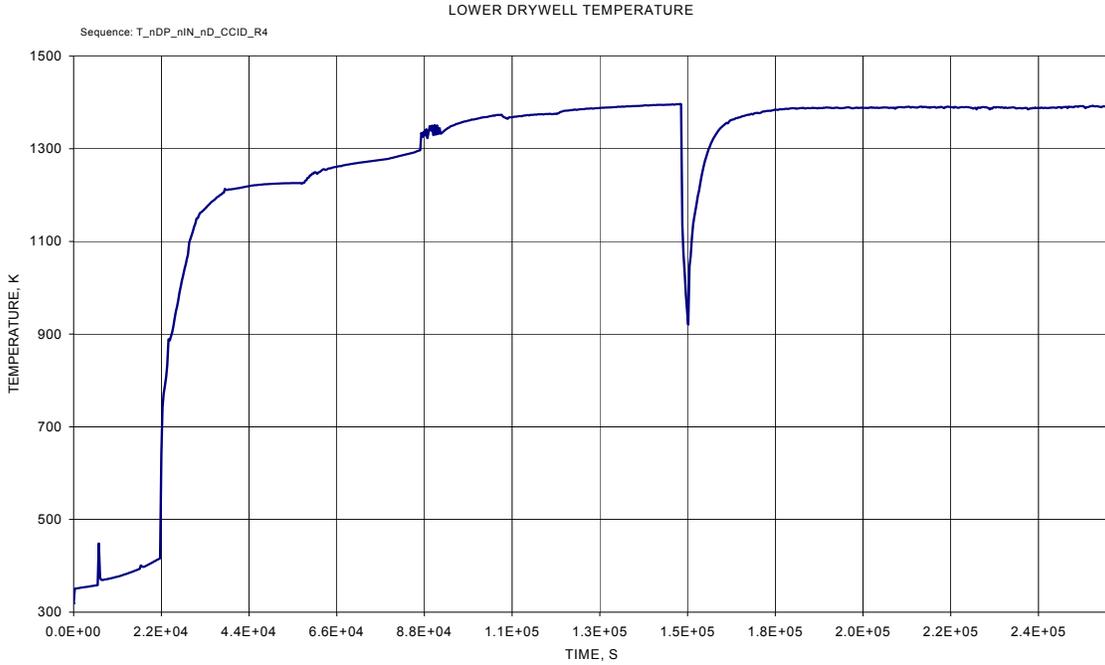


Figure 9A-6i. T_nDP_nIN_nD_CCID_R4 Lower Drywell Temperature

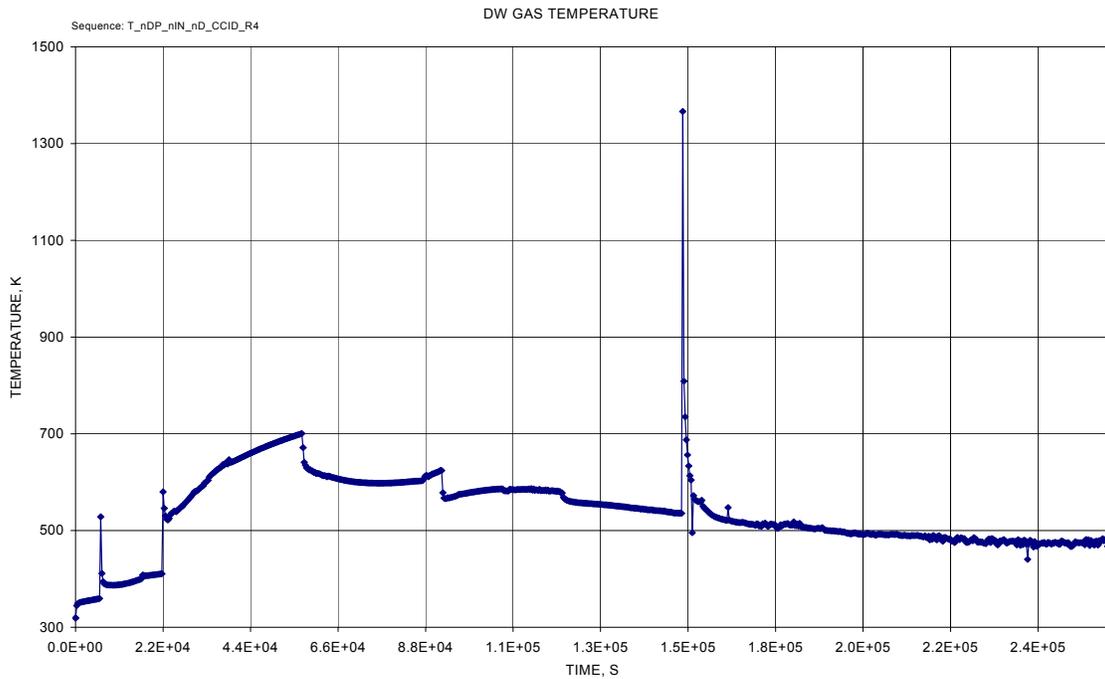


Figure 9A-6j. T_nDP_nIN_nD_CCID_R4 DW Gas Temperature

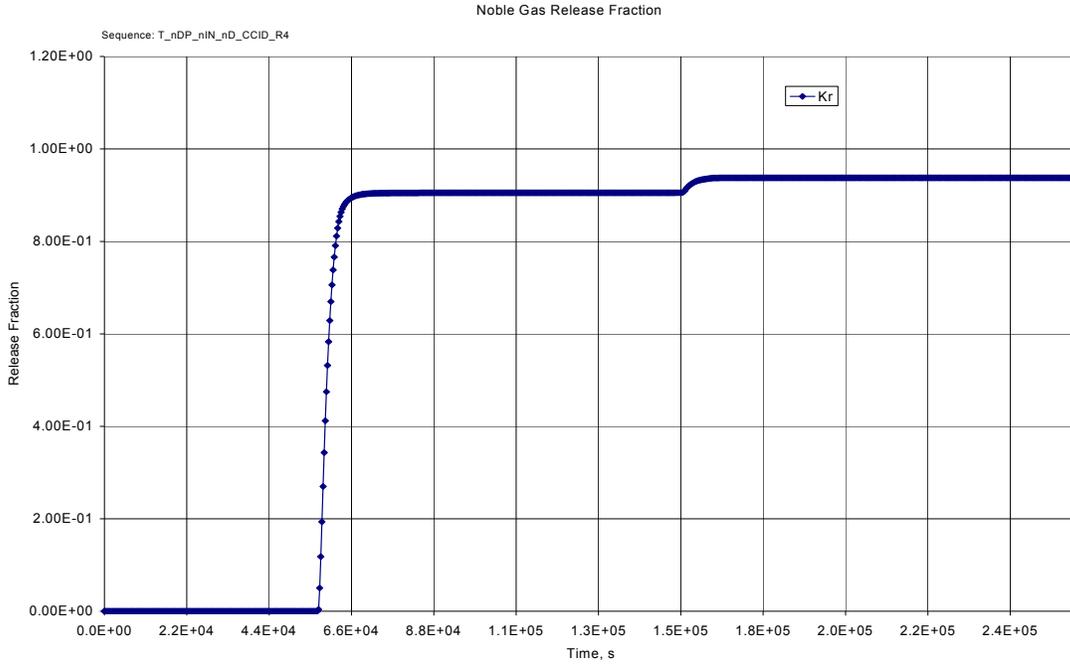


Figure 9A-6k. T_nDP_nIN_nD_CCID_R4 Noble Gas Release Fraction

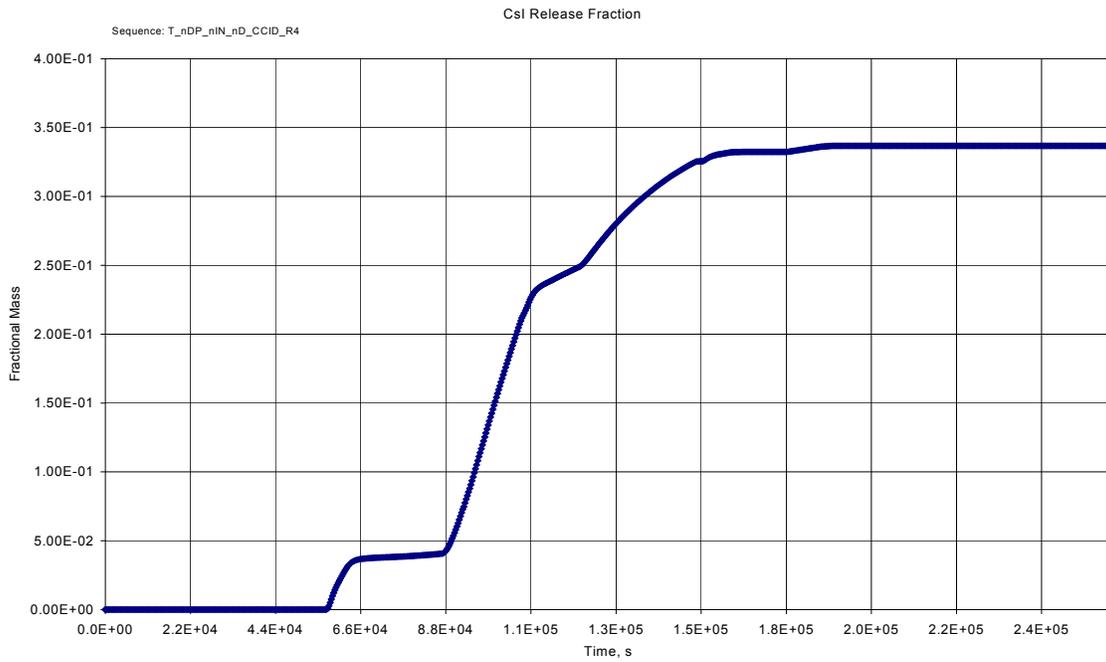


Figure 9A-6l. T_nDP_nIN_nD_CCID_R4 CsI Release Fraction

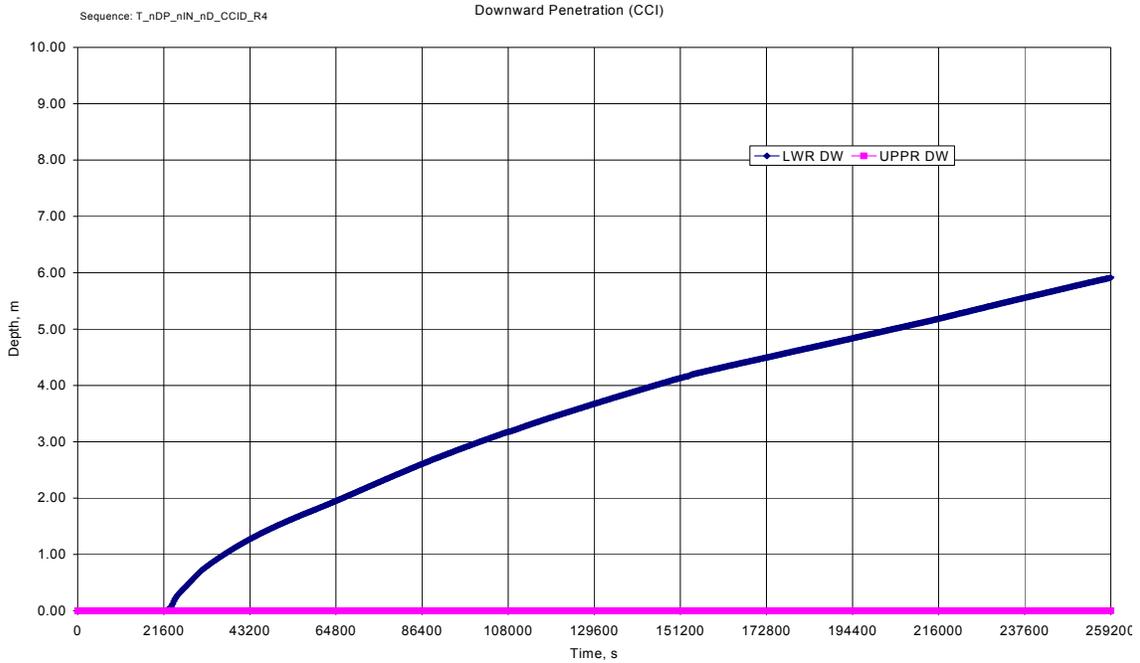


Figure 9A-6m. T_nDP_nIN_nD_CCID_R4 Downward Penetration (CCI)

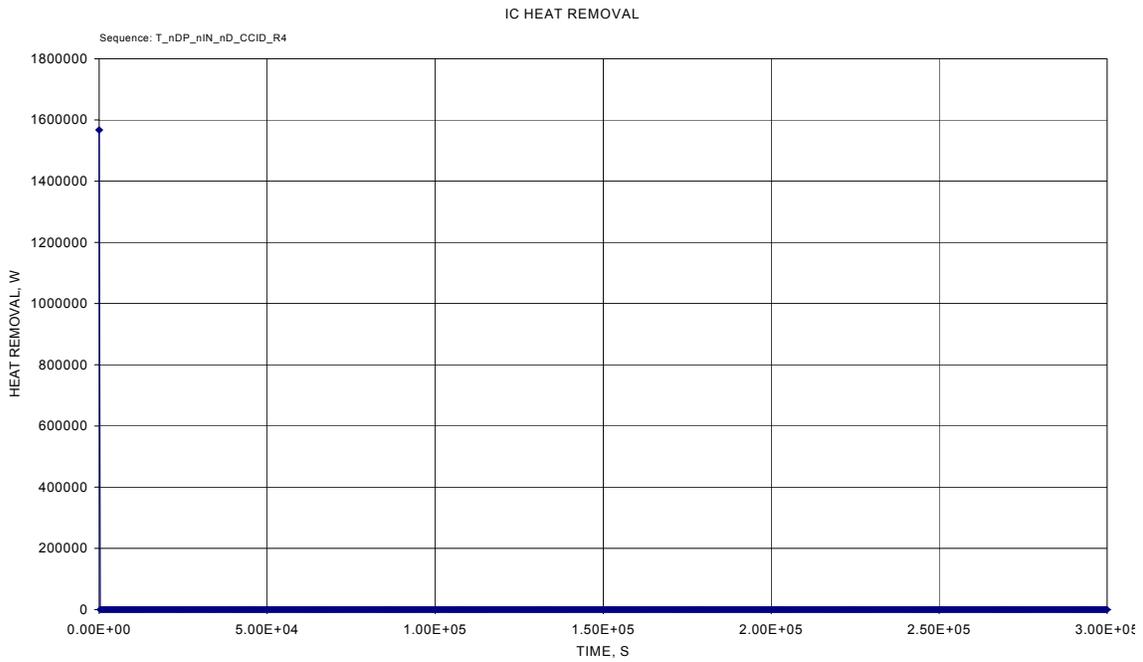


Figure 9A-6n. T_nDP_nIN_nD_CCID_R4 ICS Heat Removal

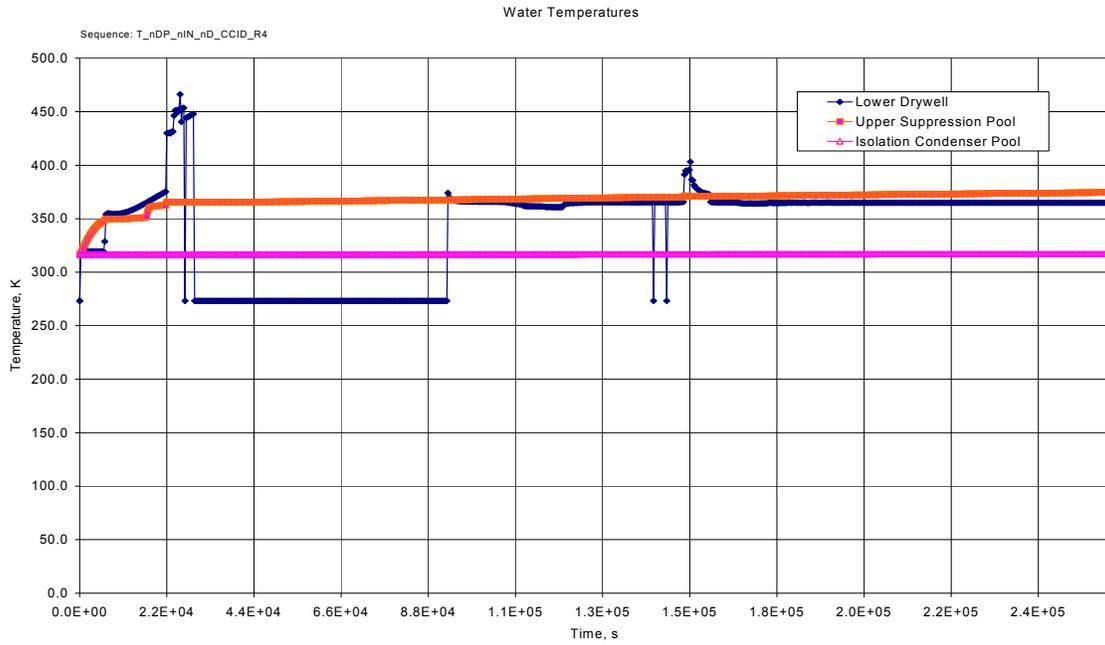


Figure 9A-6o. T_nDP_nIN_nD_CCID_R4 Water Temperatures

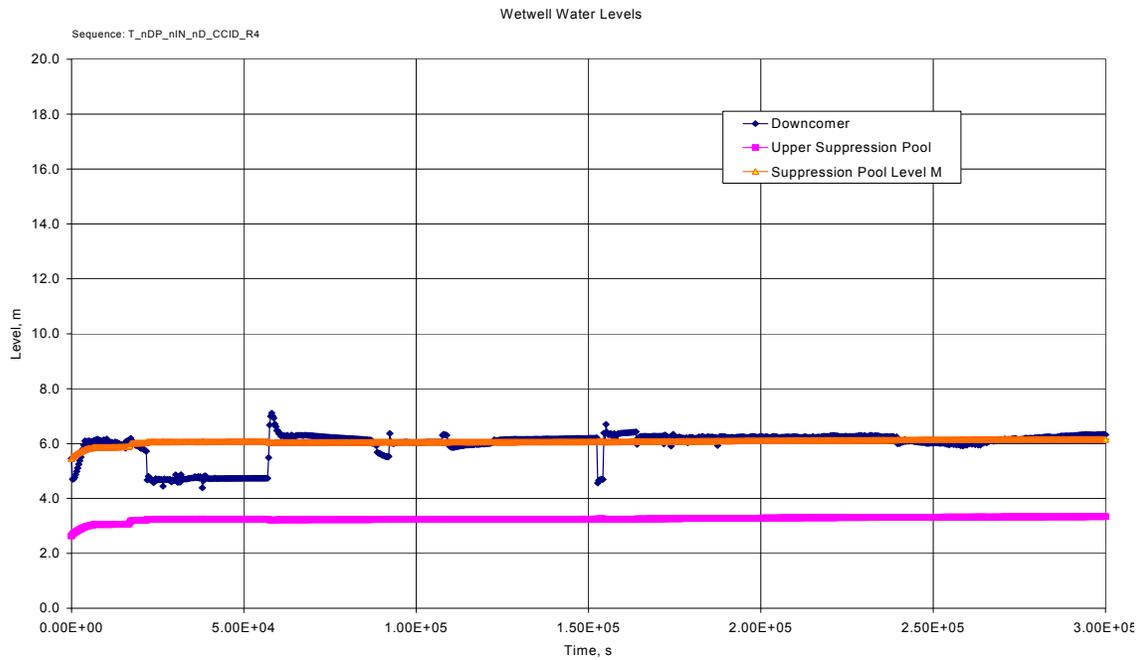


Figure 9A-6p. T_nDP_nIN_nD_CCID_R4 Wetwell Water Levels

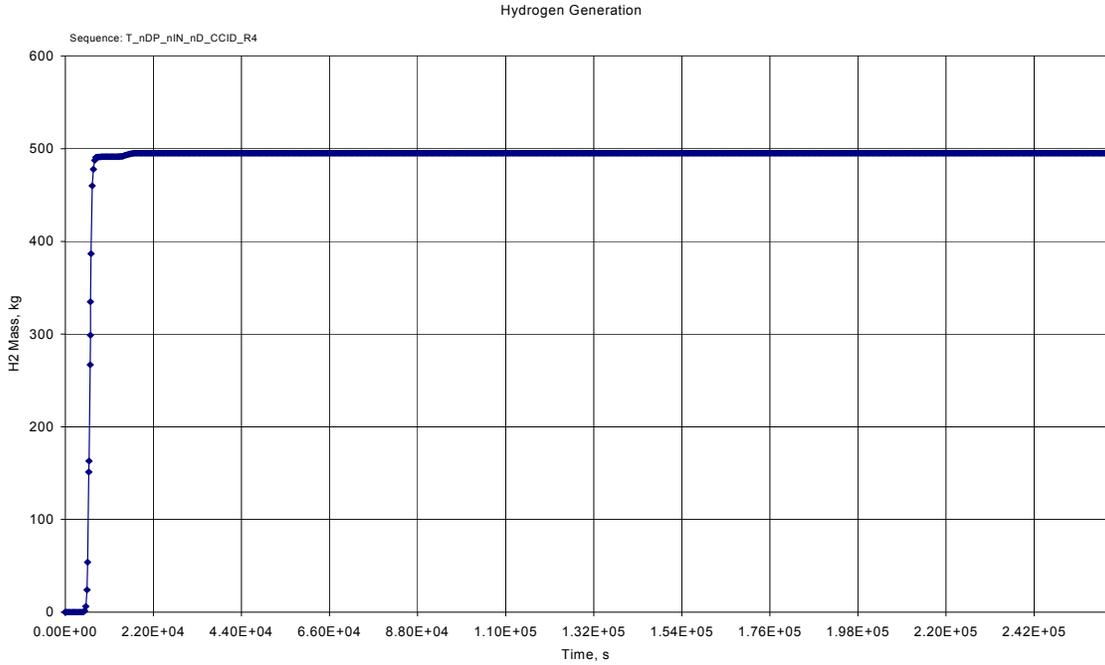


Figure 9A-6q. T_nDP_nIN_nD_CCID_R4 Hydrogen Generation

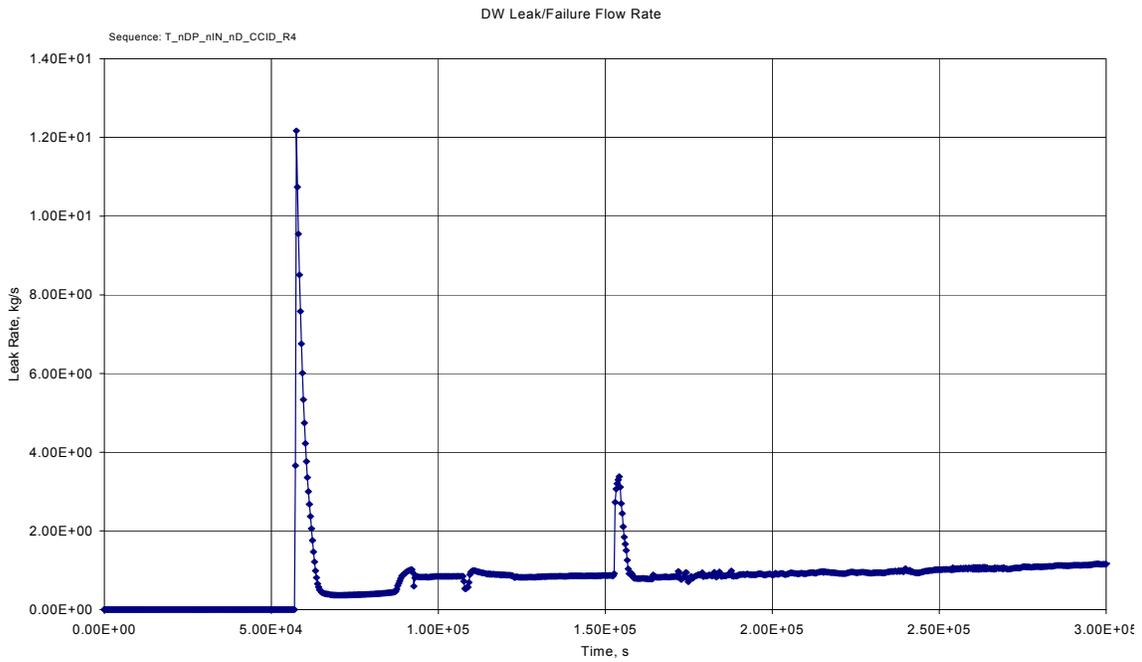


Figure 9A-6r. T_nDP_nIN_nD_CCID_R4 DW Leak/Failure Flow Rate

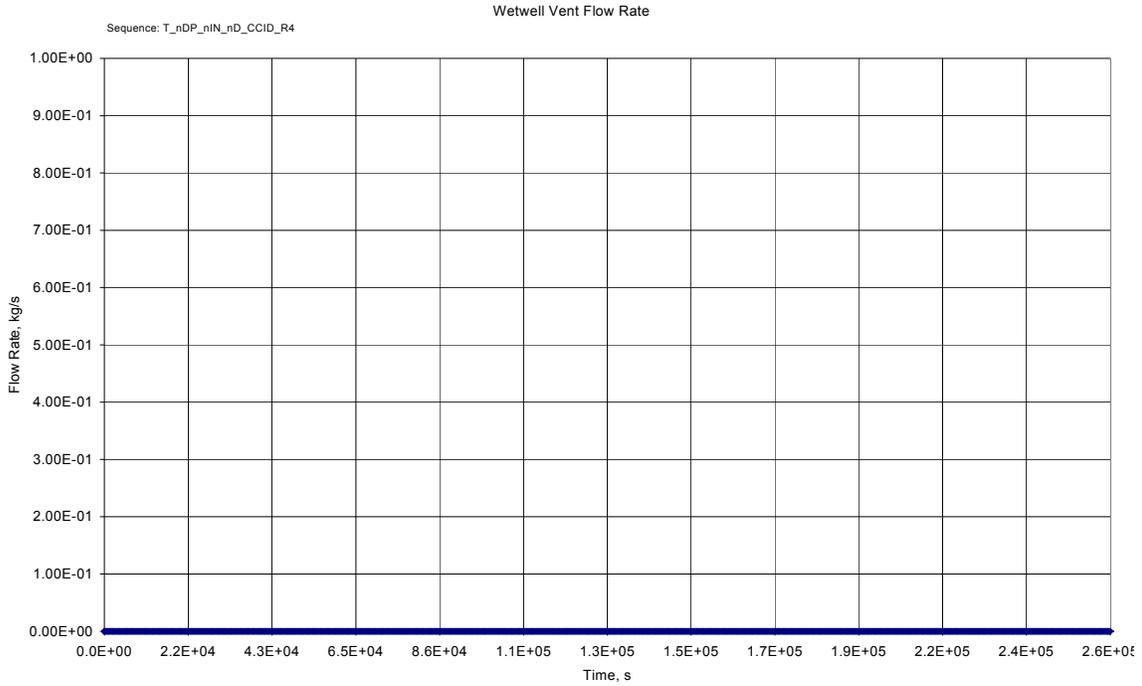


Figure 9A-6s. T_nDP_nIN_nD_CCID_R4 Wetwell Vent Flow Rate

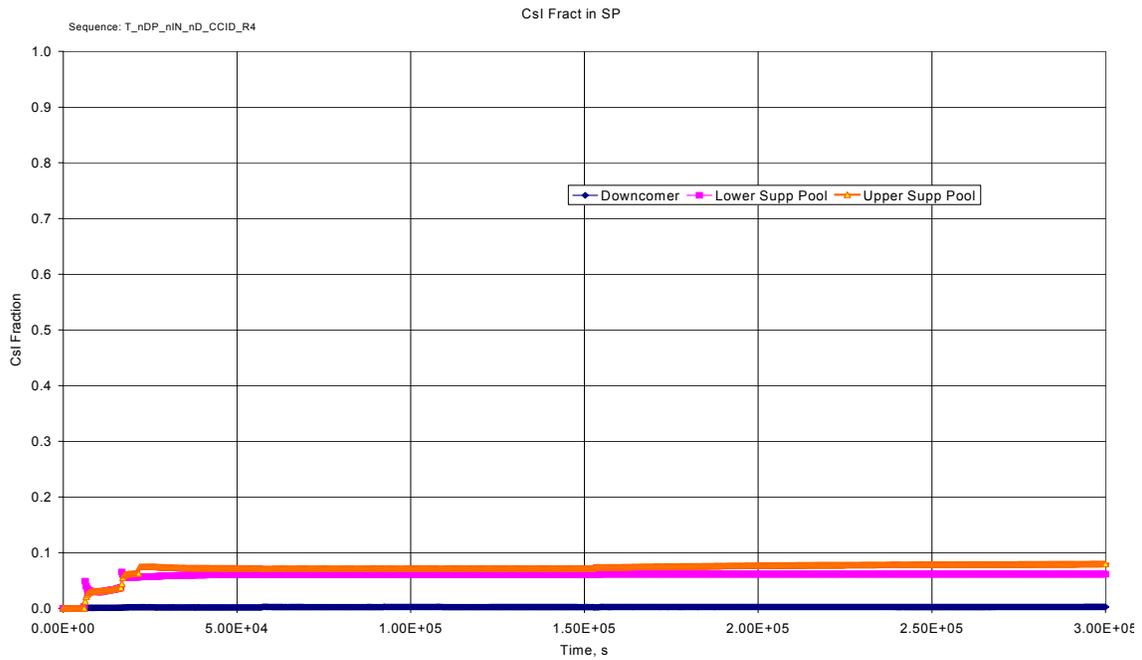


Figure 9A-6t. T_nDP_nIN_nD_CCID_R4 Csl Fract in SP

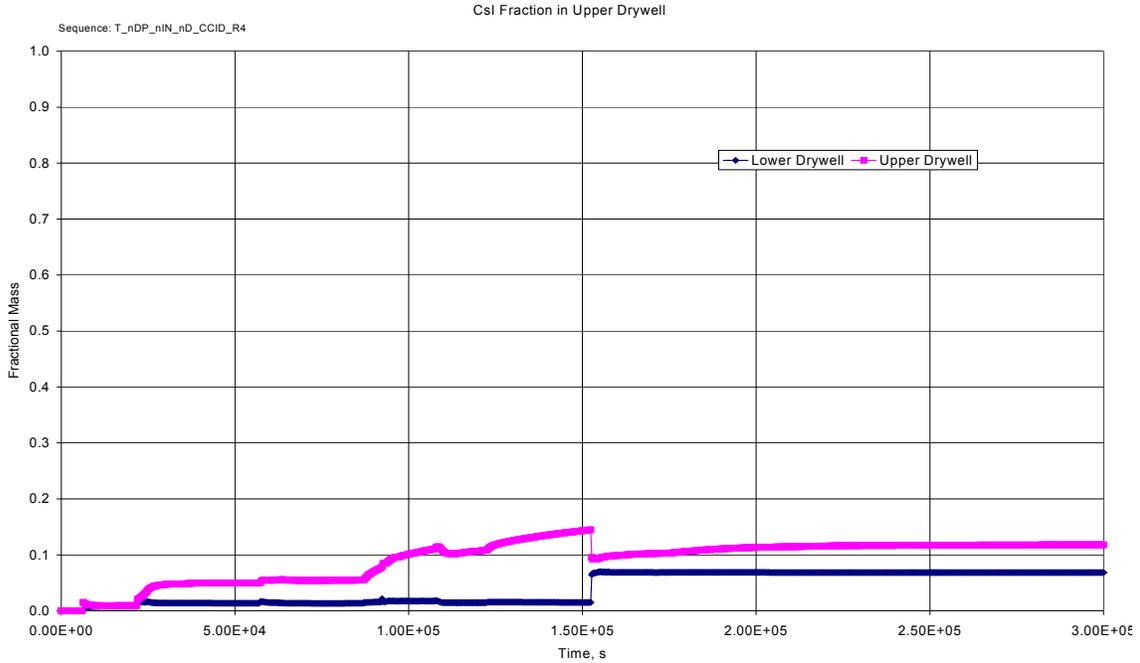


Figure 9A-6u. T_nDP_nIN_nD_CCID_R4 Csl Fraction in Upper Drywell

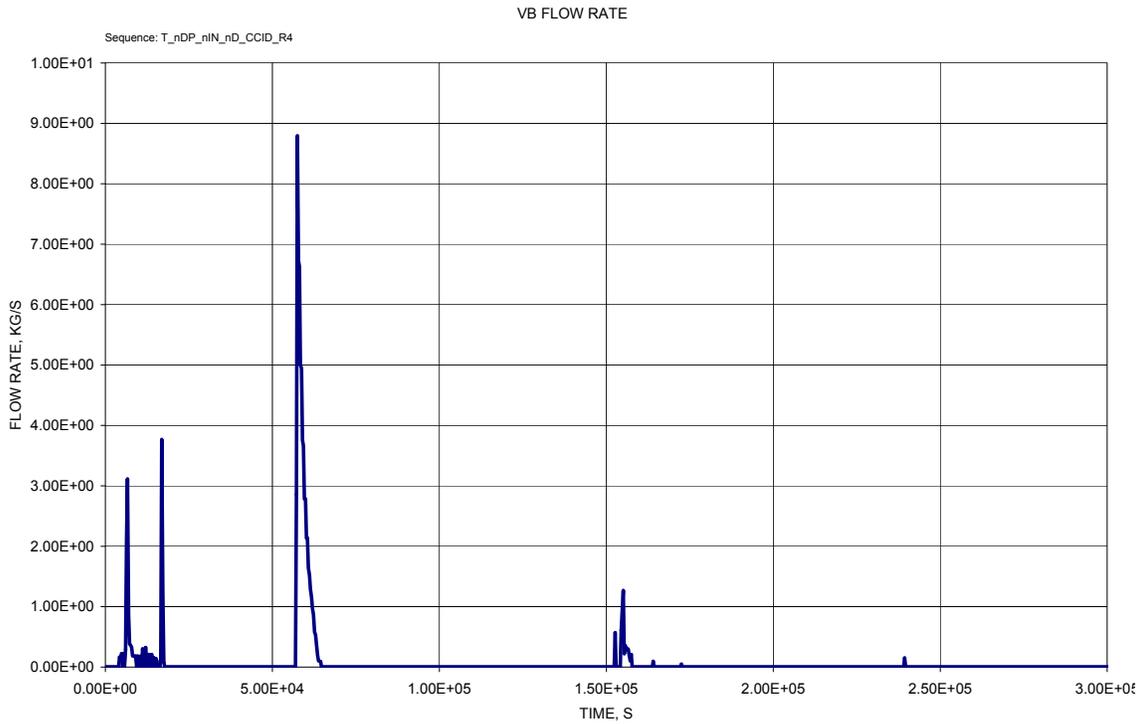


Figure 9A-6v. T_nDP_nIN_nD_CCID_R4 VB Flow Rate

9A.7 Core Concrete Interaction (Wet) – Low Pressure T_nIN_CCIW_R4

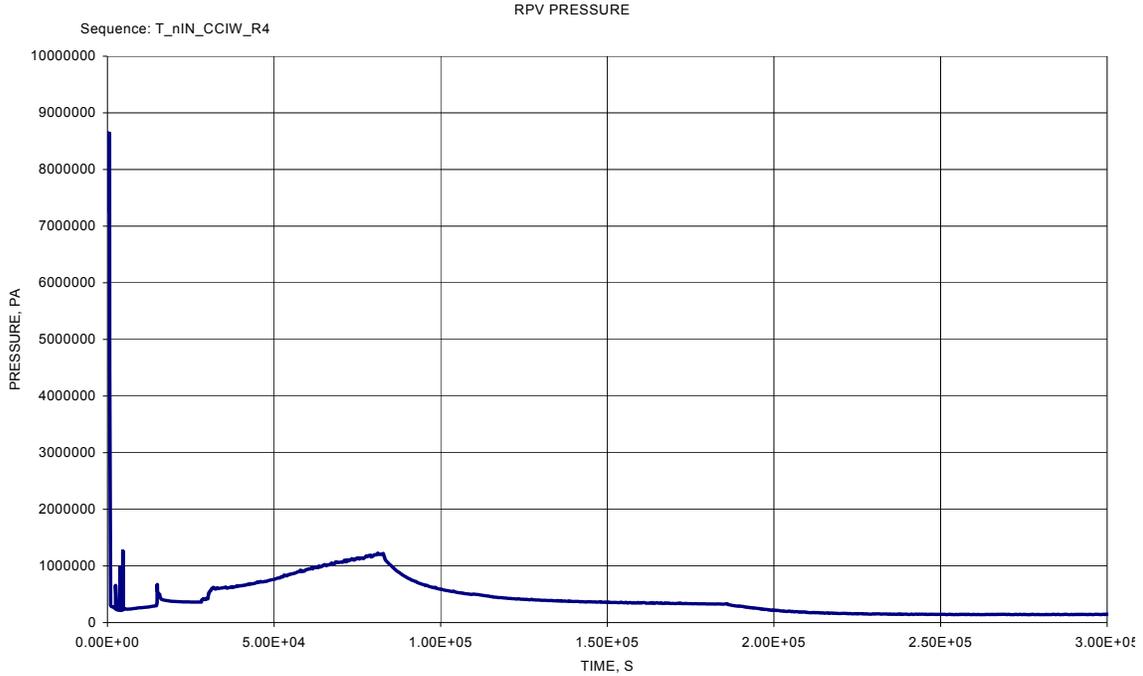


Figure 9A-7a. T_nIN_CCIW_R4 RPV Pressure

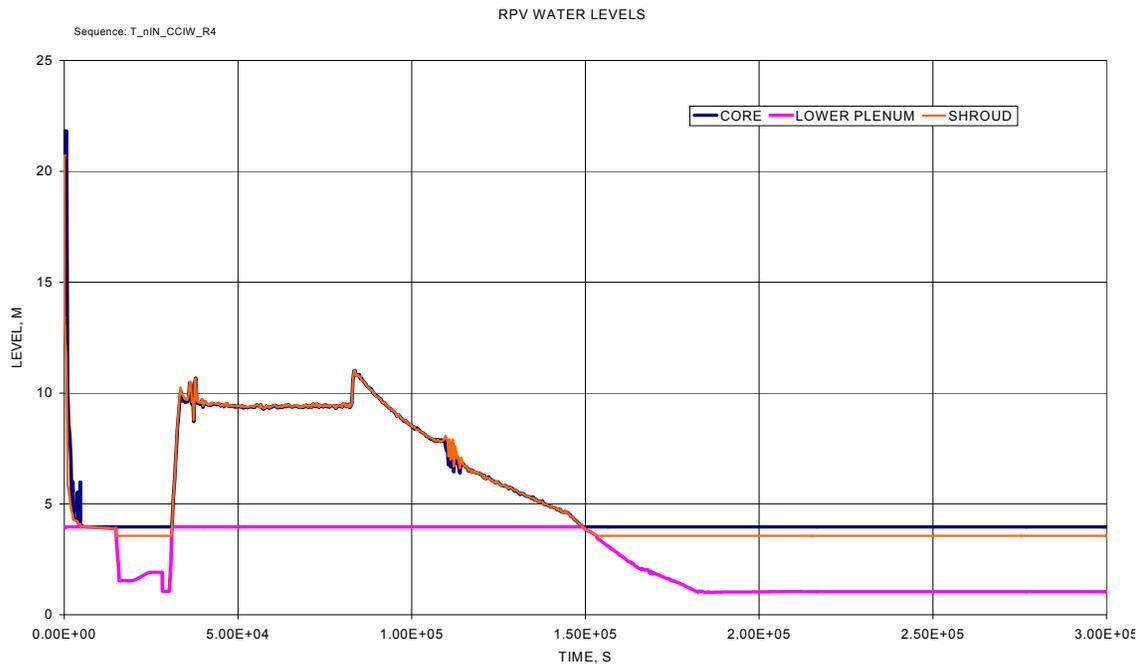


Figure 9A-7b. T_nIN_CCIW_R4 RPV Water Level

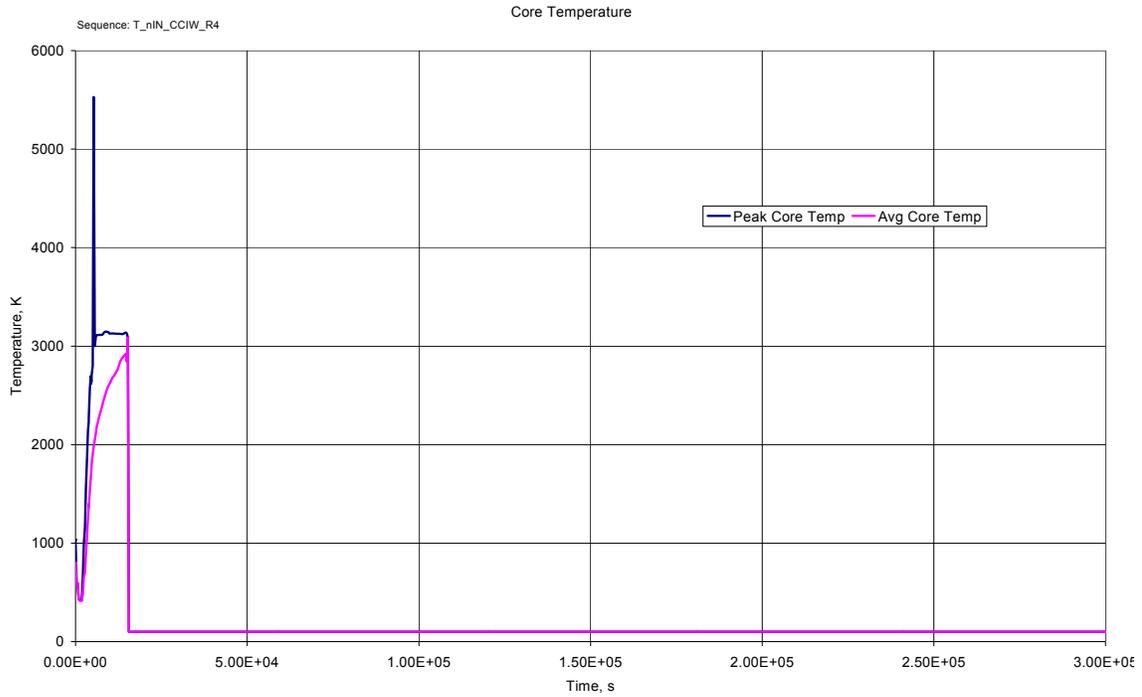


Figure 9A-7c. T_nIN_CCIW_R4 Core Temperature

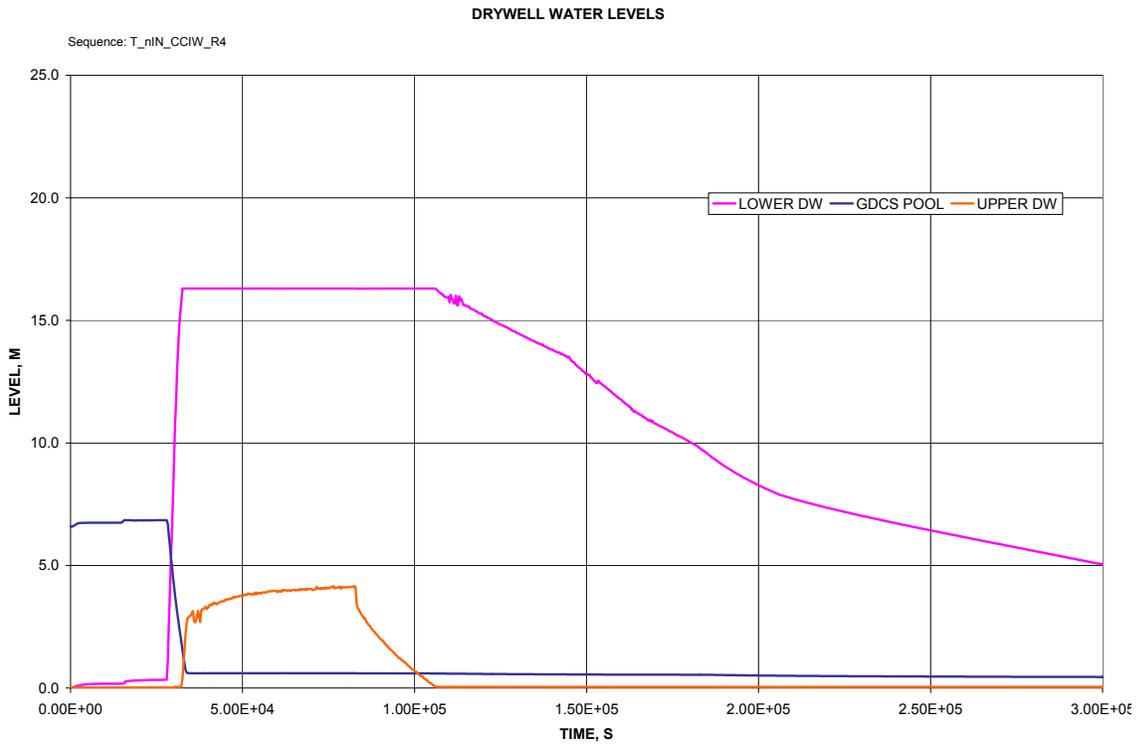


Figure 9A-7d. T_nIN_CCIW_R4 Drywell Water Levels

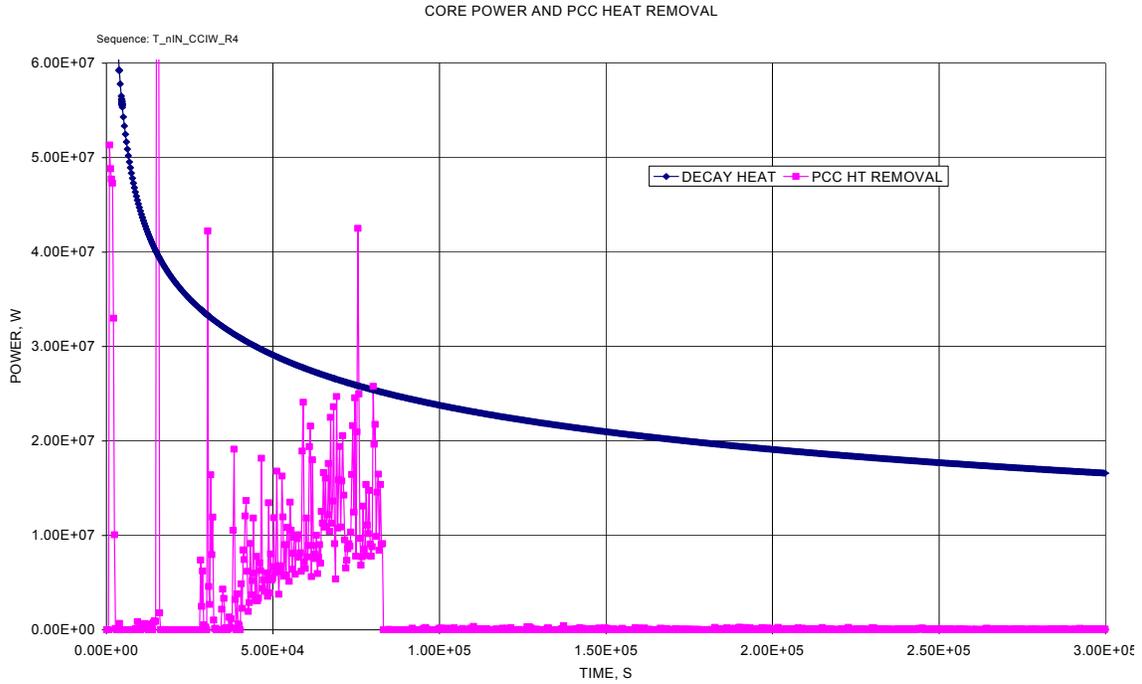


Figure 9A-7e. T_nIN_CCIW_R4 Core Power and PCC Heat Removal

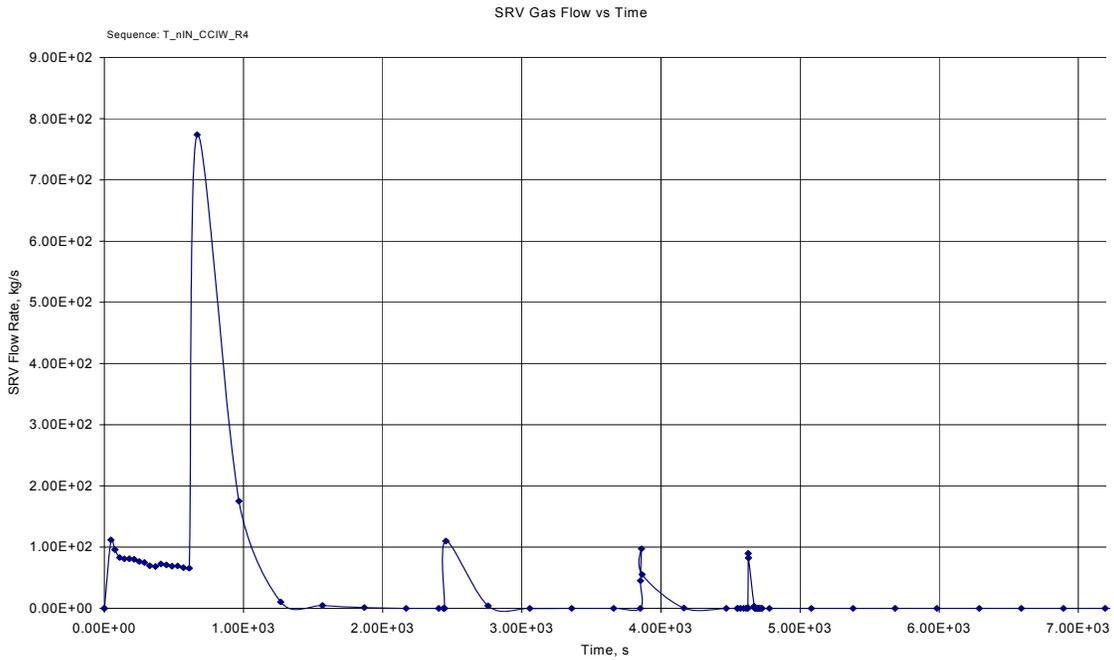


Figure 9A-7f. T_nIN_CCIW_R4 SRV Gas Flow vs Time

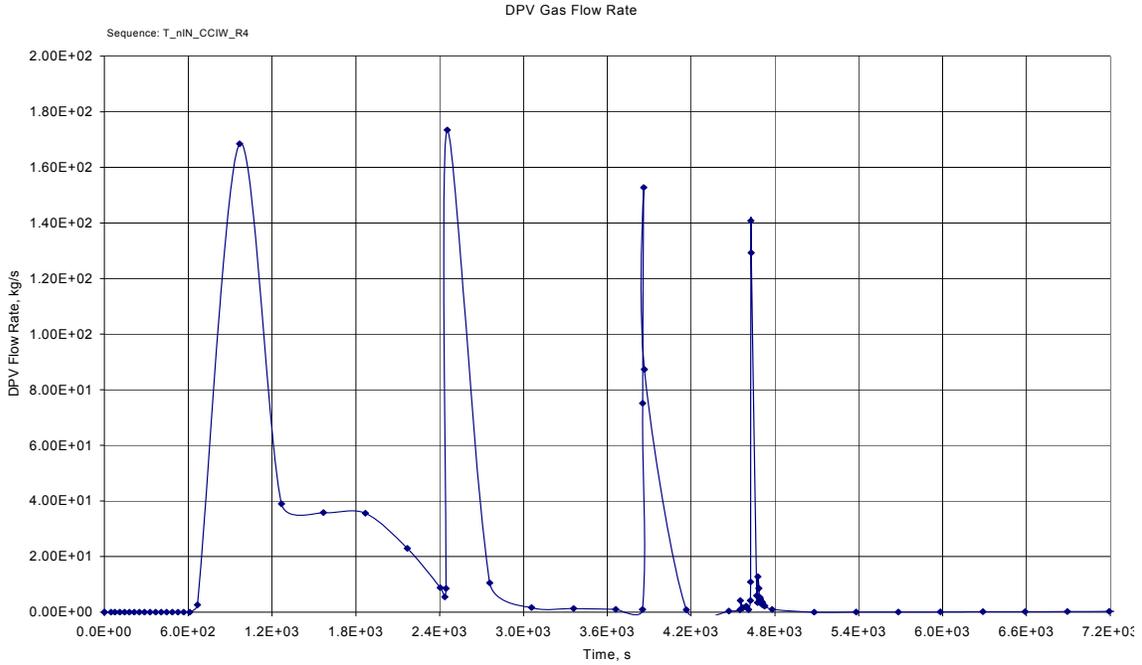


Figure 9A-7g. T_nIN_CCIW_R4 DPV Gas Flow Rate

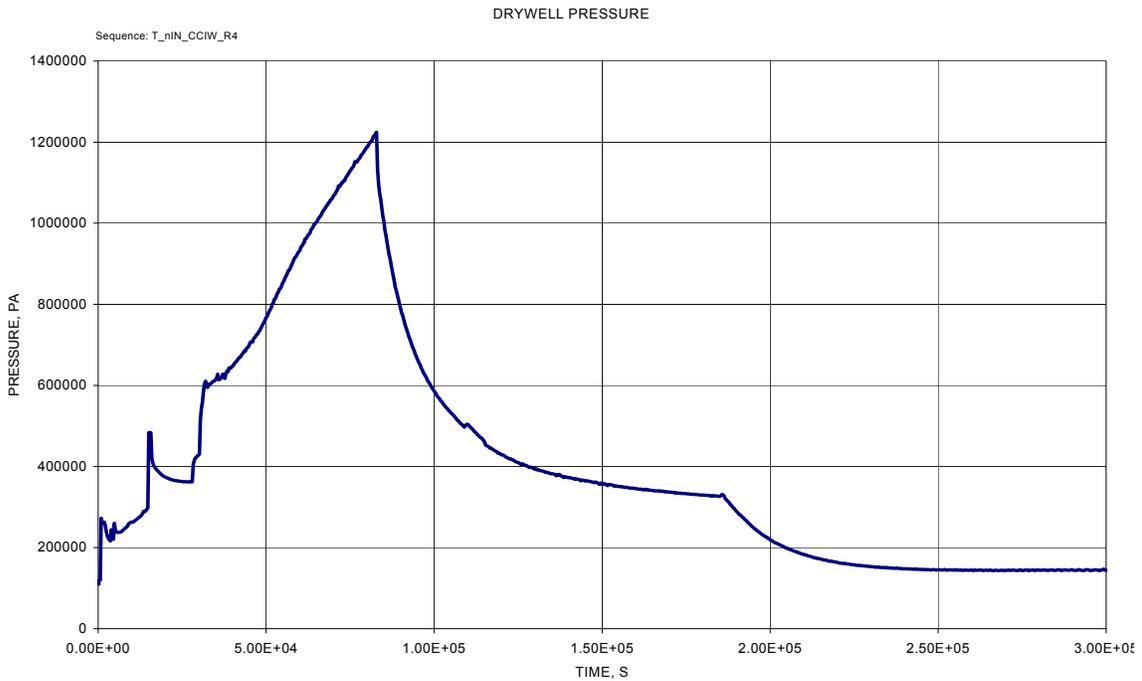


Figure 9A-7h. T_nIN_CCIW_R4 Drywell Pressure

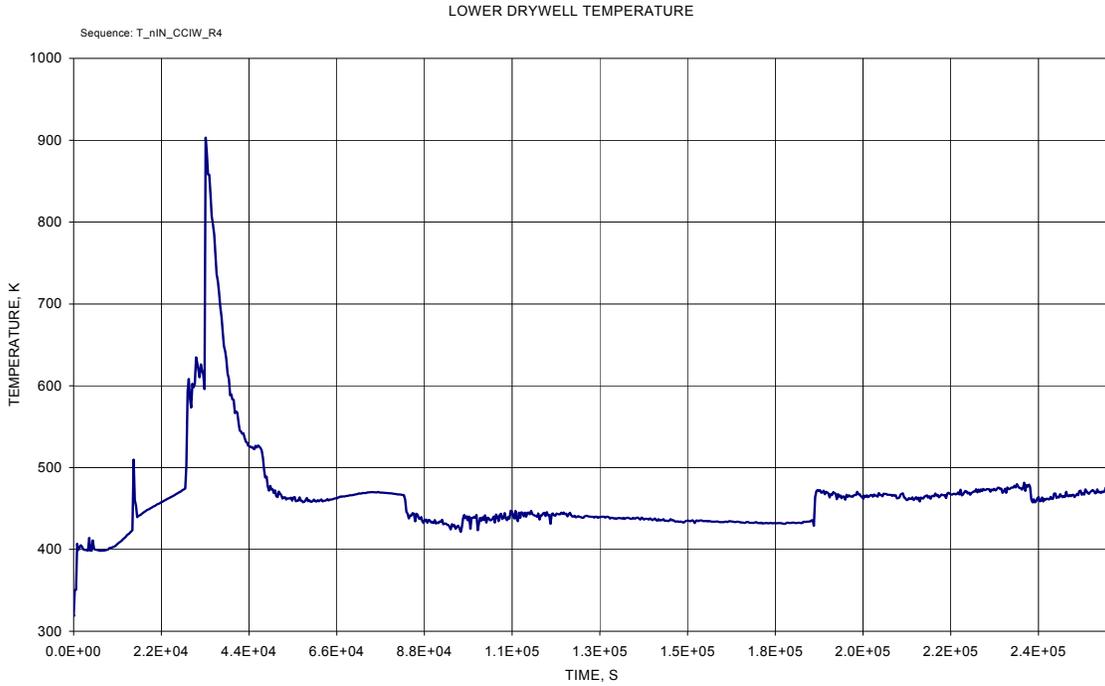


Figure 9A-7i. T_nIN_CCIW_R4 Lower Drywell Temperature

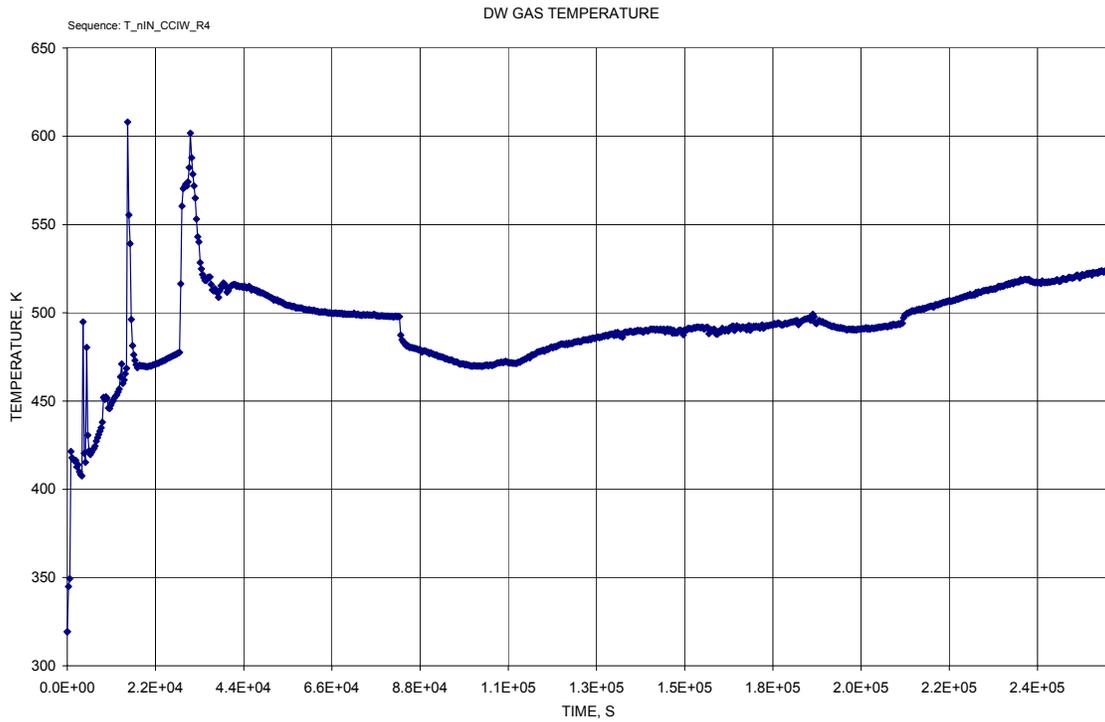


Figure 9A-7j. T_nIN_CCIW_R4 DW Gas Temperature

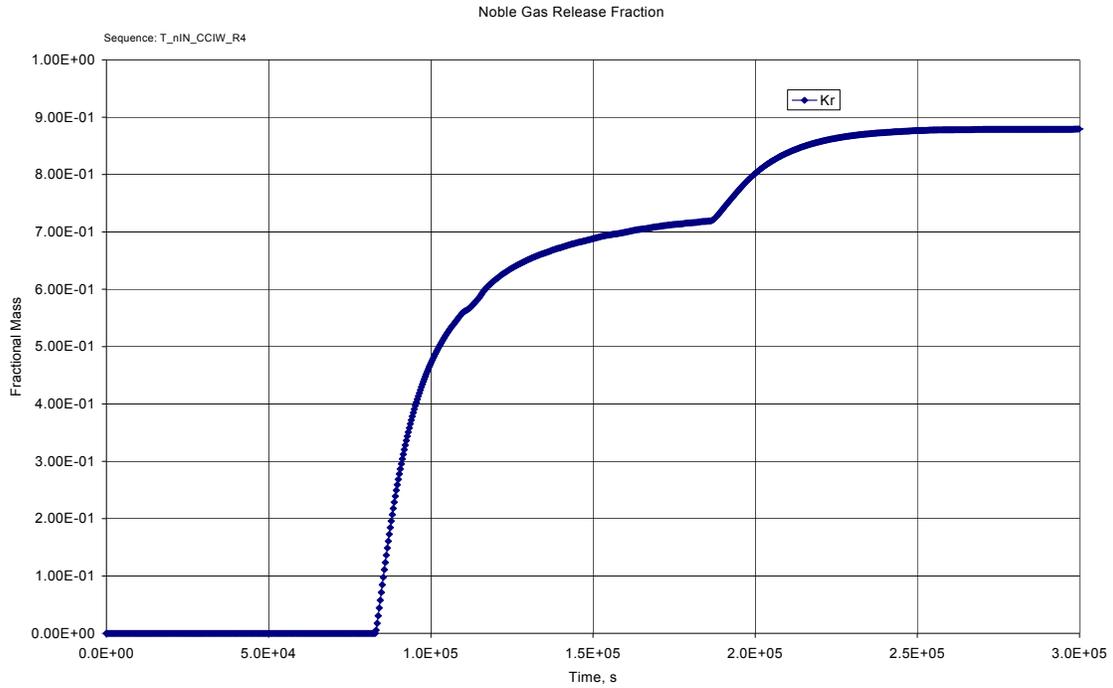


Figure 9A-7k. T_nIN_CCIW_R4 Noble Gas Release Fraction

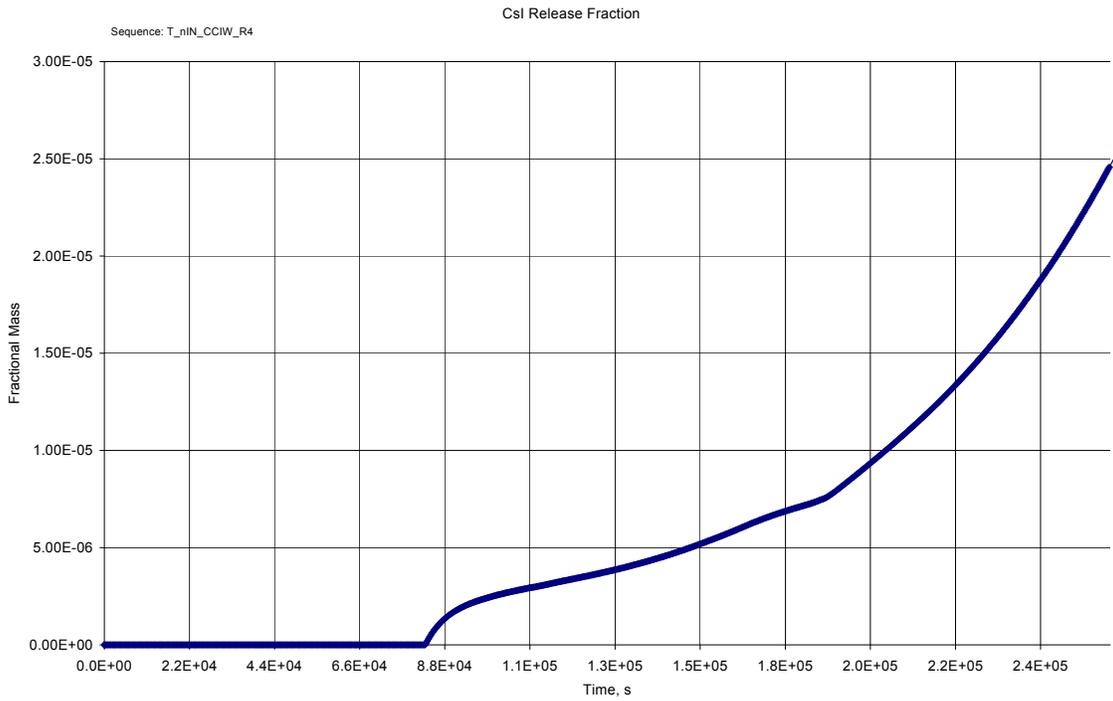


Figure 9A-7l. T_nIN_CCIW_R4 Csl Release Fraction

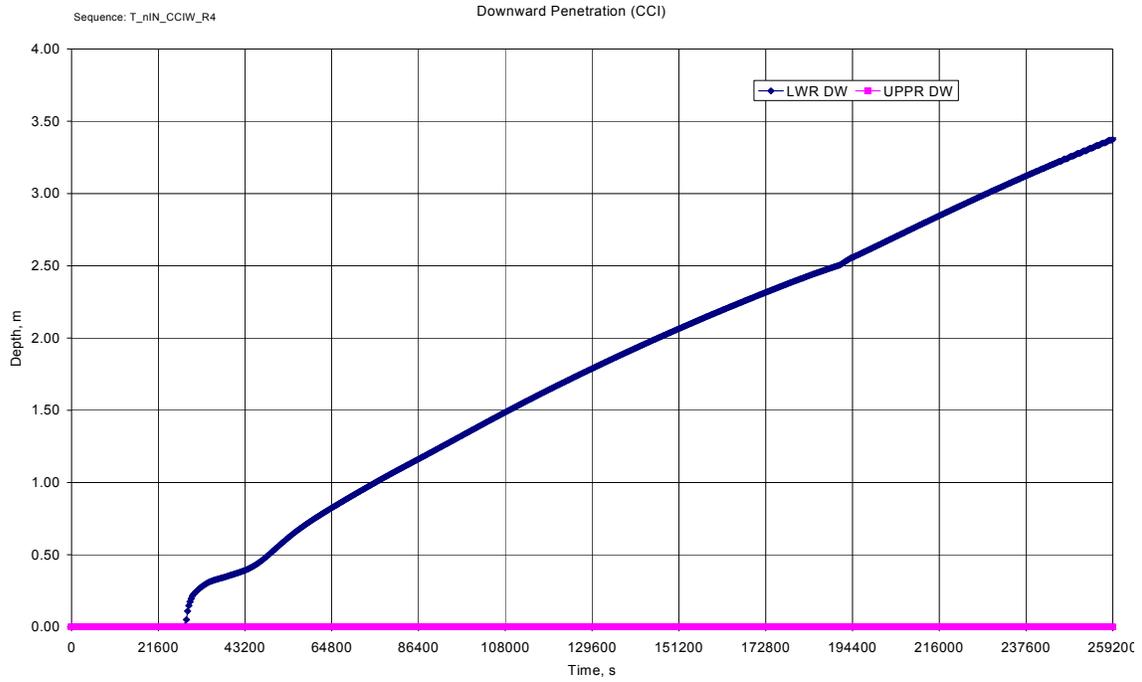


Figure 9A-7m. T_nIN_CCIW_R4 Downward Penetration (CCI)

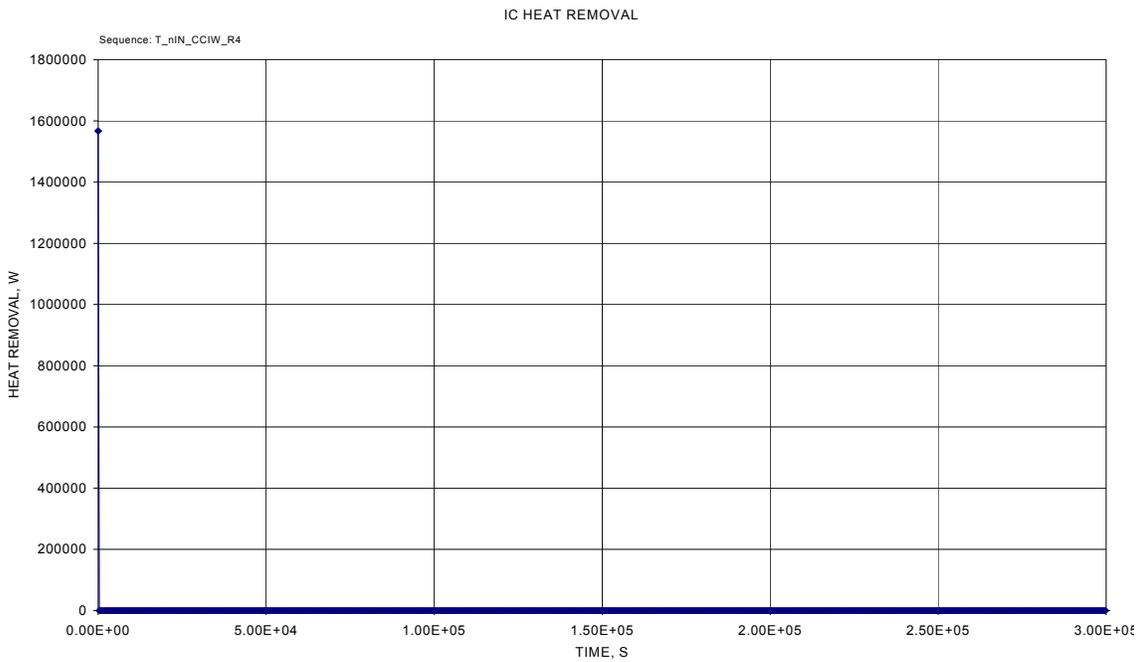


Figure 9A-7n. T_nIN_CCIW_R4 ICS Heat Removal

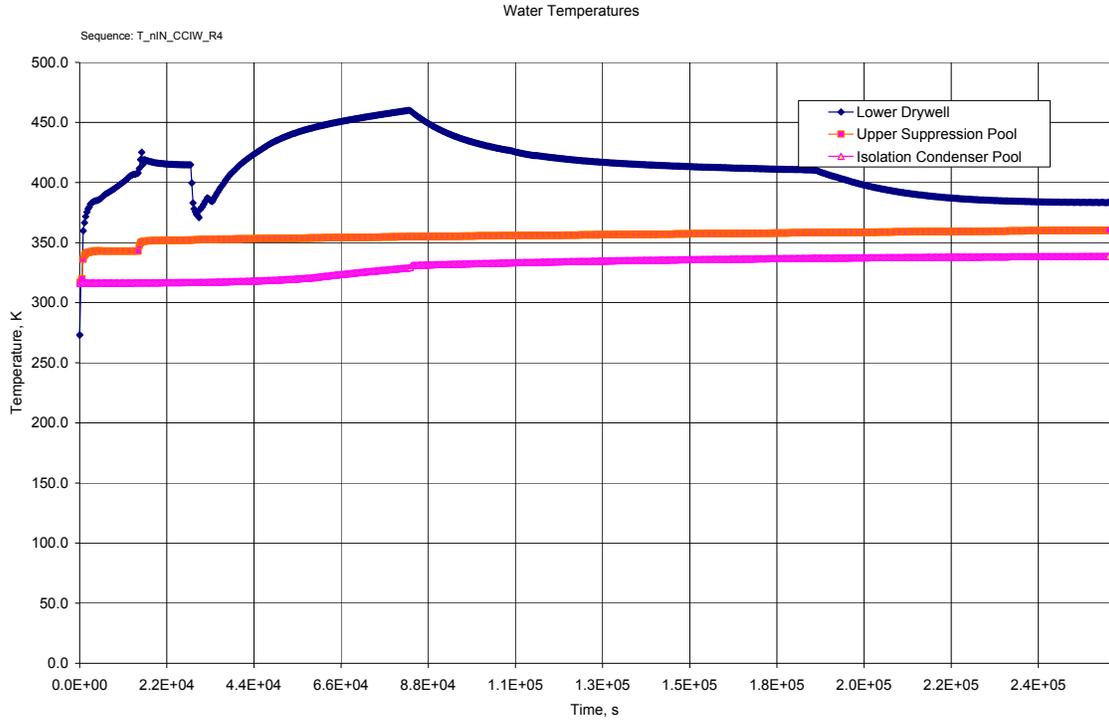


Figure 9A-7o. T_nIN_CCIW_R4 Water Temperature

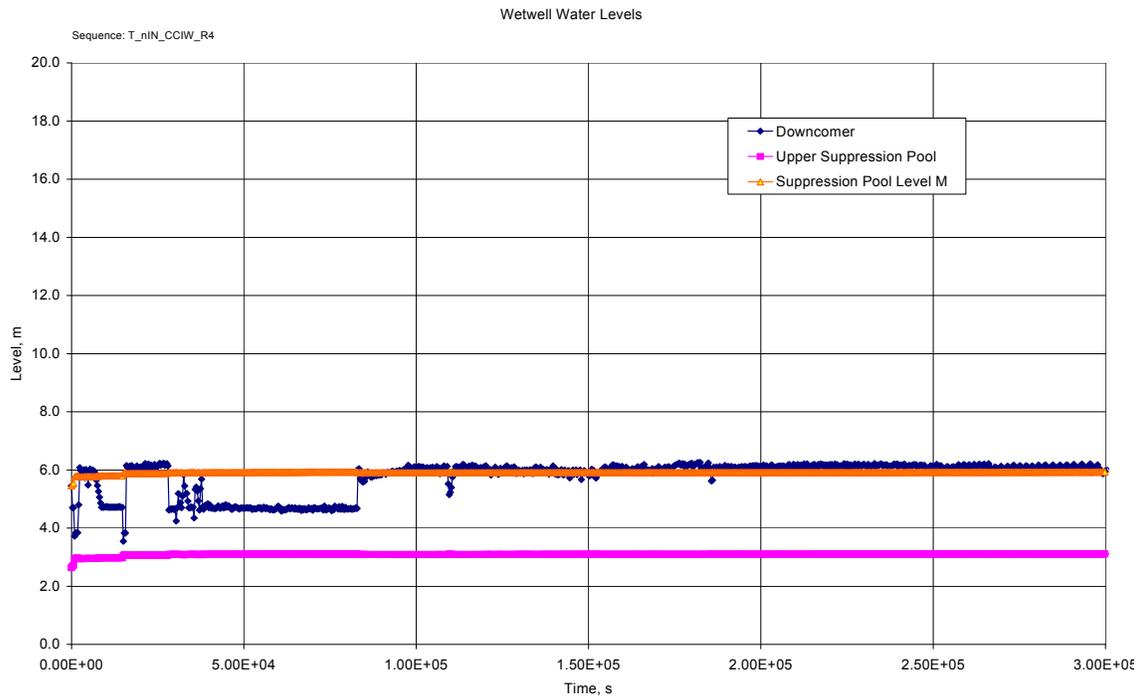


Figure 9A-7p. T_nIN_CCIW_R4 Wetwell Water Levels

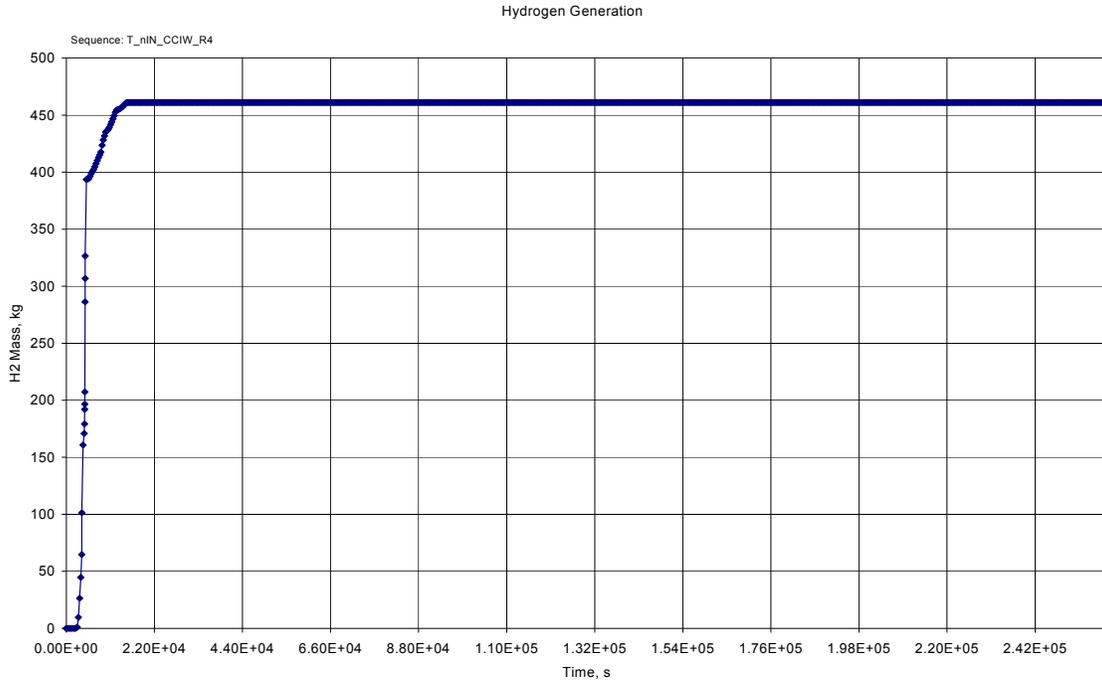


Figure 9A-7q. T_nIN_CCIW_R4 Hydrogen Generation

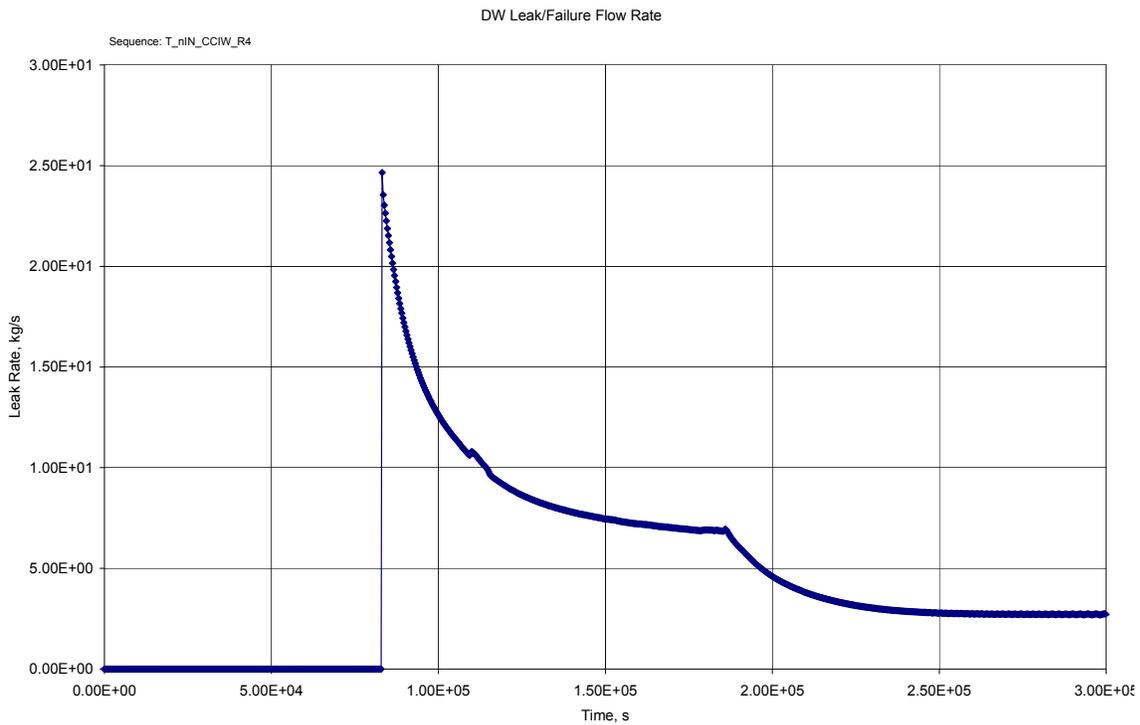


Figure 9A-7r. T_nIN_CCIW_R4 DW Leak/Failure Row Rate

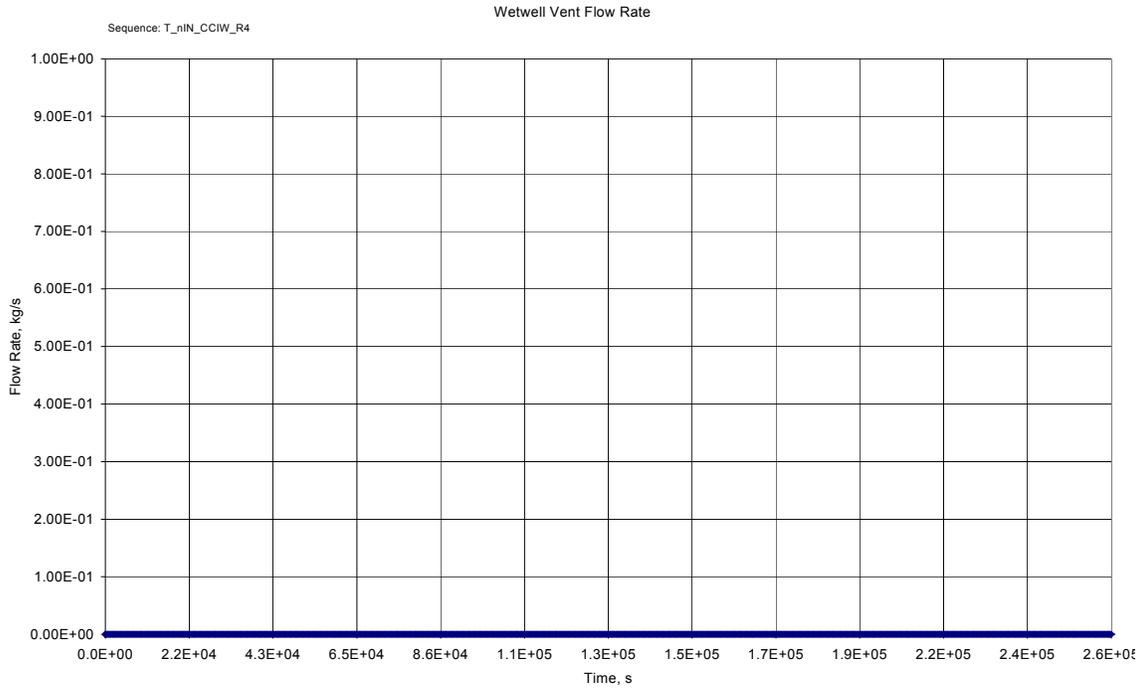


Figure 9A-7s. T_nIN_CCIW_R4 Wetwell Vent Flow Rate

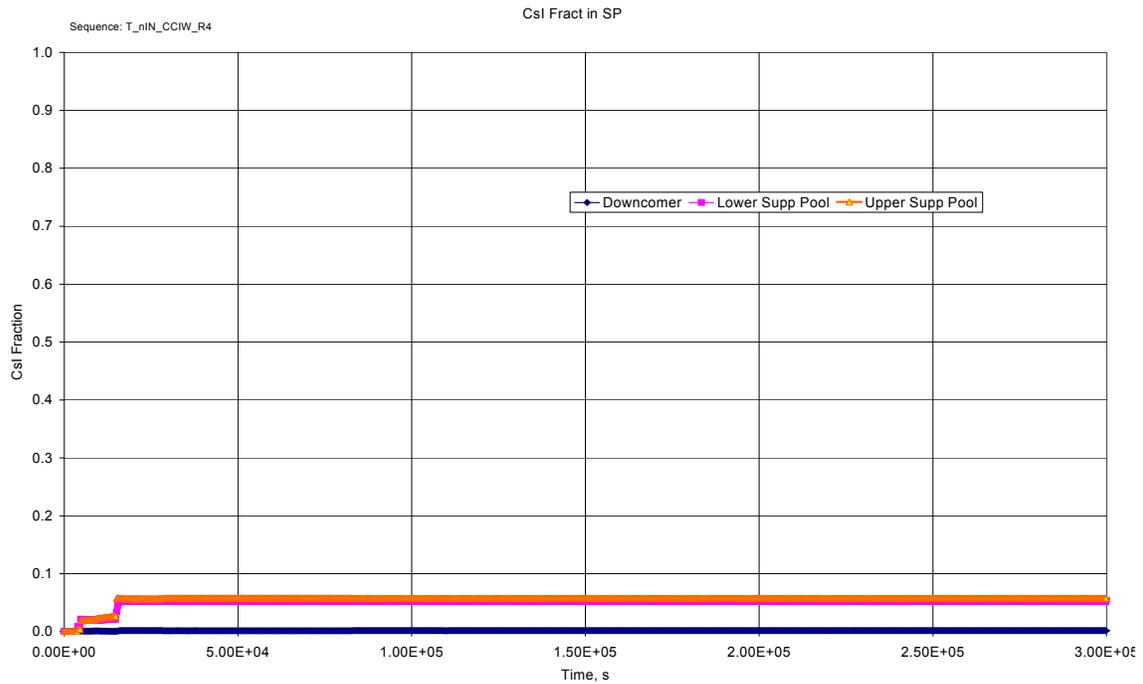


Figure 9A-7t. T_nIN_CCIW_R4 Csl Fract in SP

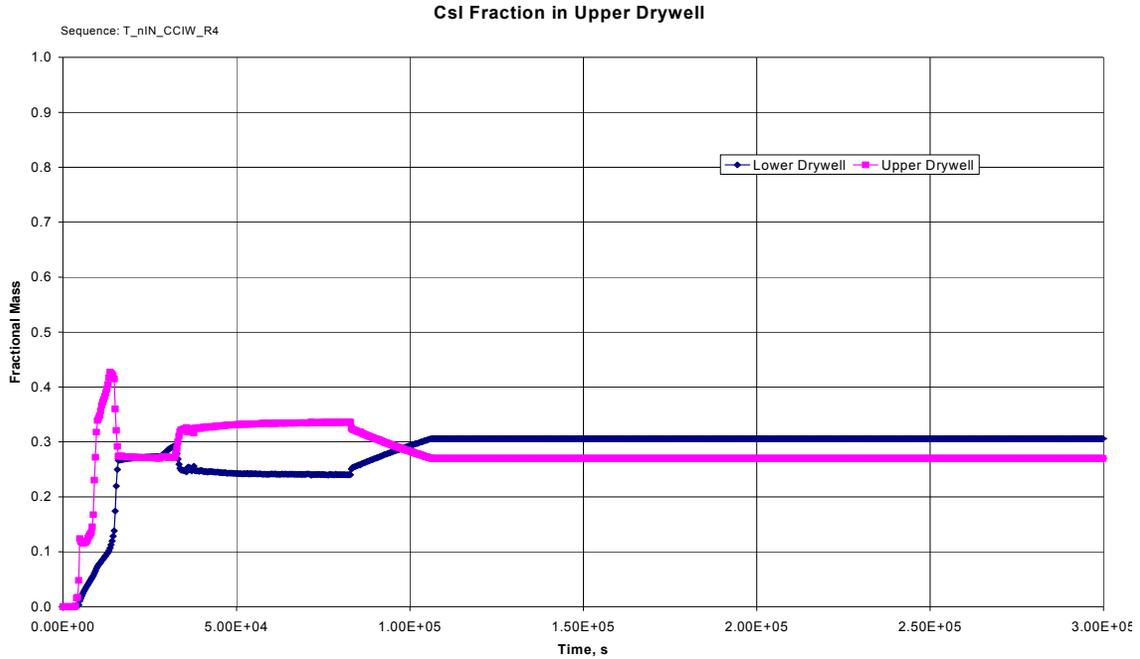


Figure 9A-7u. T_nIN_CCIW_R4 Csl Fraction in Upper Drywell

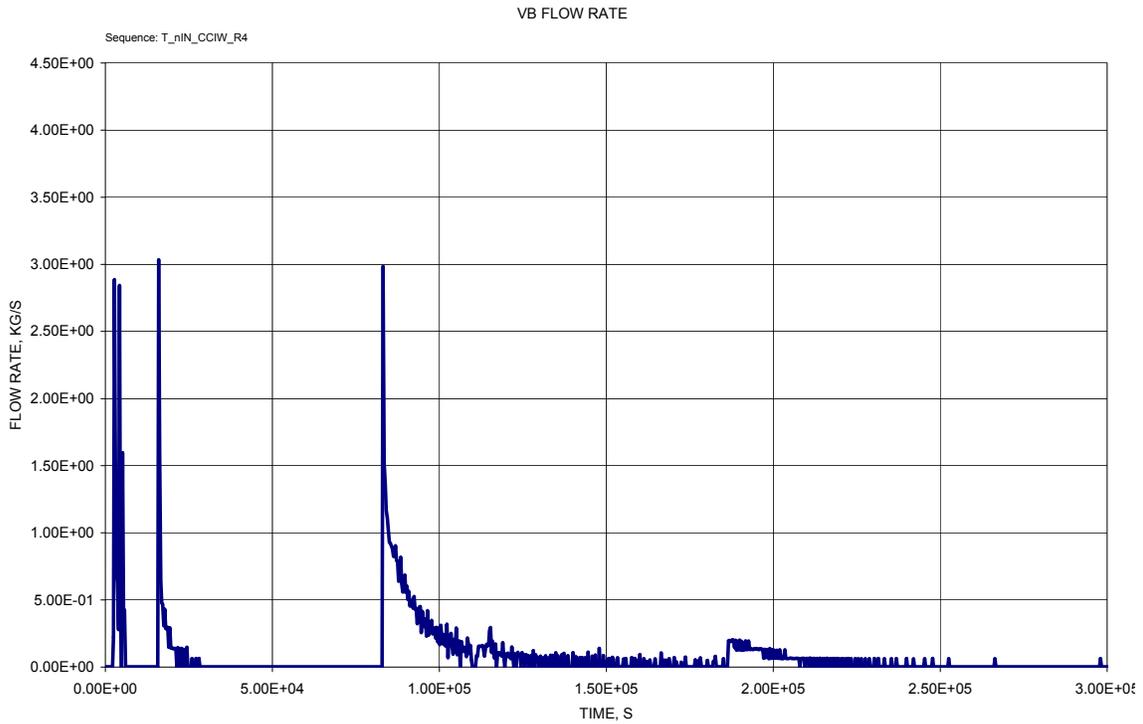


Figure 9A-7v. T_nIN_CCIW_R4 VB Flow Rate

9A.8 Core Concrete Interaction (Wet) – High Pressure T_nDP_nIN_CCIW_R4

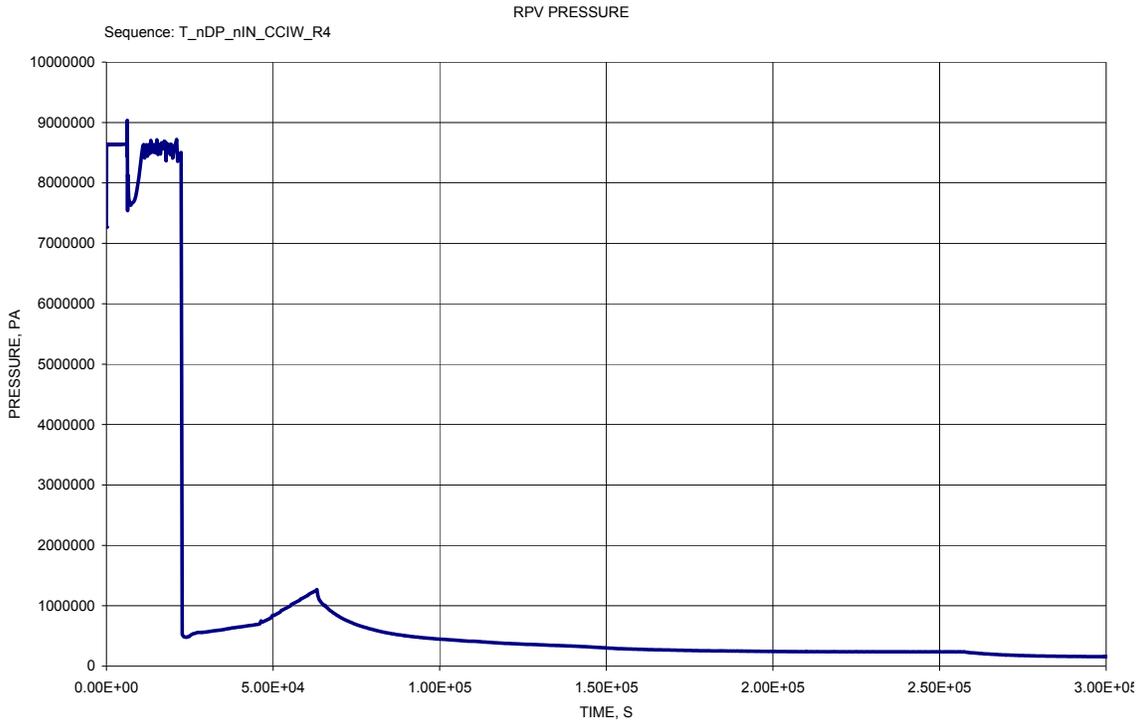


Figure 9A-8a. T_nDP_nIN_CCIW_R4 RPV Pressure

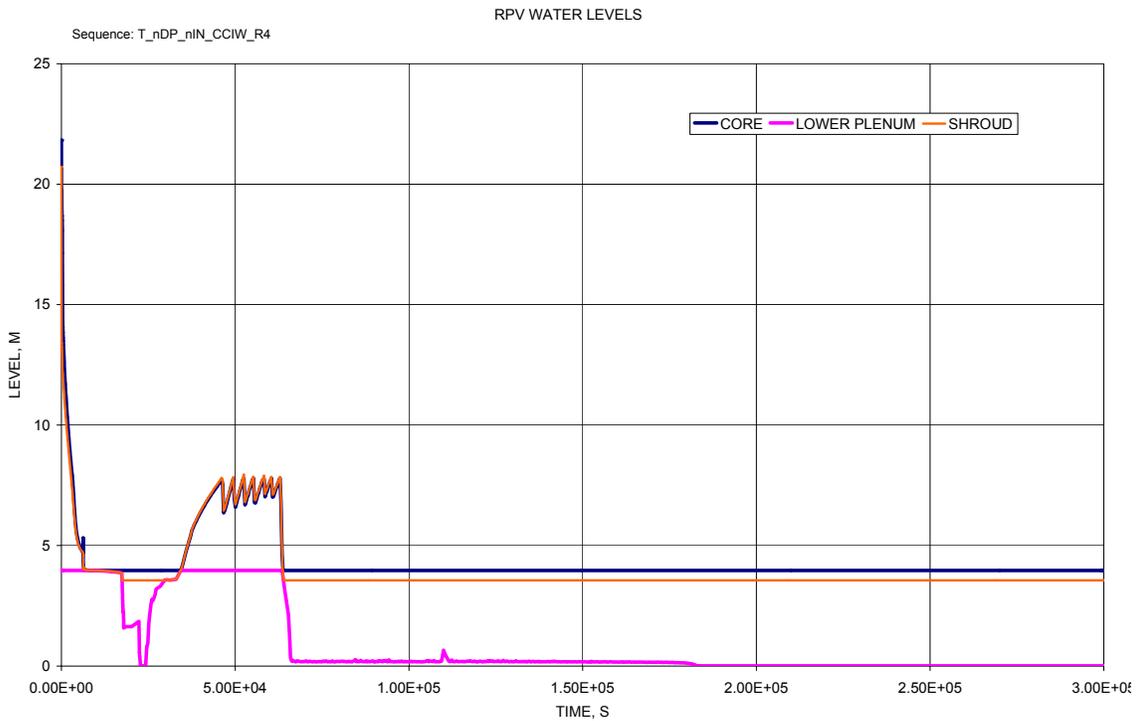


Figure 9A-8b. T_nDP_nIN_CCIW_R4 RPV Water Levels

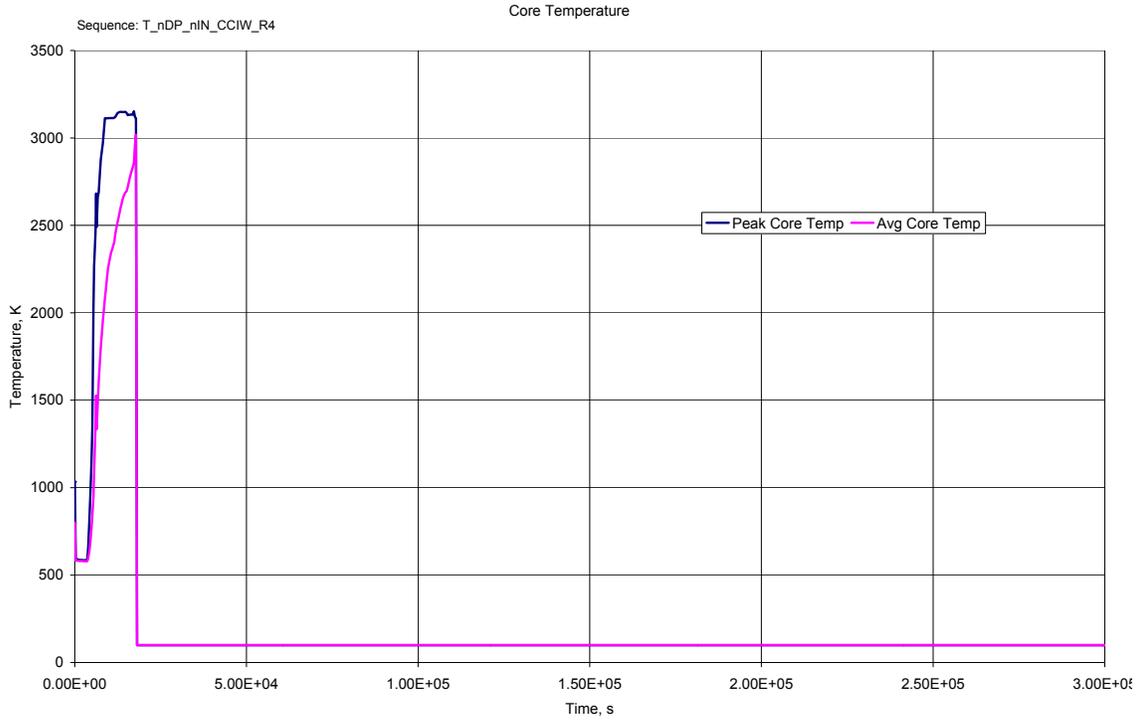


Figure 9A-8c. T_nDP_nIN_CCIW_R4 Core Temperature

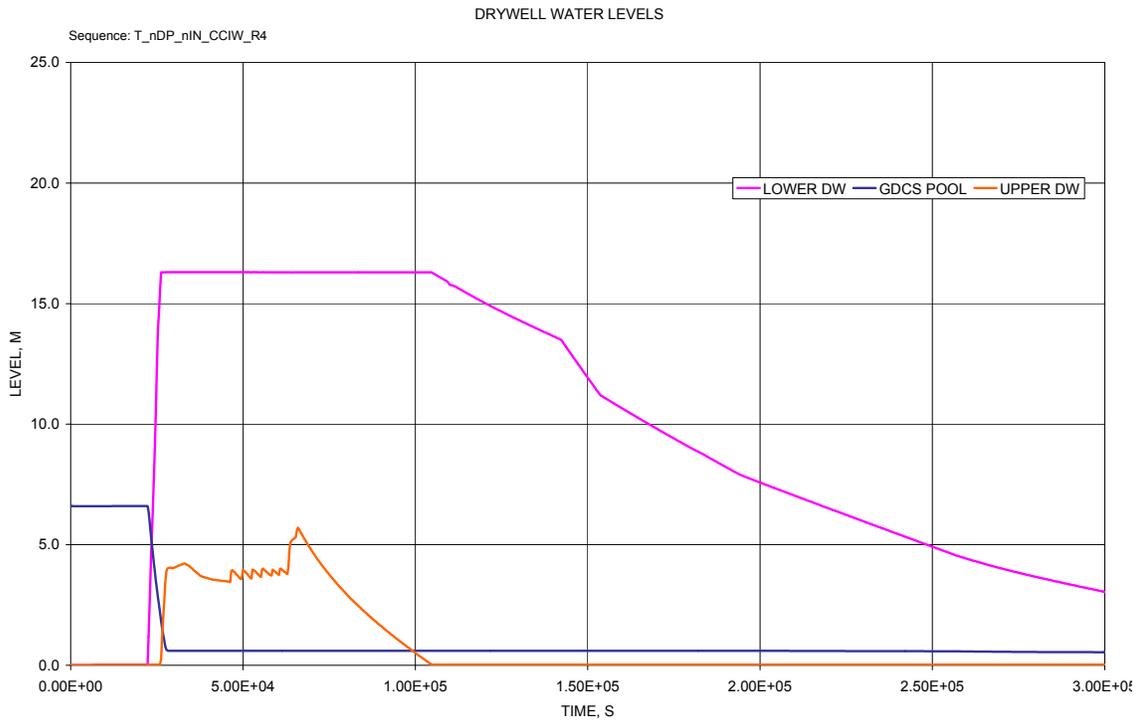


Figure 9A-8d. T_nDP_nIN_CCIW_R4 Drywell Water Levels

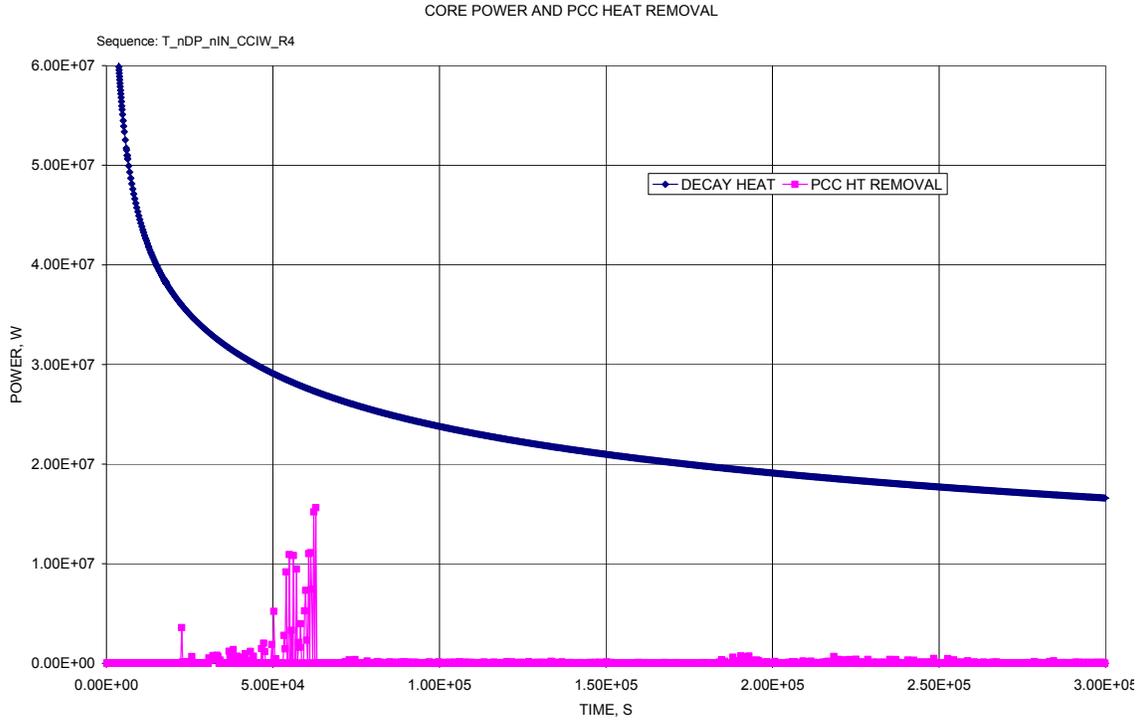


Figure 9A-8e. T_nDP_nIN_CCIW_R4 Core Power and PCC Heat Removal

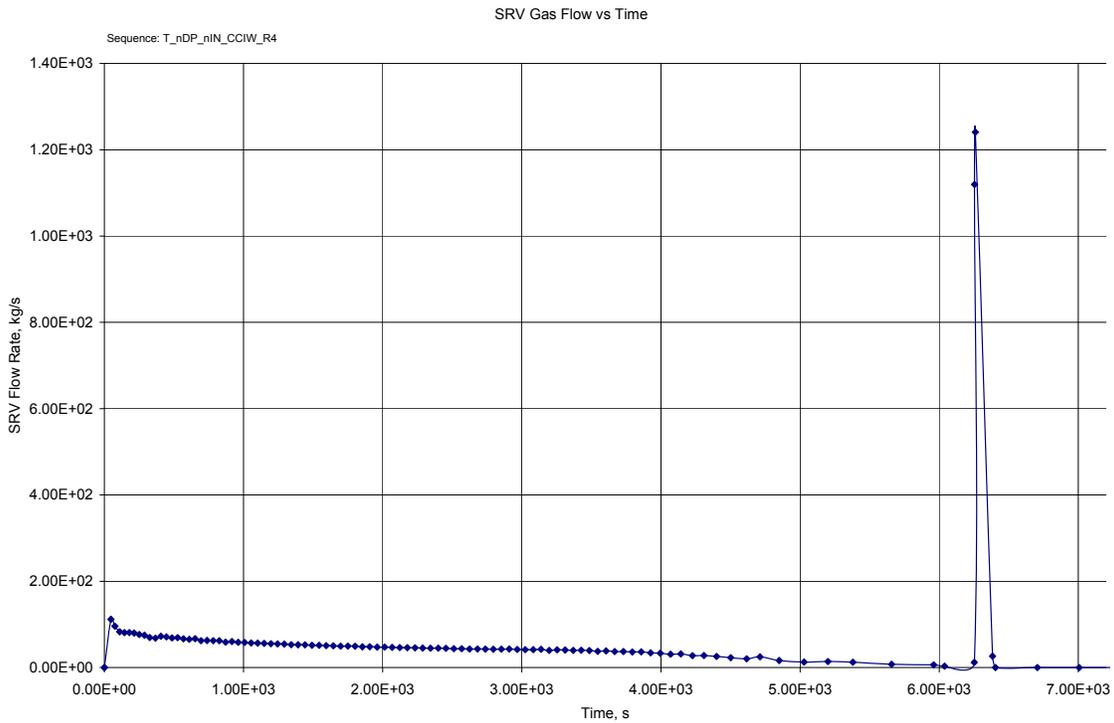


Figure 9A-8f. T_nDP_nIN_CCIW_R4 SRV Gas Flow vs. Time

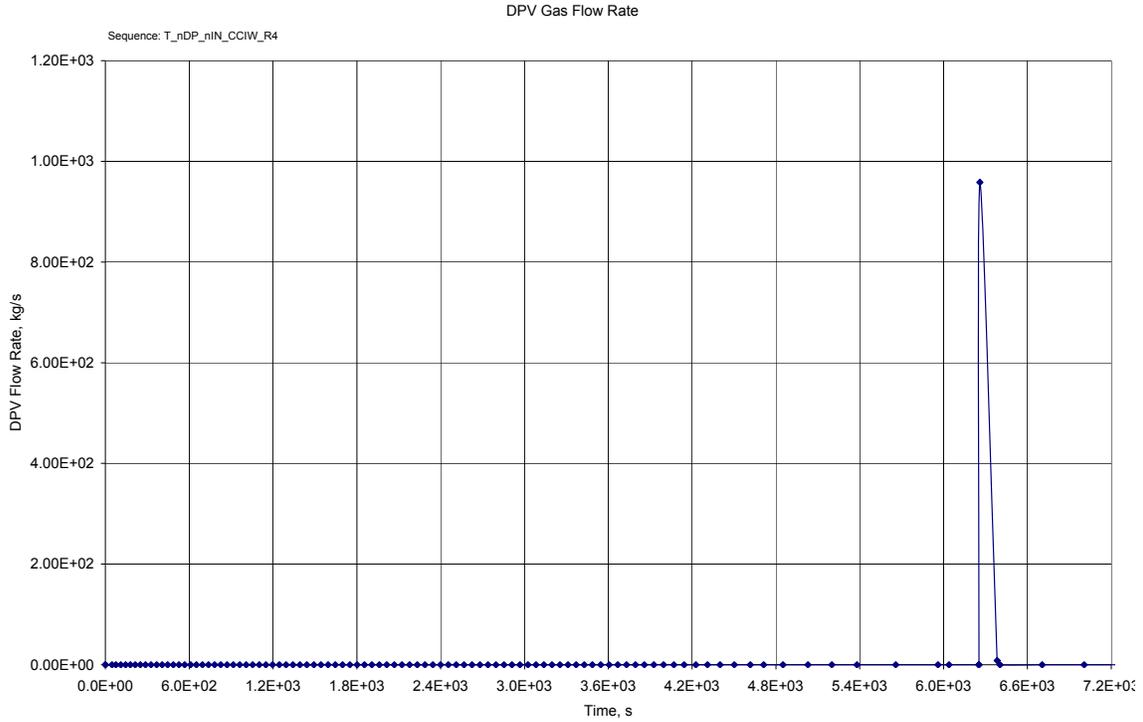


Figure 9A-8g. T_nDP_nIN_CCIW_R4 DPV Gas Flow Rate

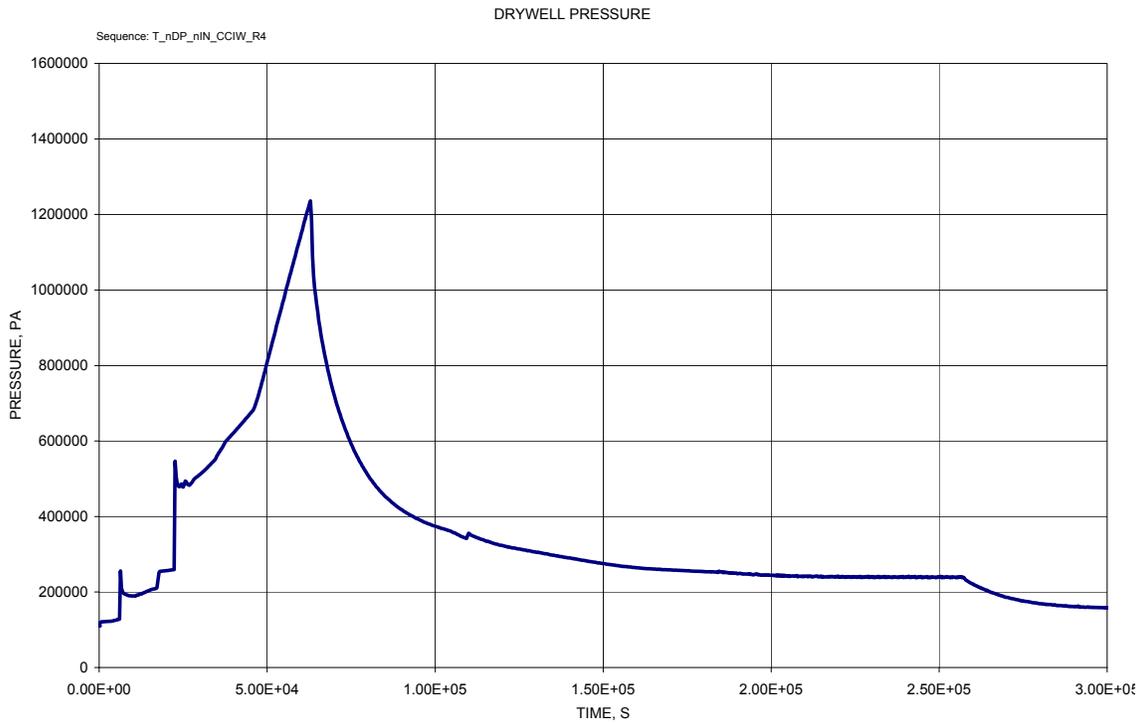


Figure 9A-8h. T_nDP_nIN_CCIW_R4 Drywell Pressure

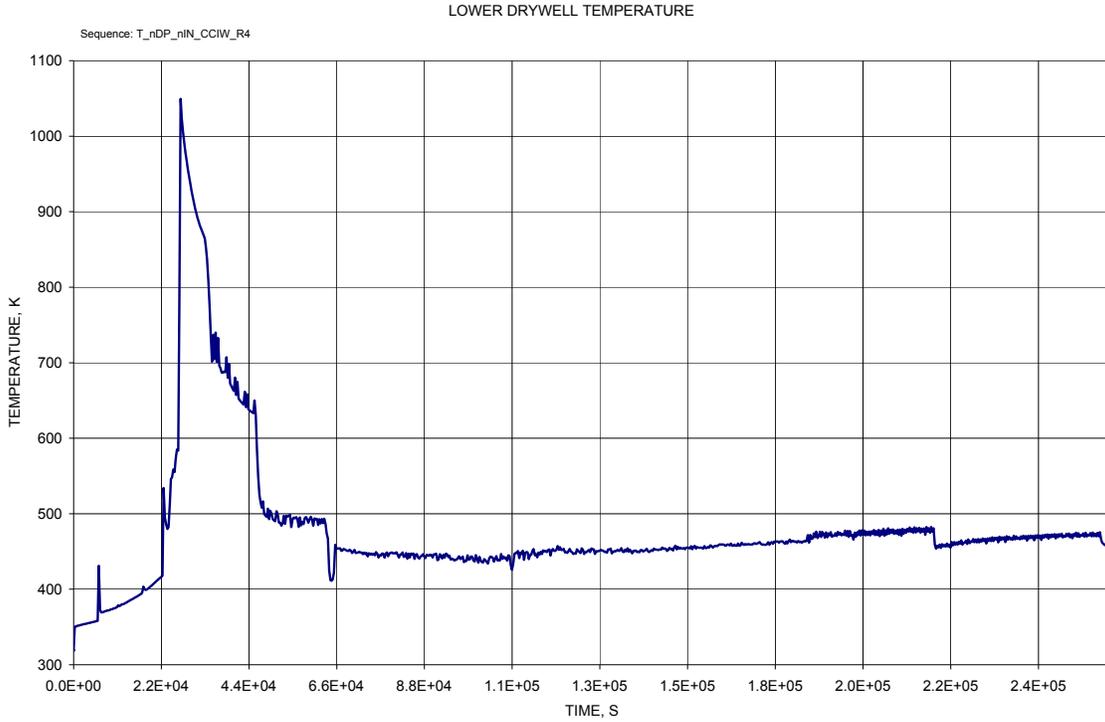


Figure 9A-8i. T_nDP_nIN_CCIW_R4 Lower Drywell Temperature

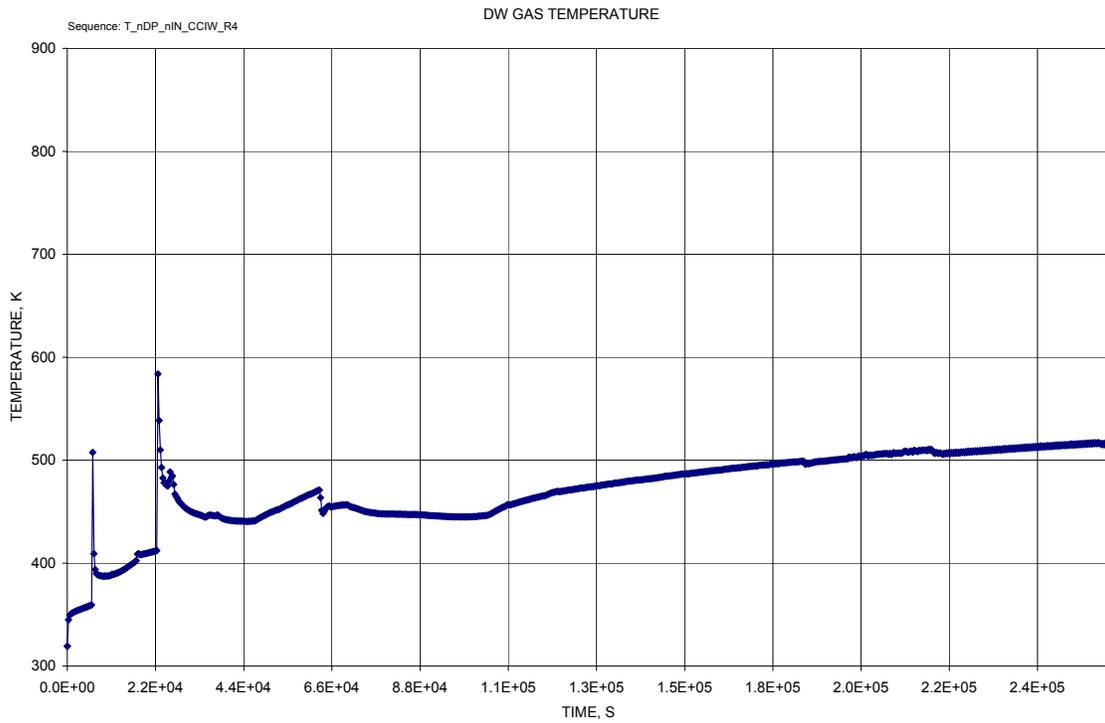


Figure 9A-8j. T_nDP_nIN_CCIW_R4 DW Gas Temperature

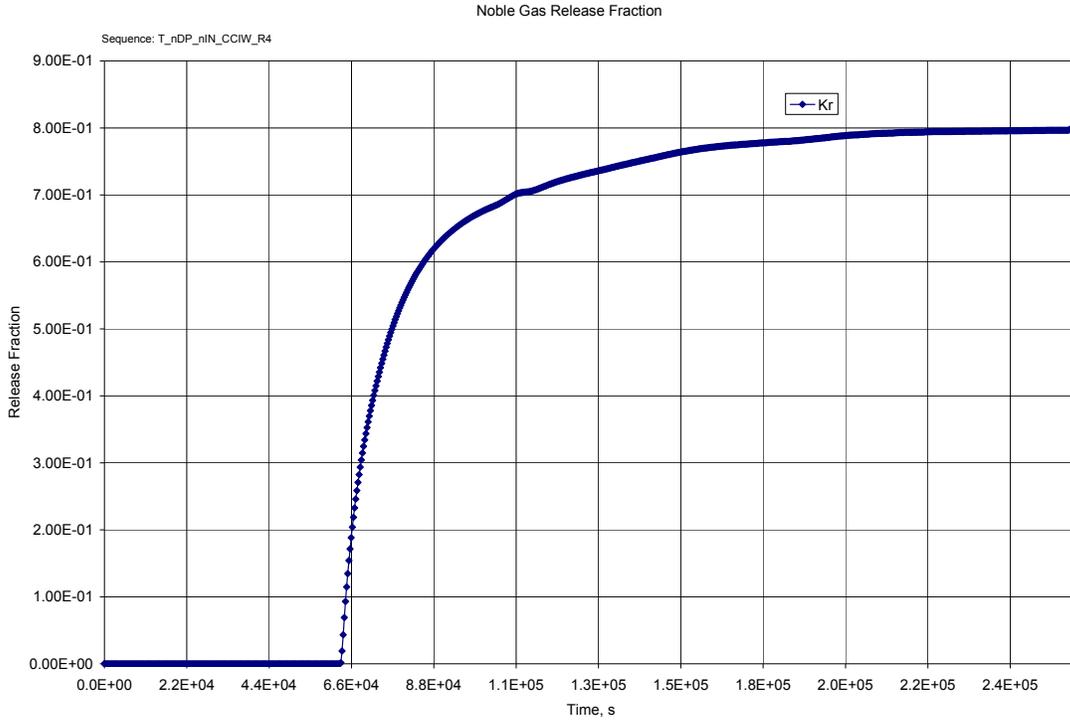


Figure 9A-8k. T_nDP_nIN_CCIW_R4 Noble Gas Release Fraction

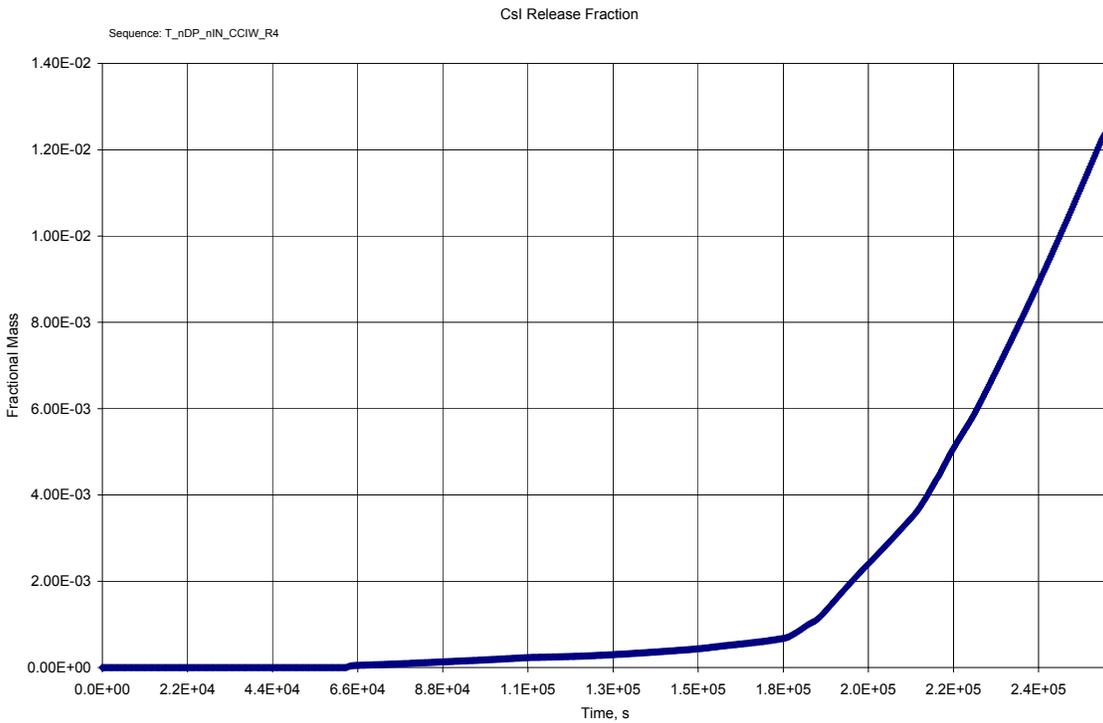


Figure 9A-8l. T_nDP_nIN_CCIW_R4 CsI Release Fraction

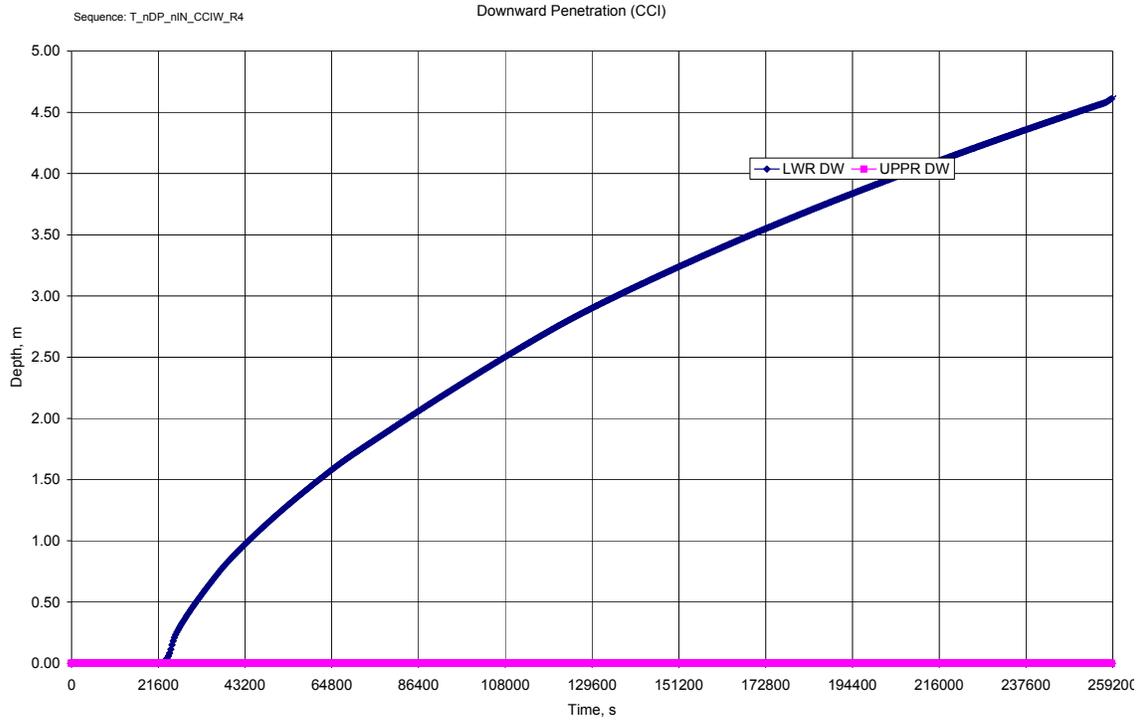


Figure 9A-8m. T_nDP_nIN_CCIW_R4 Downward Penetration (CCI)

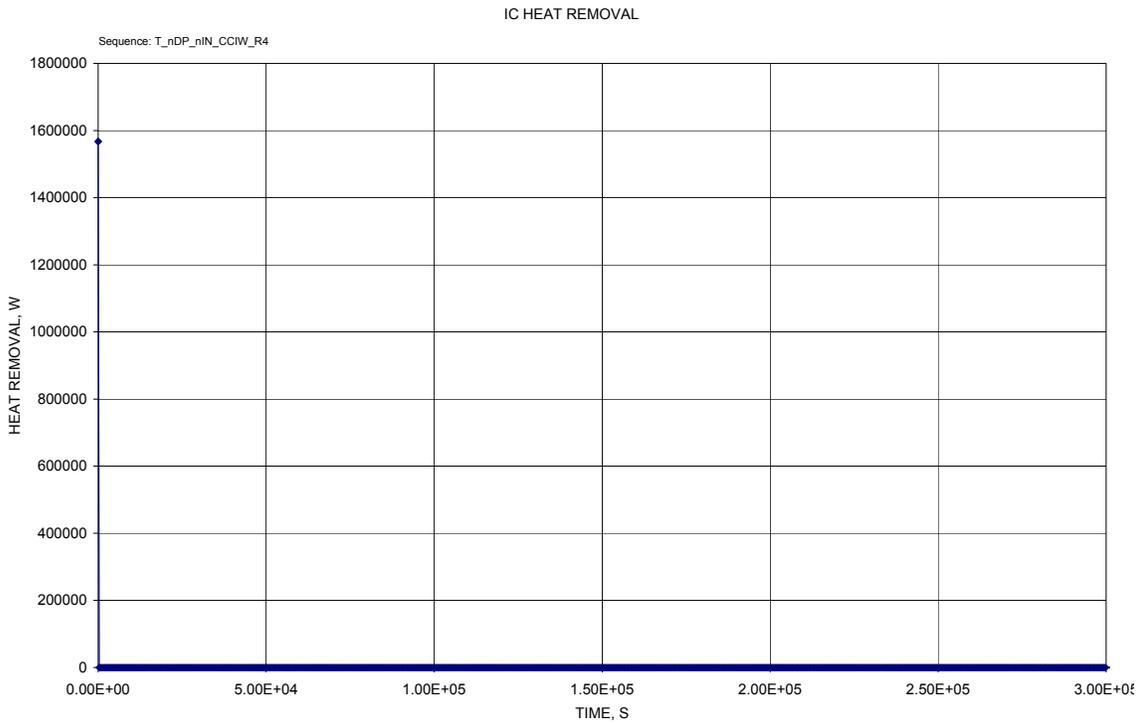


Figure 9A-8n. T_nDP_nIN_CCIW_R4 ICS Heat Removal

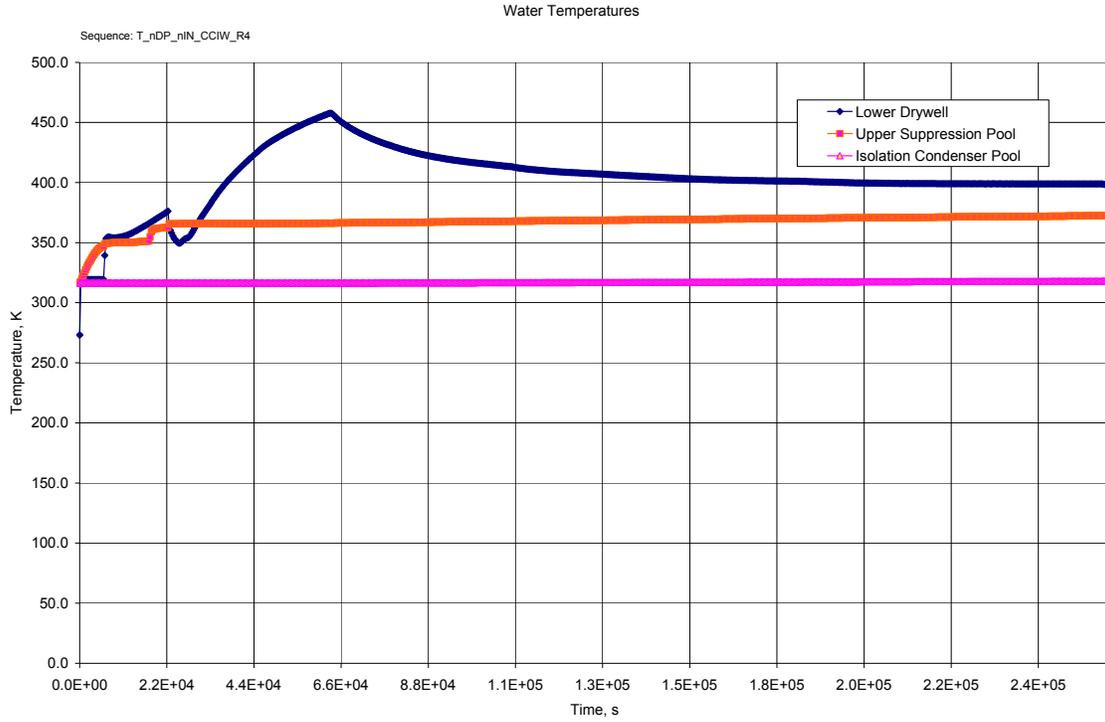


Figure 9A-8o. T_nDP_nIN_CCIW_R4 Water Temperatures

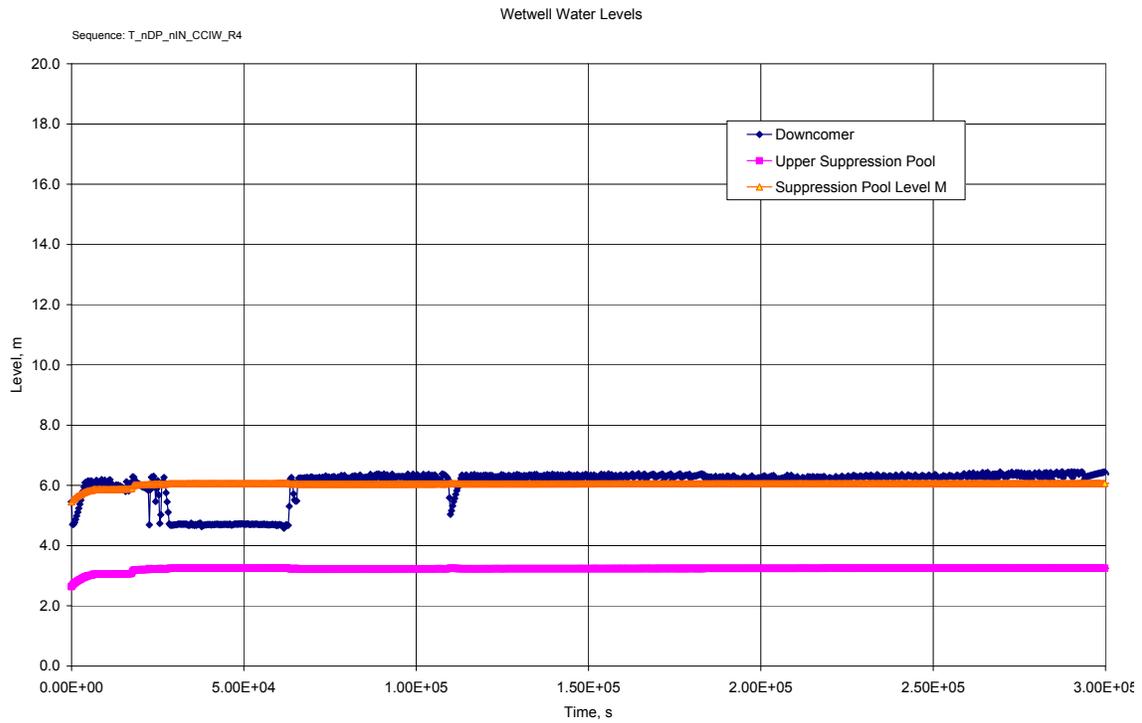


Figure 9A-8p. T_nDP_nIN_CCIW_R4 Wetwell Water Levels

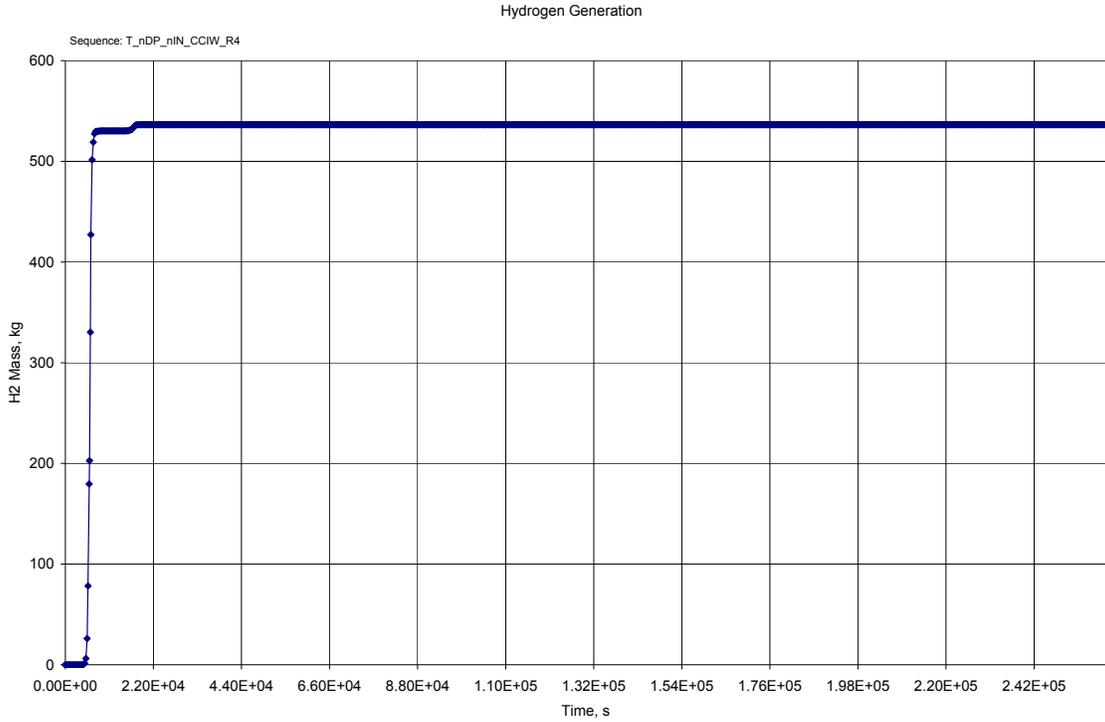


Figure 9A-8q. T_nDP_nIN_CCIW_R4 Hydrogen Generation

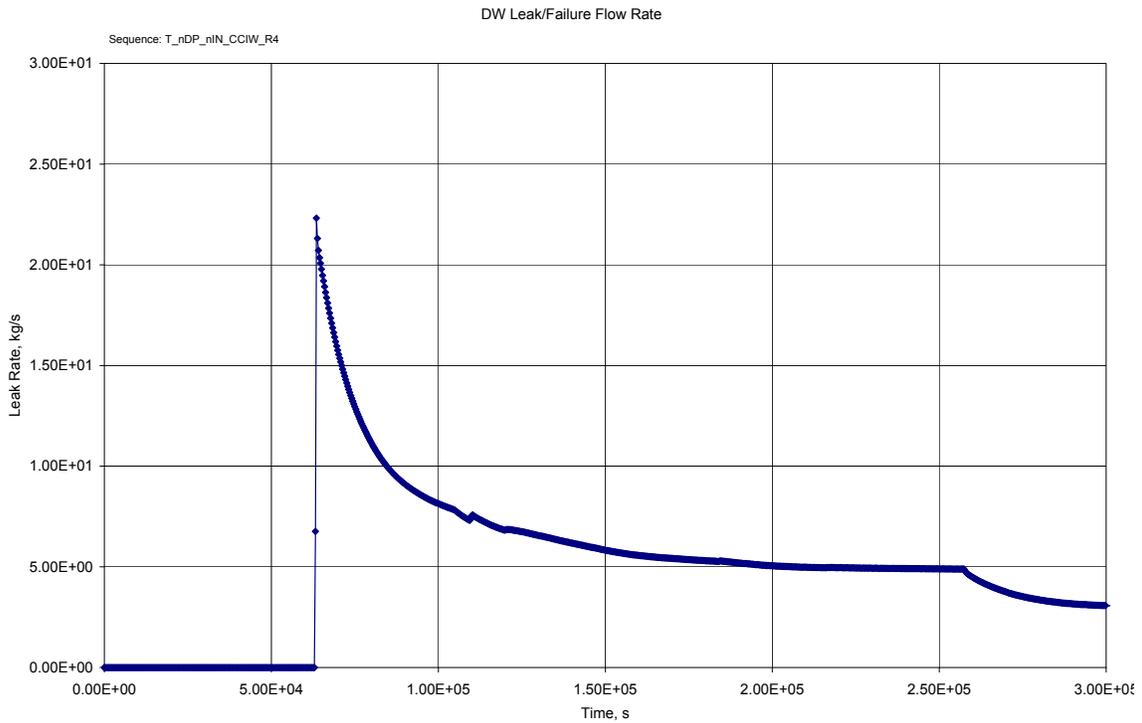


Figure 9A-8r. T_nDP_nIN_CCIW_R4 DW Leak/Failure Flow Rate

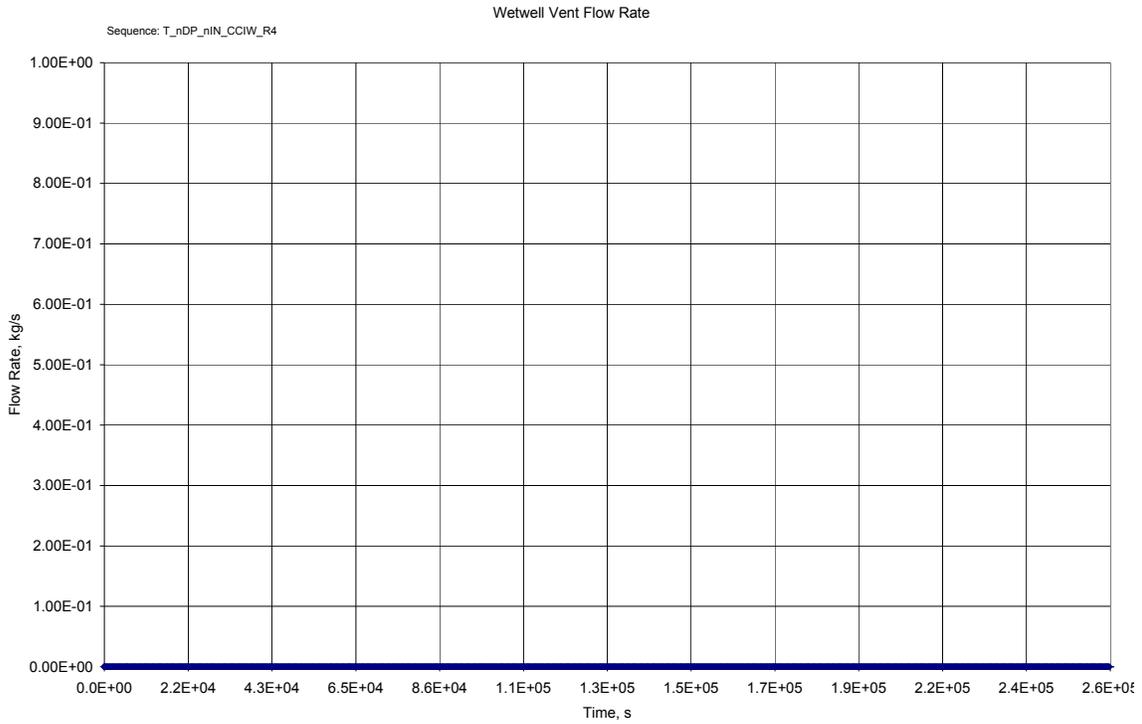


Figure 9A-8s. T_nDP_nIN_CCIW_R4 Wetwell Vent Flow Rate

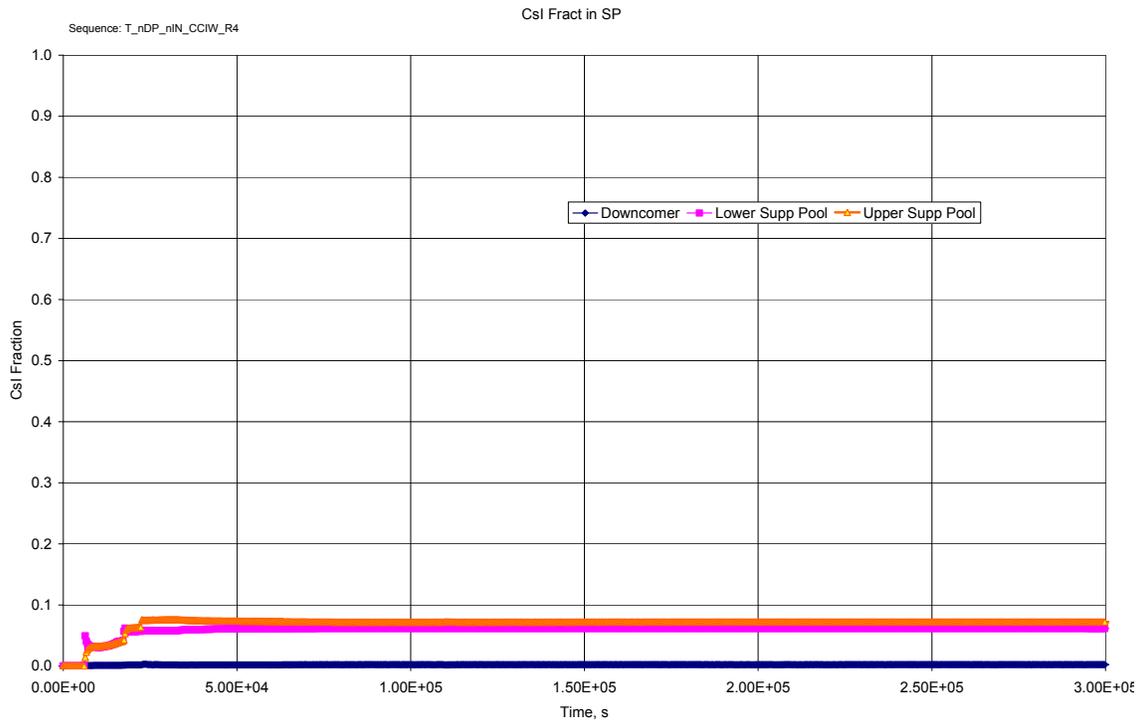


Figure 9A-8t. T_nDP_nIN_CCIW_R4 Csl Fraction in SP

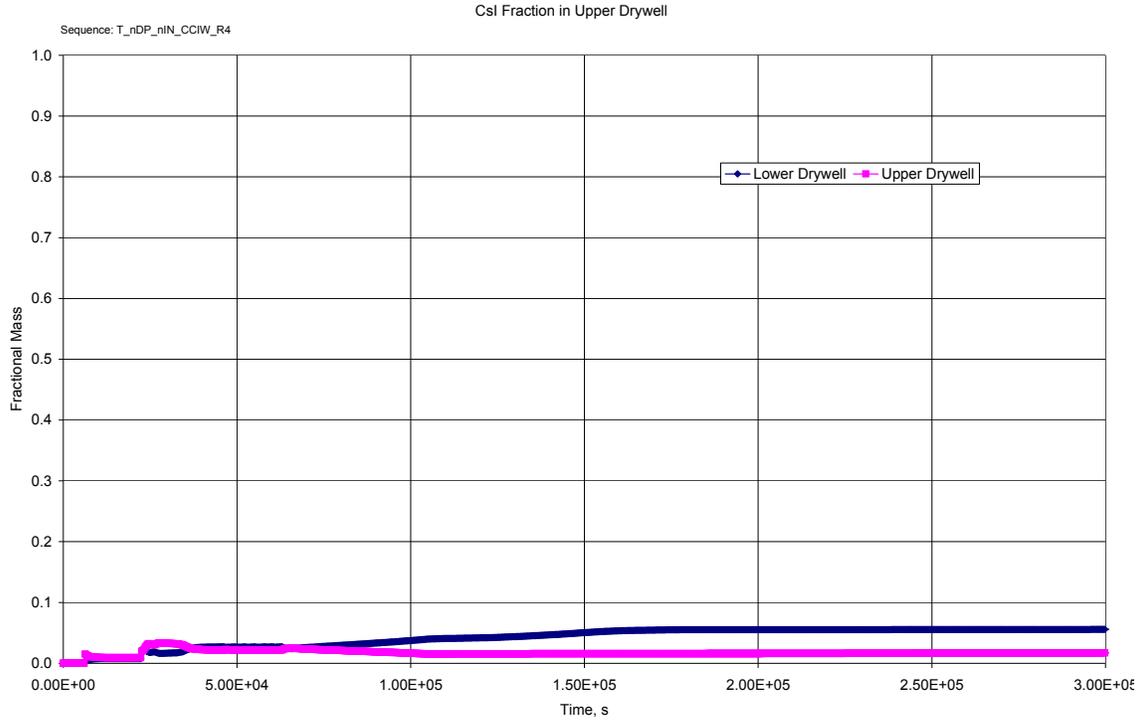


Figure 9A-8u. T_nDP_nIN_CCIW_R4 CsI Fraction in Upper Drywell

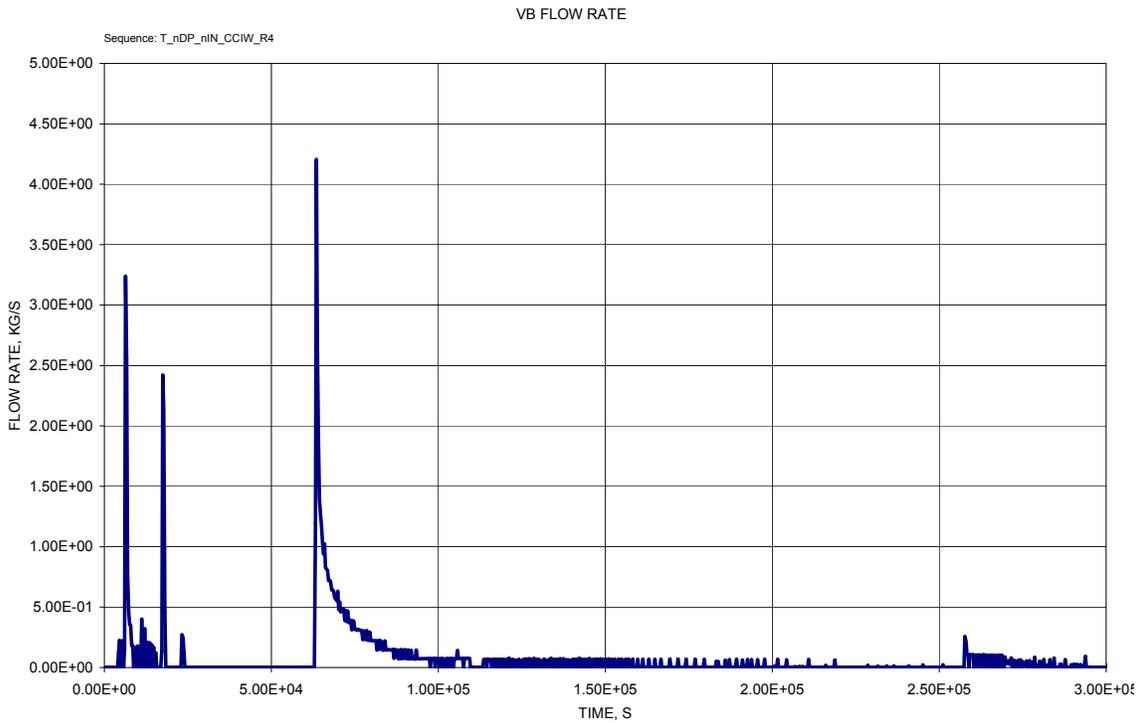


Figure 9A-8v. T_nDP_nIN_CCIW_R4 VB Flowrate

9A.9 Direct Containment Heating T_nDP_nIN_nD_DCH_R1

- Figure 9A-9a. T_nDP_nIN_nD_DCH_R1 RPV Pressure **(DELETED)**
- Figure 9A-9b. T_nDP_nIN_nD_DCH_R1 RPV Water Levels**(DELETED)**
- Figure 9A-9c. T_nDP_nIN_nD_DCH_R1 Core Temperature **(DELETED)**
- Figure 9A-9d. T_nDP_nIN_nD_DCH_R1 Drywell Water Levels **(DELETED)**
- Figure 9A-9e. T_nDP_nIN_nD_DCH_R1 Core Power and PCCS Heat Removal **(DELETED)**
- Figure 9A-9f. T_nDP_nIN_nD_DCH_R1 SRV Gas Flow vs. Time **(DELETED)**
- Figure 9A-9g. T_nDP_nIN_nD_DCH_R1 DPV Gas Flow Rate **(DELETED)**
- Figure 9A-9h. T_nDP_nIN_nD_DCH_R1 Drywell Pressure **(DELETED)**
- Figure 9A-9i. T_nDP_nIN_nD_DCH_R1 Lower Drywell Temperature **(DELETED)**
- Figure 9A-9j. T_nDP_nIN_nD_DCH_R1 DW Gas Temperature **(DELETED)**
- Figure 9A-9k. T_nDP_nIN_nD_DCH_R1 Noble Gas Release Fraction **(DELETED)**
- Figure 9A-9l. T_nDP_nIN_nD_DCH_R1 Csl Release Fraction **(DELETED)**
- Figure 9A-9m. T_nDP_nIN_nD_DCH_R1 Downward Penetration (CCI) **(DELETED)**
- Figure 9A-9n. T_nDP_nIN_nD_DCH_R1 ICS Heat Removal **(DELETED)**
- Figure 9A-9o. T_nDP_nIN_nD_DCH_R1 Water Temperatures **(DELETED)**
- Figure 9A-9p. T_nDP_nIN_nD_DCH_R1 Wetwell Water Levels **(DELETED)**
- Figure 9A-9q. T_nDP_nIN_nD_DCH_R1 Hydrogen Generation **(DELETED)**
- Figure 9A-9r. T_nDP_nIN_nD_DCH_R1 DW Leak/Failure Flow Rate **(DELETED)**
- Figure 9A-9s. T_nDP_nIN_nD_DCH_R1 Wetwell Vent Flow Rate **(DELETED)**
- Figure 9A-9t. T_nDP_nIN_nD_DCH_R1 CsL Fraction in SP **(DELETED)**
- Figure 9A-9u. T_nDP_nIN_nD_DCH_R1 Csl Fraction in Upper Drywell **(DELETED)**
- Figure 9A-9v. T_nDP_nIN_nD_DCH_R1 VB Flow Rate **(DELETED)**

9A.10 Ex-Vessel Explosion T_nIN_nD_EVE_R1

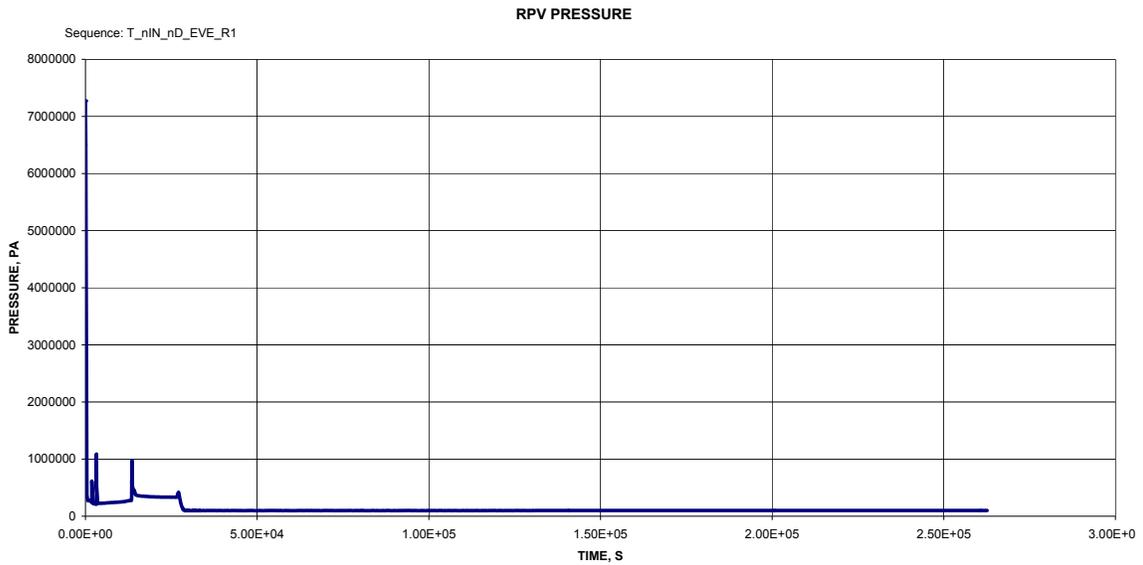


Figure 9A-10a. T_nIN_nD_EVE_R1RPV Pressure

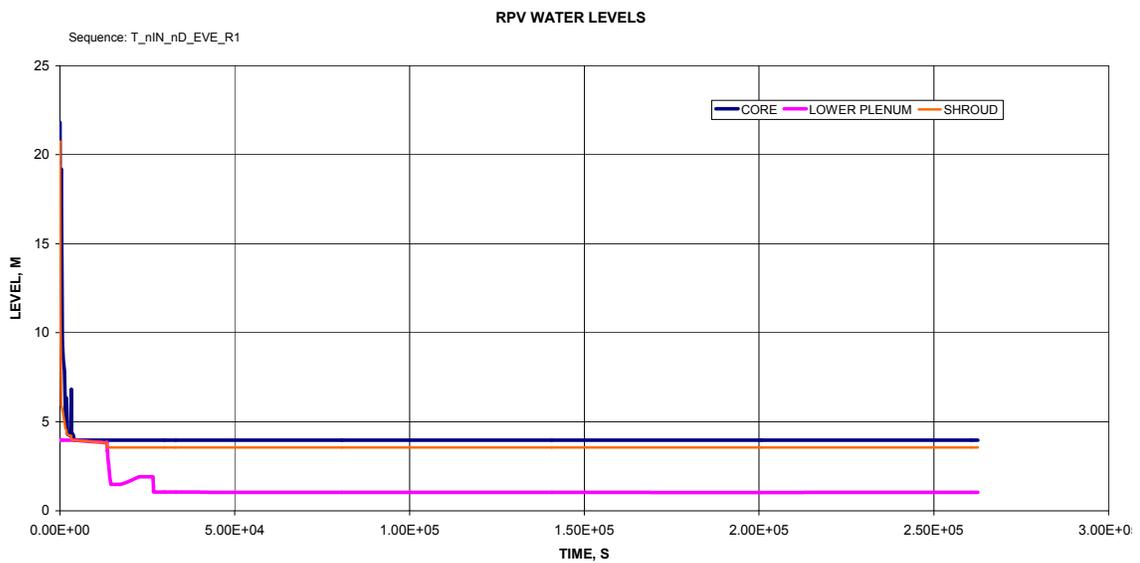


Figure 9A-10b. T_nIN_nD_EVE_R1 RPV Water Levels

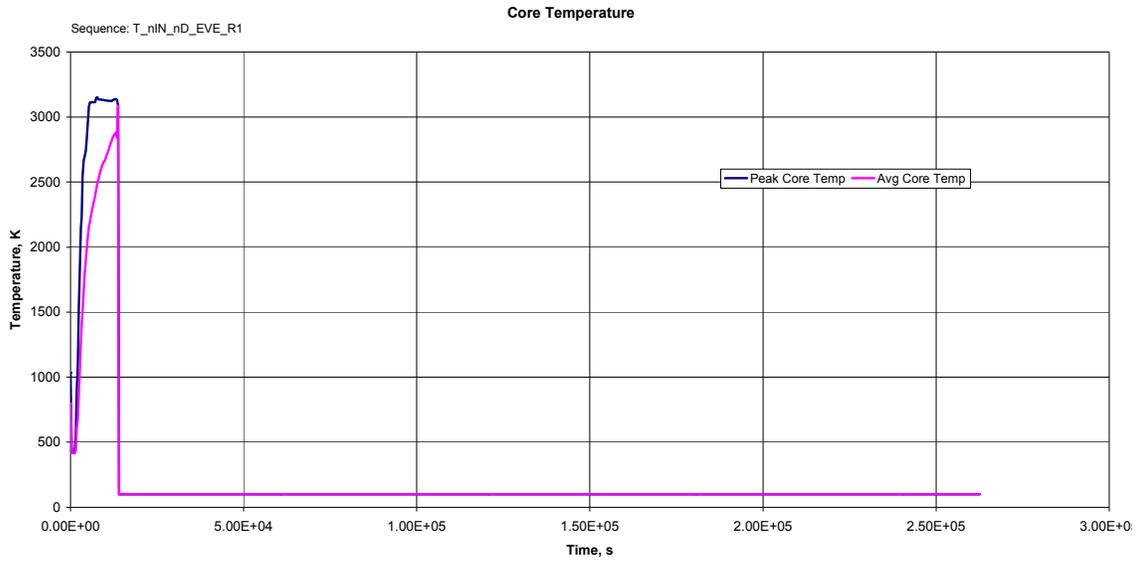


Figure 9A-10c. T_nIN_nD_EVE_R1 RPV Core Temperature

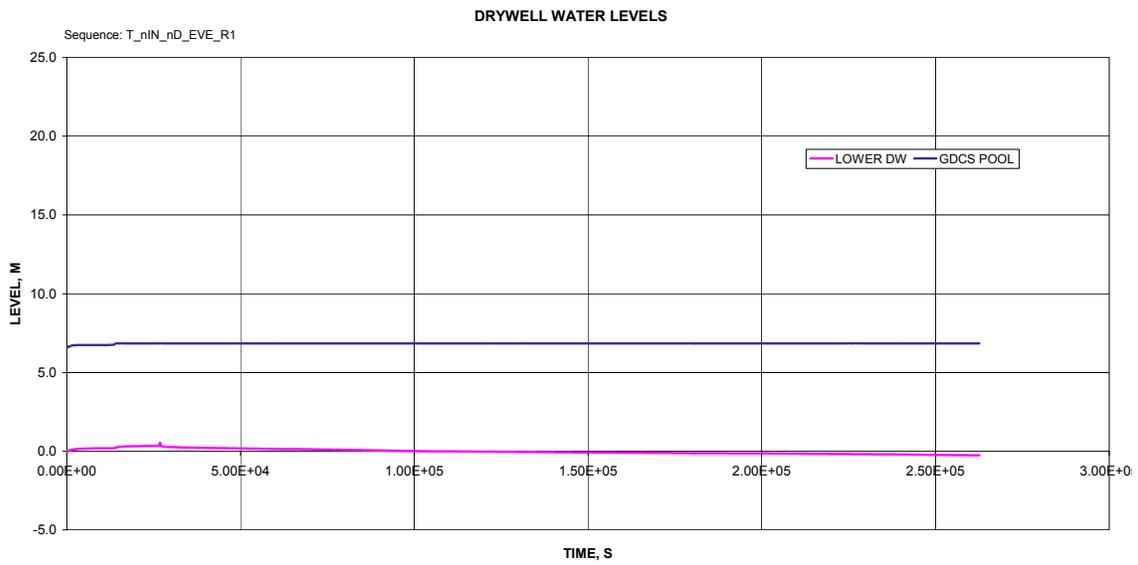


Figure 9A-10d. T_nIN_nD_EVE_R1 RPV Drywell Water Levels

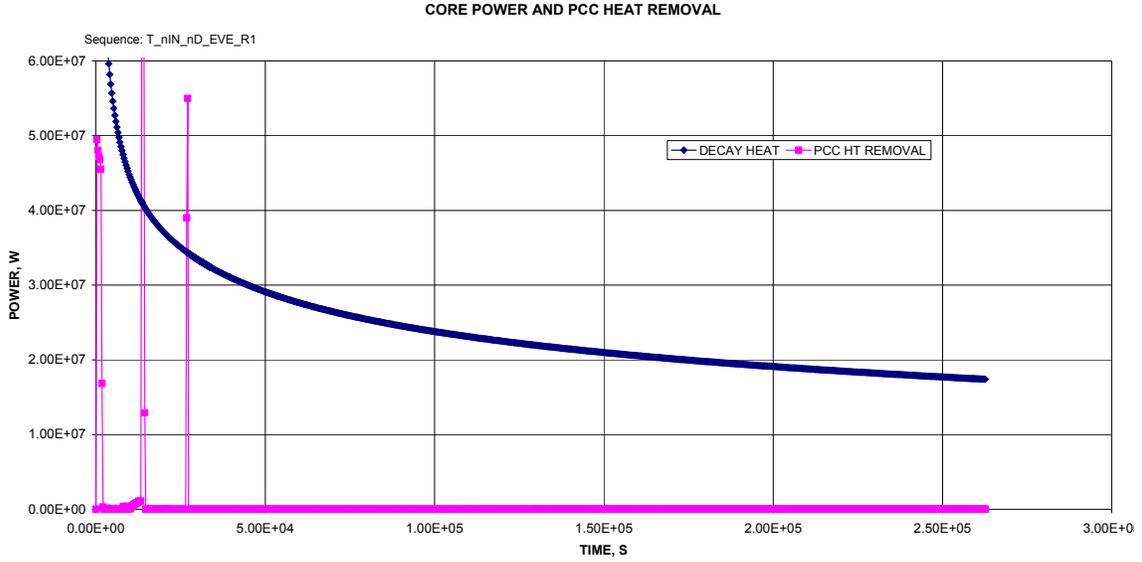


Figure 9A-10e. T_nIN_nD_EVE_R1 RPV Core Power and PCCS Heat Removal

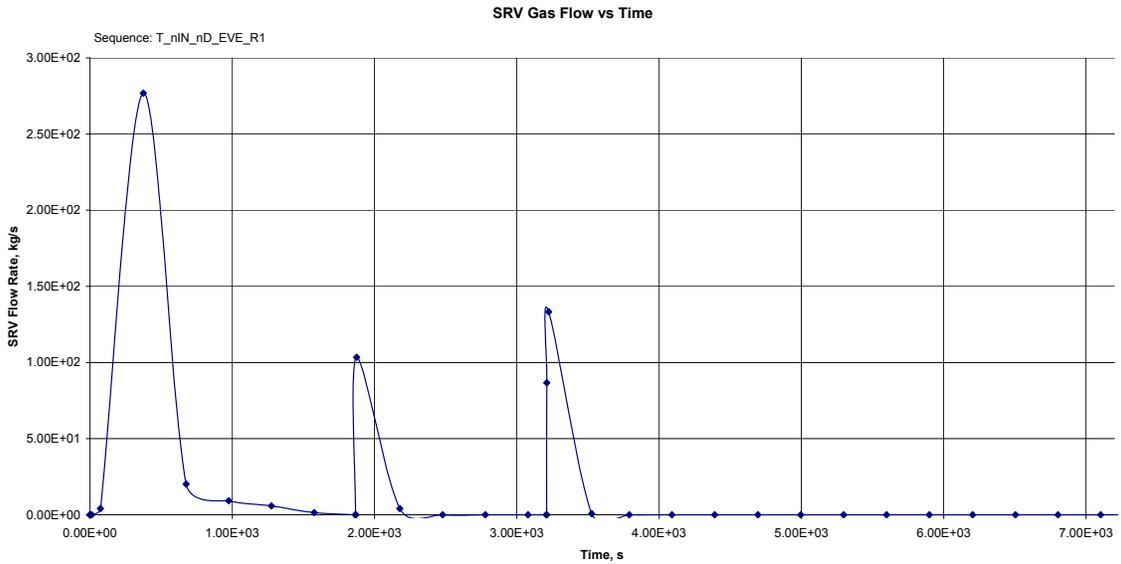


Figure 9A-10f. T_nIN_nD_EVE_R1 RPV SRV Gas Flow vs. Time

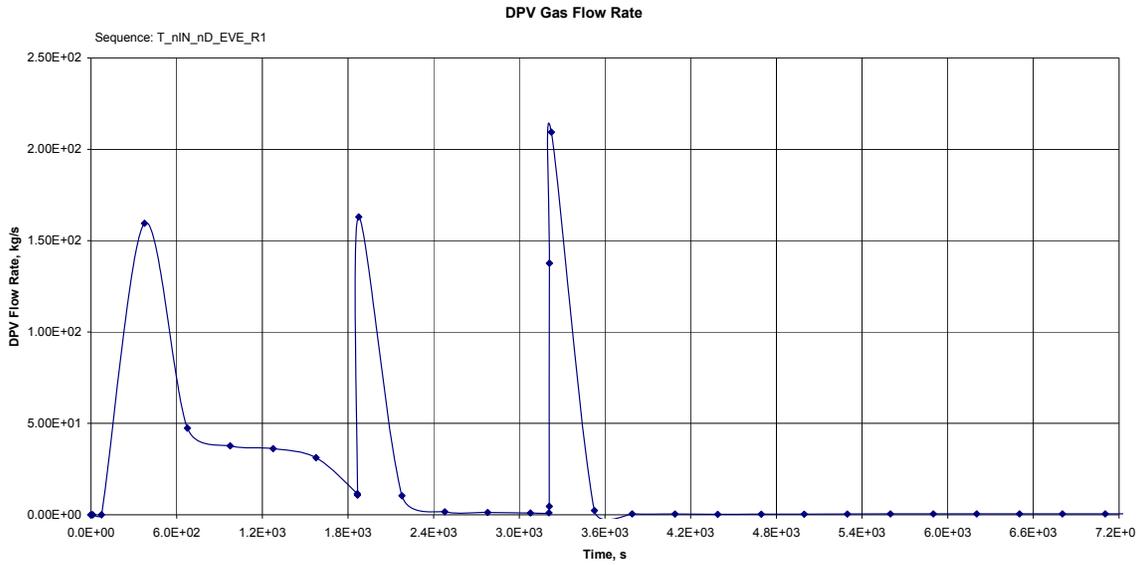


Figure 9A-10g. T_nIN_nD_EVE_R1 RPV DPV Gas Flow Rate

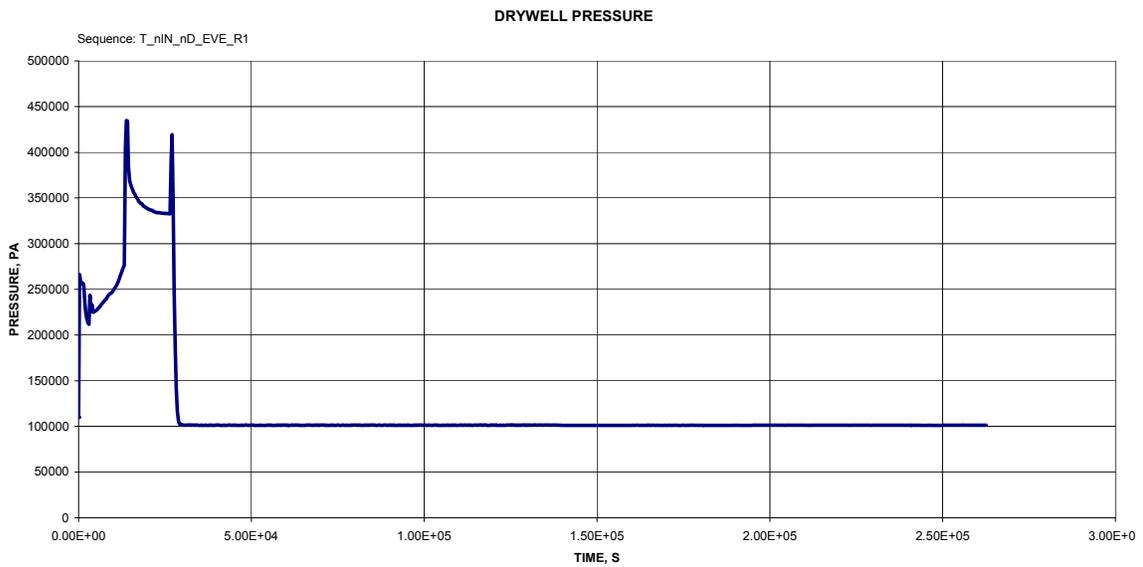


Figure 9A-10h. T_nIN_nD_EVE_R1 RPV Drywell Pressure

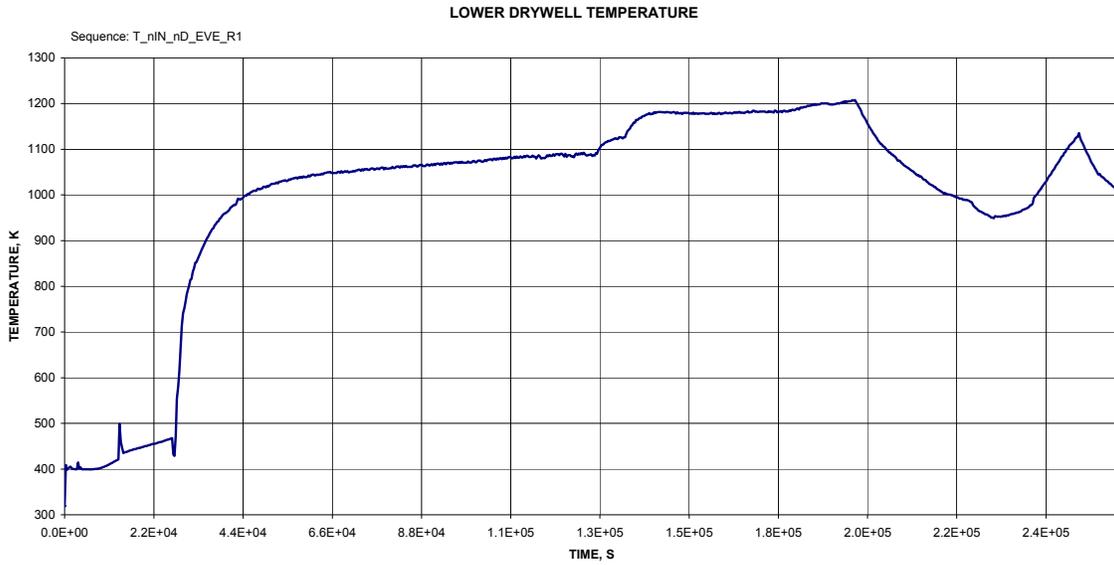


Figure 9A-10i. T_nIN_nD_EVE_R1 RPV Lower Drywell Temperature

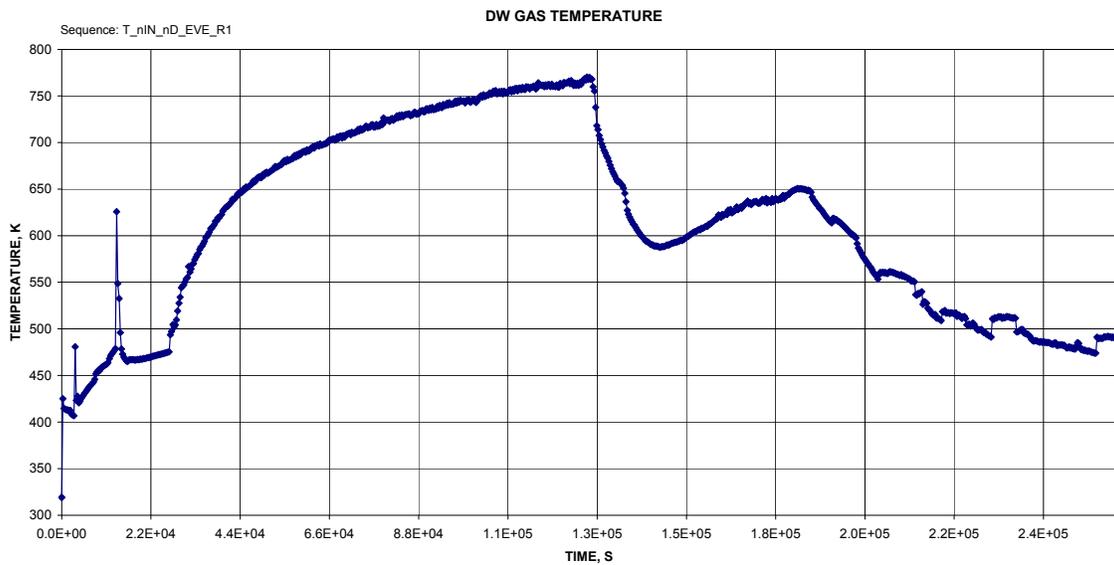


Figure 9A-10j. T_nIN_nD_EVE_R1 RPV DW Gas Temperature

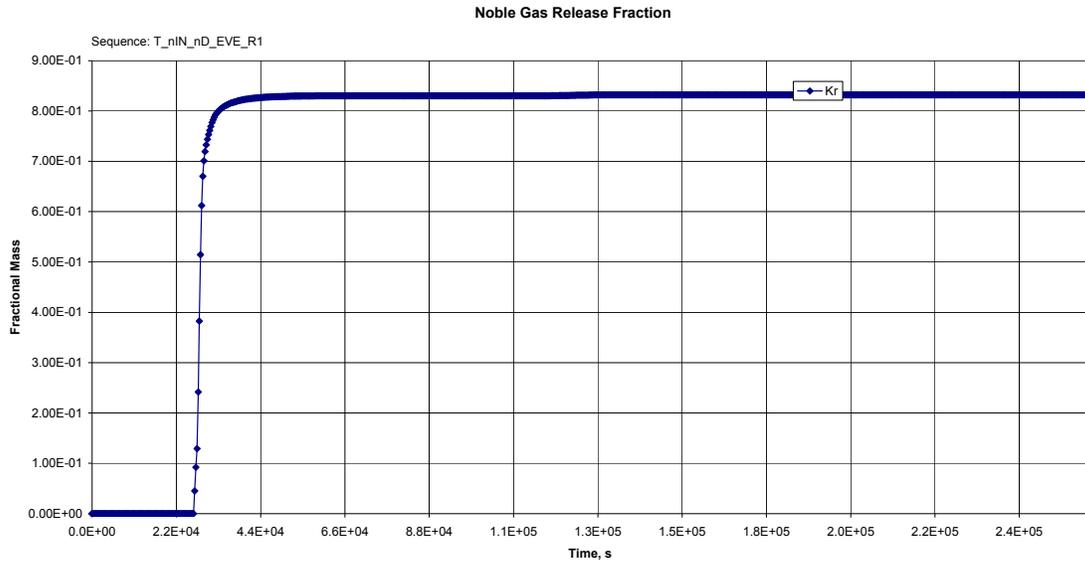


Figure 9A-10k. T_nIN_nD_EVE_R1 RPV Noble Gas Release Fraction

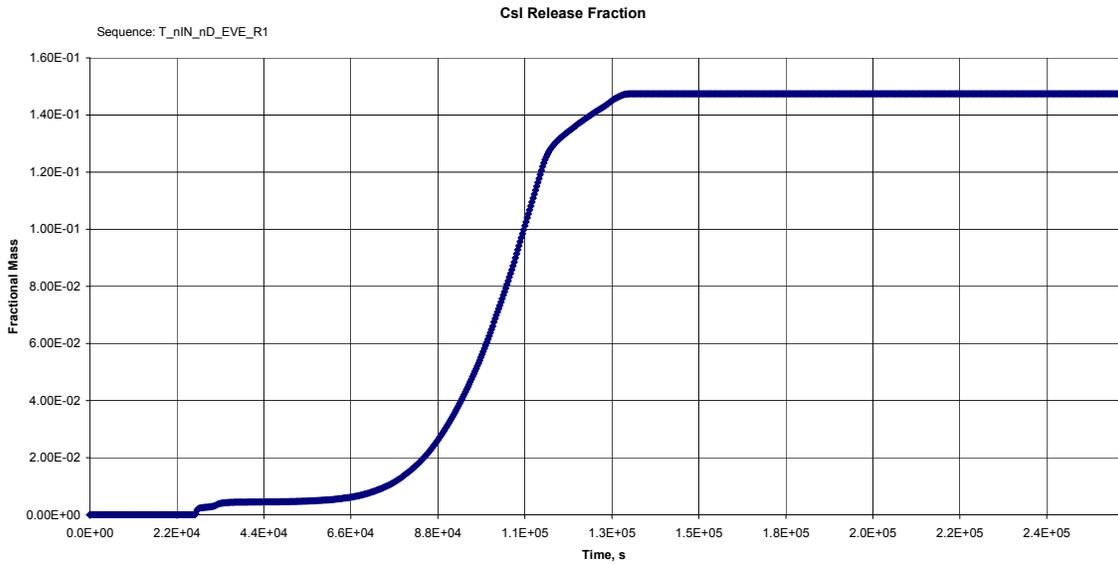


Figure 9A-10l. T_nIN_nD_EVE_R1 RPV Csl Release Fraction

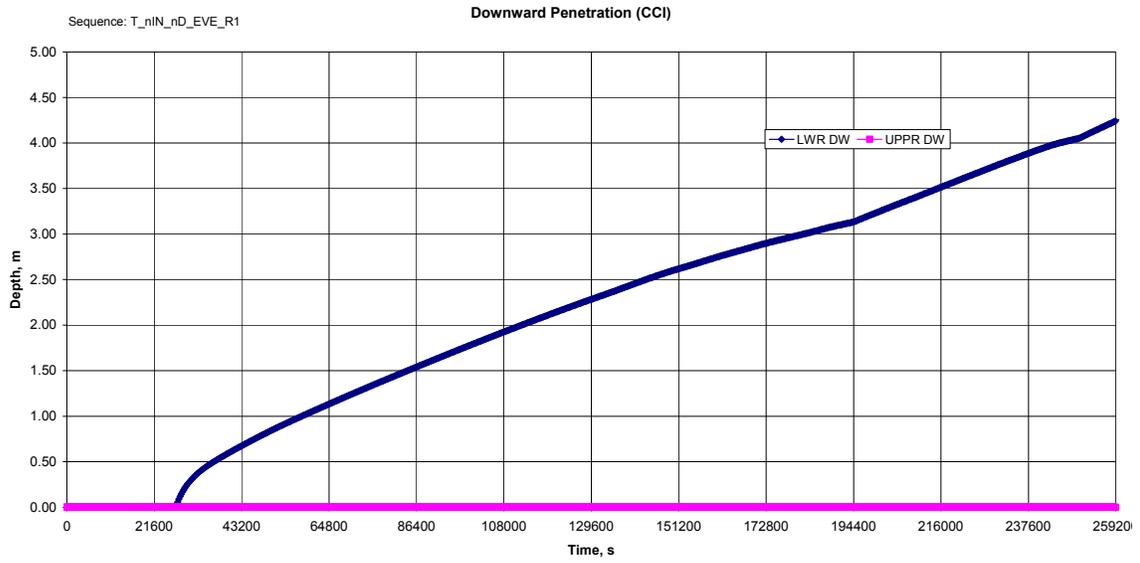


Figure 9A-10m. T_nIN_nD_EVE_R1 RPV Downward Penetration (CCI)

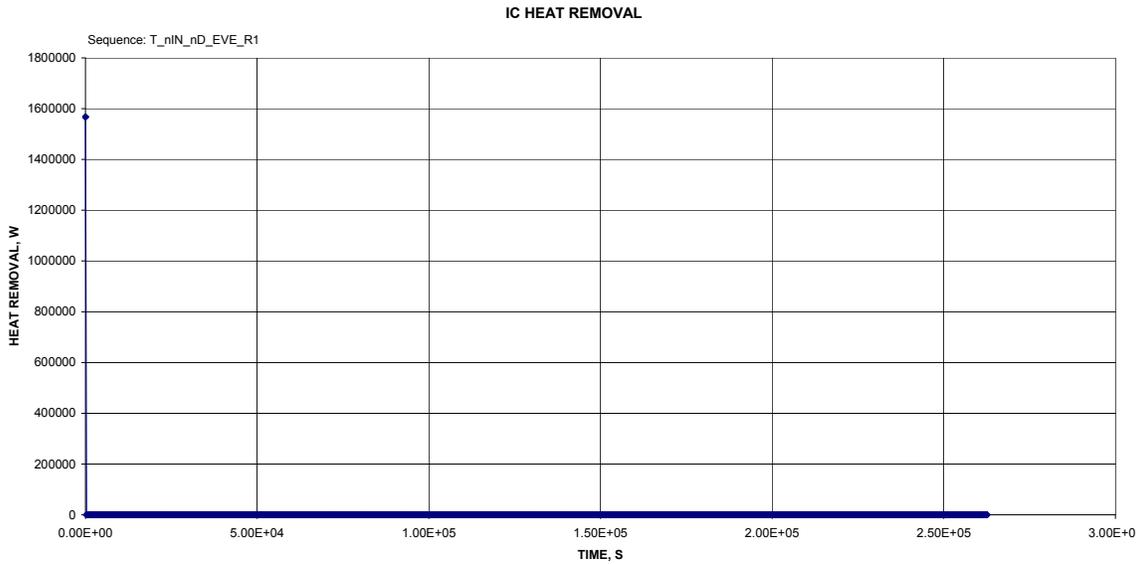


Figure 9A-10n. T_nIN_nD_EVE_R1 RPV ICS Heat Removal

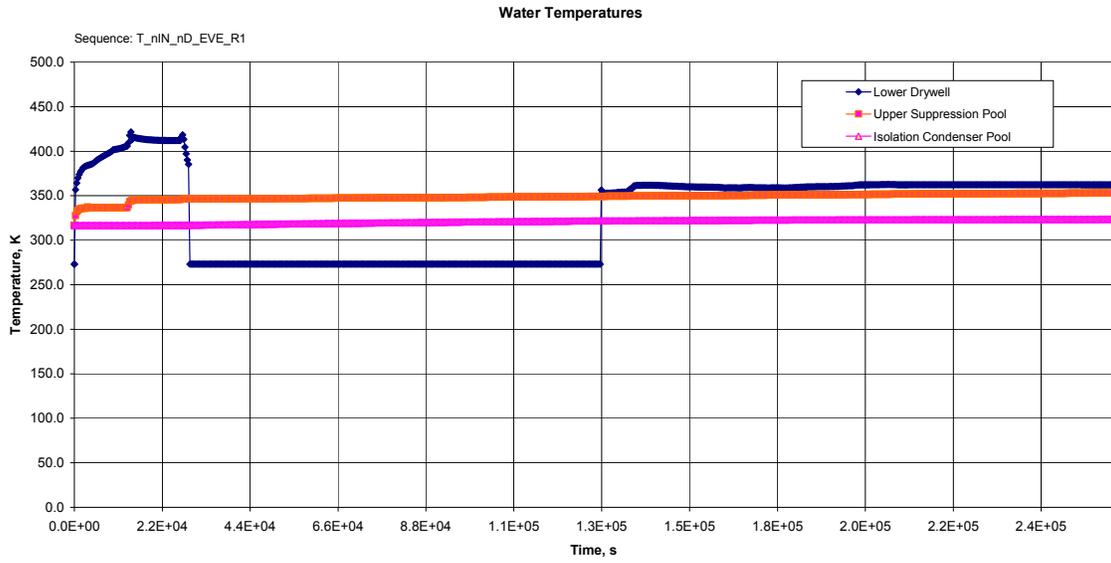


Figure 9A-10o. T_nIN_nD_EVE_R1 RPV Water Temperatures

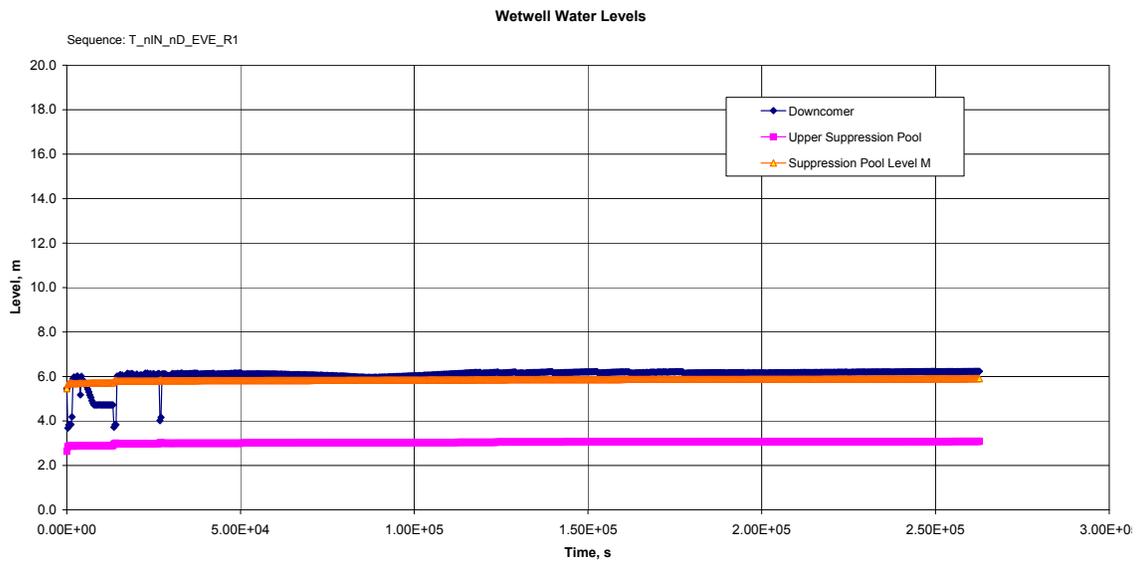


Figure 9A-10p. T_nIN_nD_EVE_R1 RPV Wetwell Water Levels

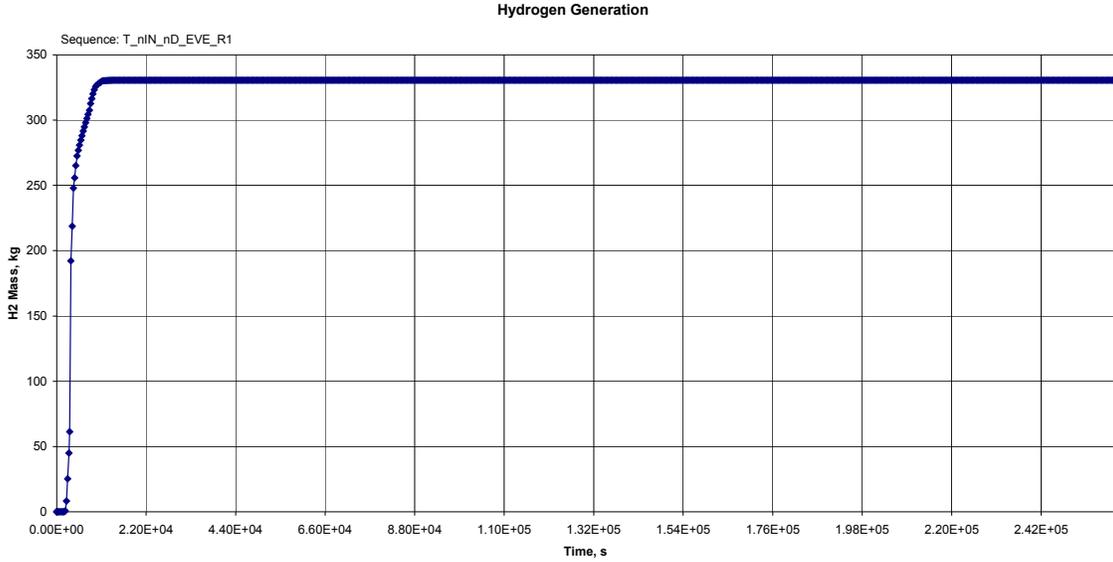


Figure 9A-10q. T_nIN_nD_EVE_R1 RPV Hydrogen Generation

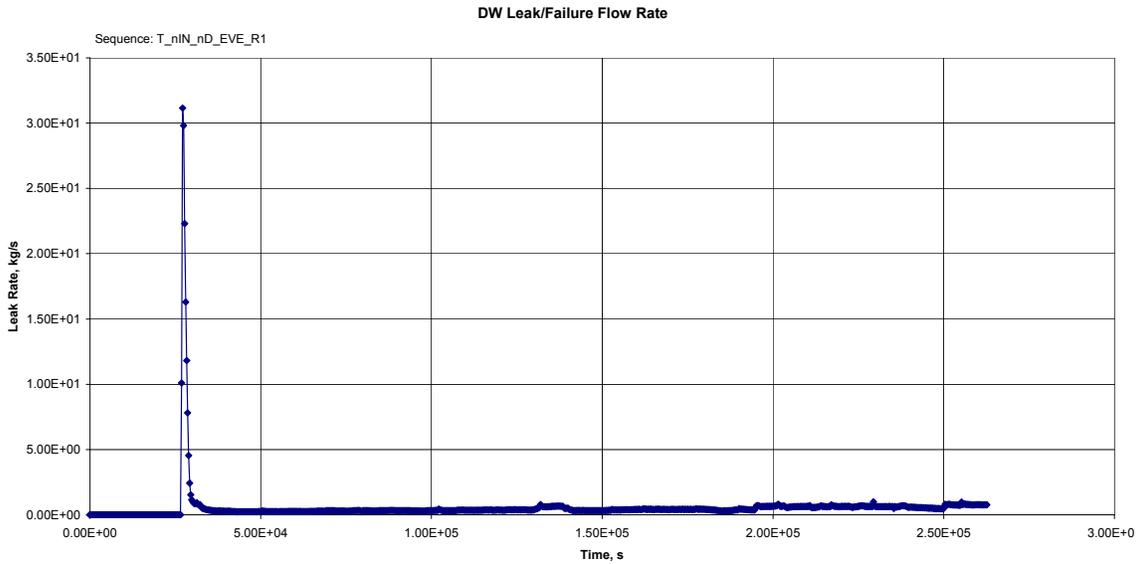


Figure 9A-10r. T_nIN_nD_EVE_R1 RPV DW Leak/Failure Flow Rate

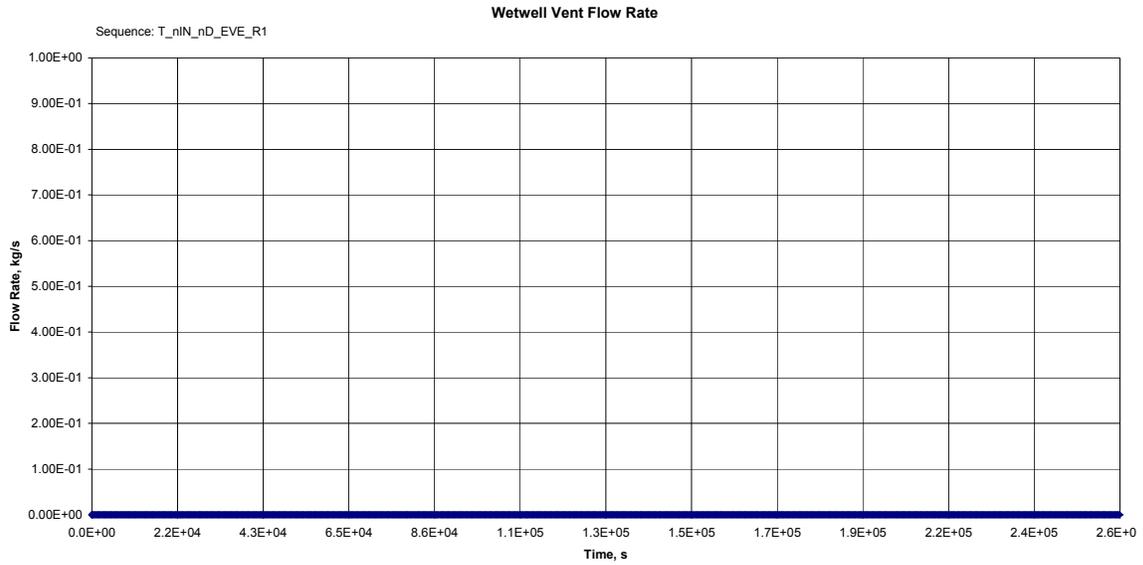


Figure 9A-10s. T_nIN_nD_EVE_R1 RPV Wetwell Vent Flow Rate

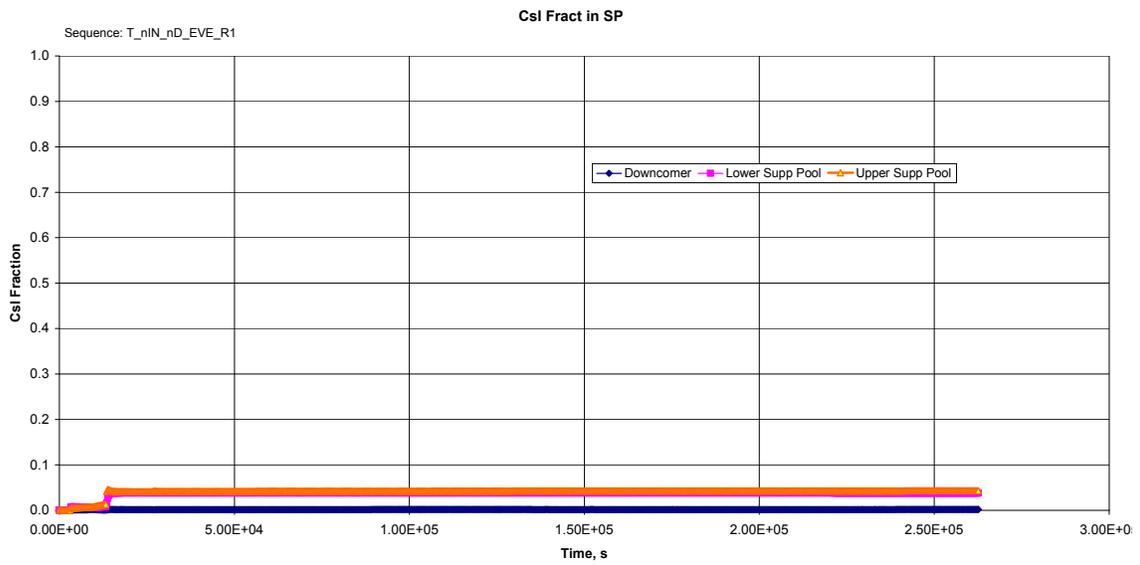


Figure 9A-10t. T_nIN_nD_EVE_R1 RPV Csl Fraction in SP

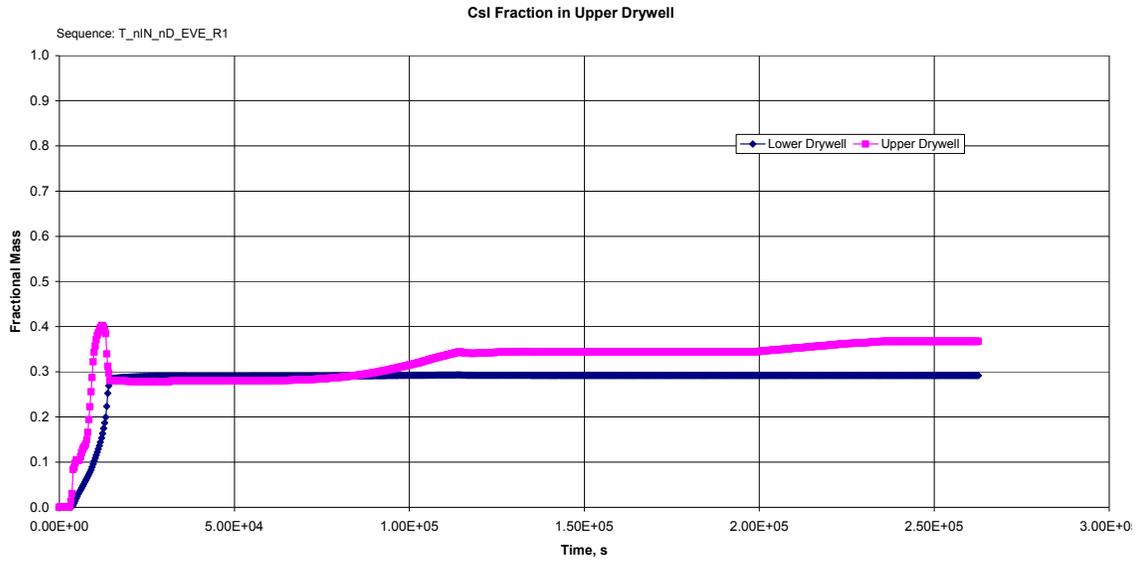


Figure 9A-10u. T_nIN_nD_EVE_R1 RPV Csl Fraction in Upper Drywell

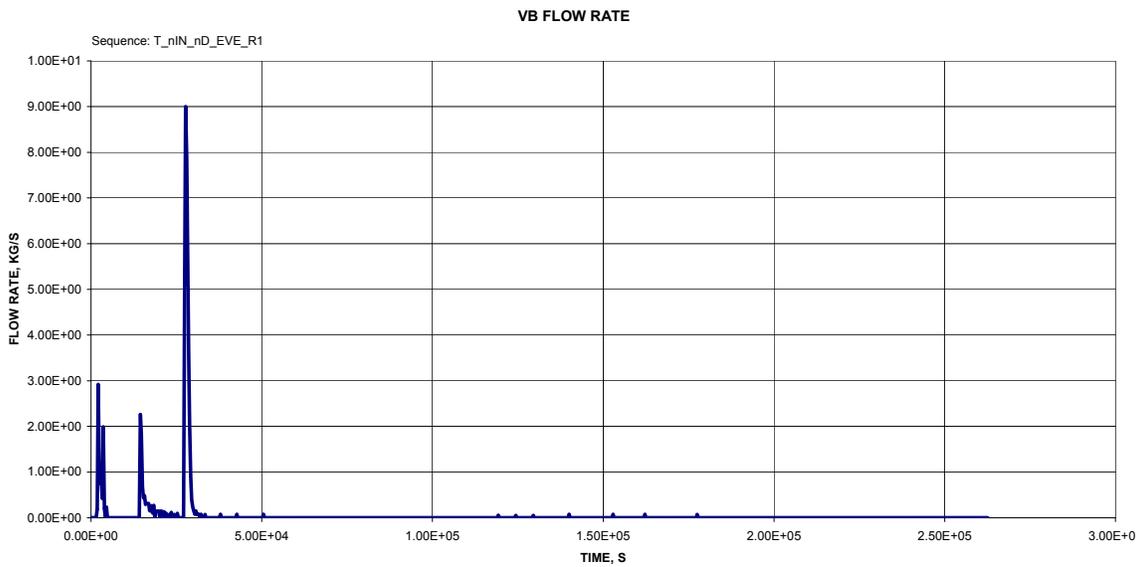


Figure 9A-10v. T_nIN_nD_EVE_R1 RPV VB Flow Rate

9A.11 Filtered Release T- AT_nIN_nCHR_FR_R4

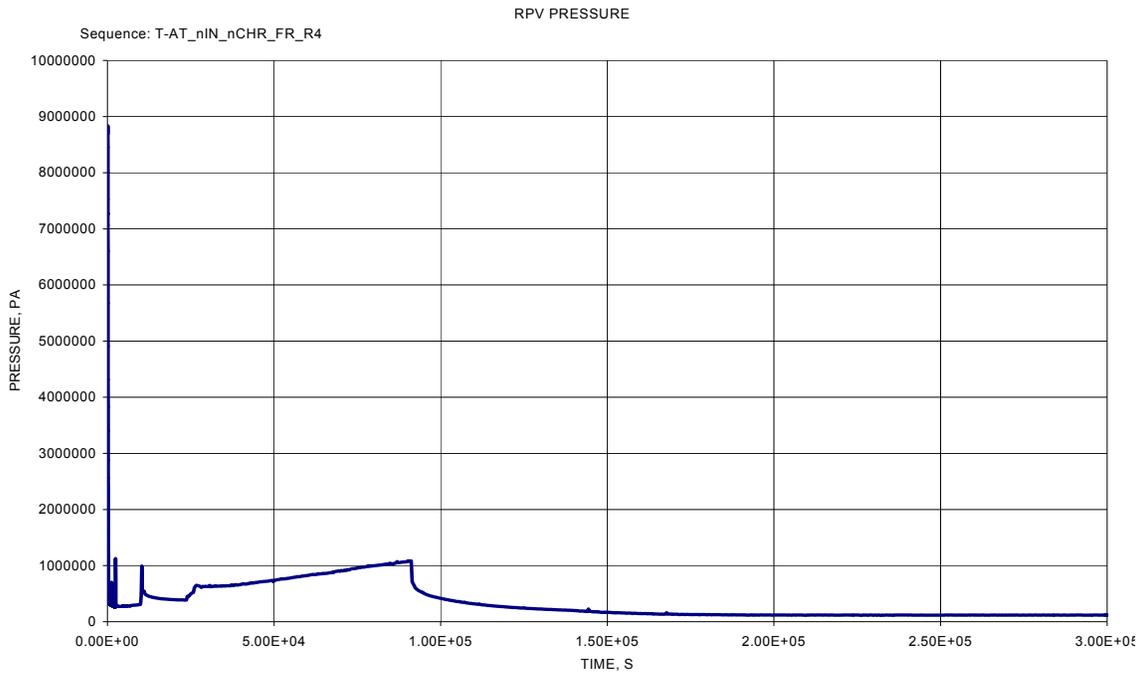


Figure 9A-11a. T-AT_nIN_nCHR_FR_R4 RPV Pressure

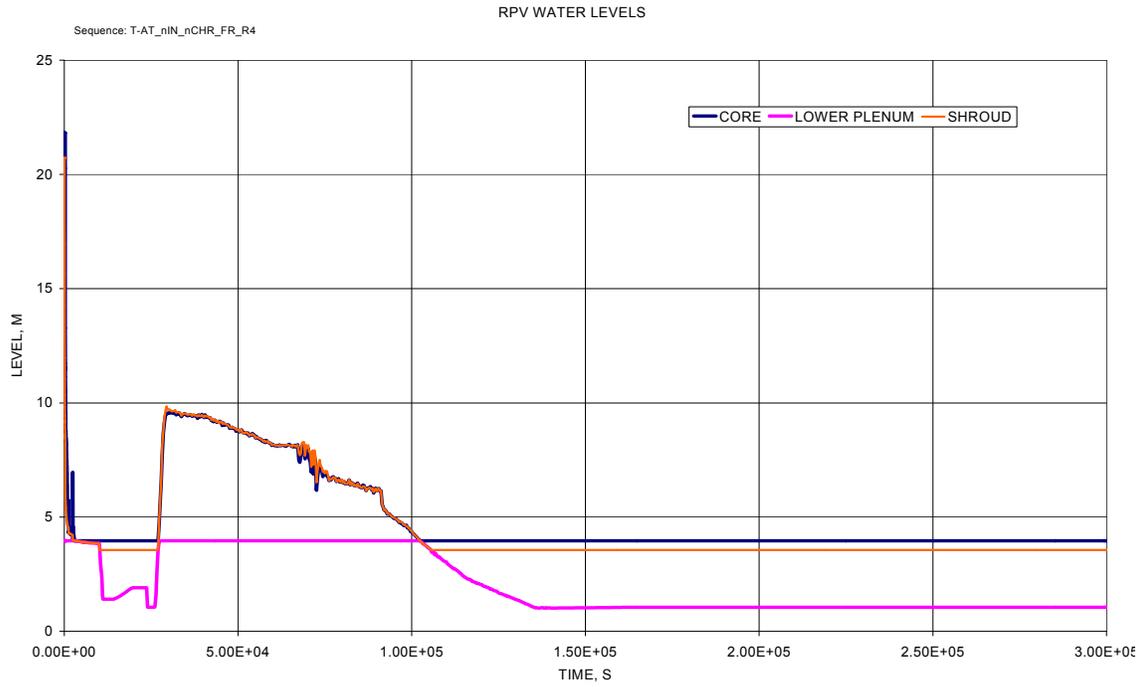


Figure 9A-11b. T-AT_nIN_nCHR_FR_R4 RPV Water Levels

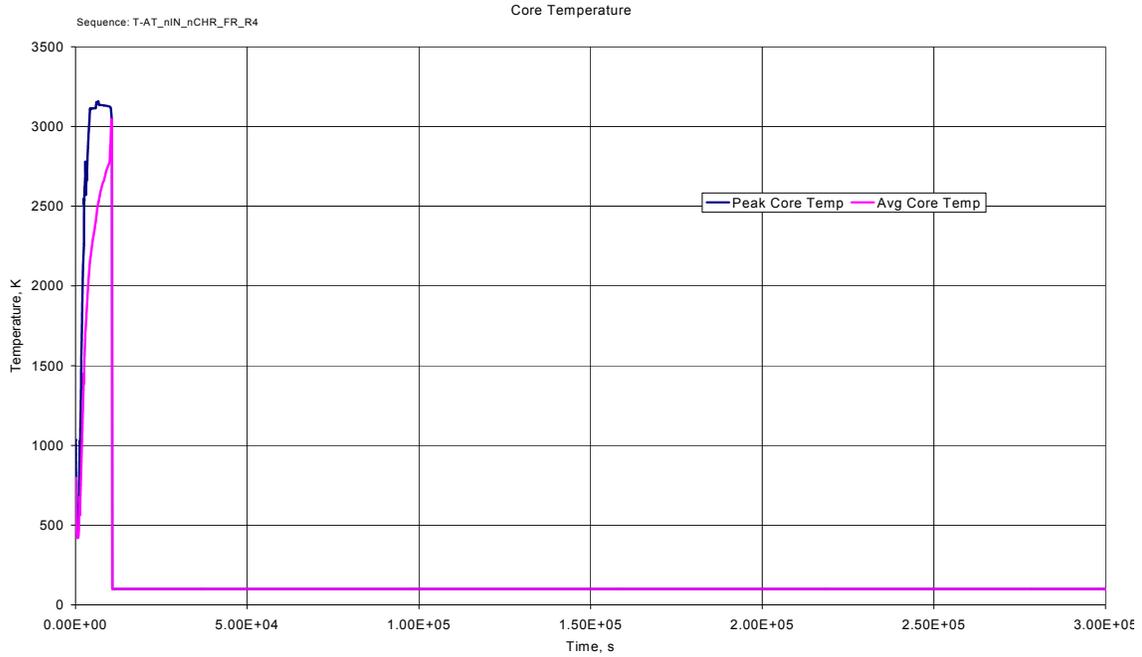


Figure 9A-11c. T-AT_nIN_nCHR_FR_R4 Core Temperature

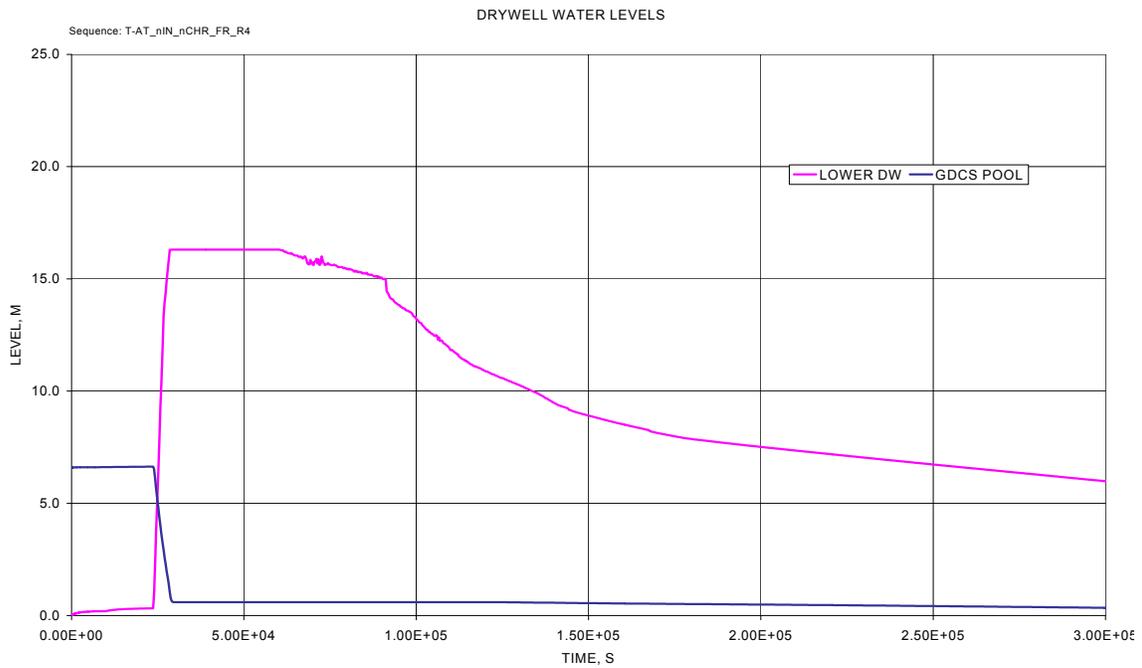


Figure 9A-11d. T-AT_nIN_nCHR_FR_R4 Drywell Water Levels

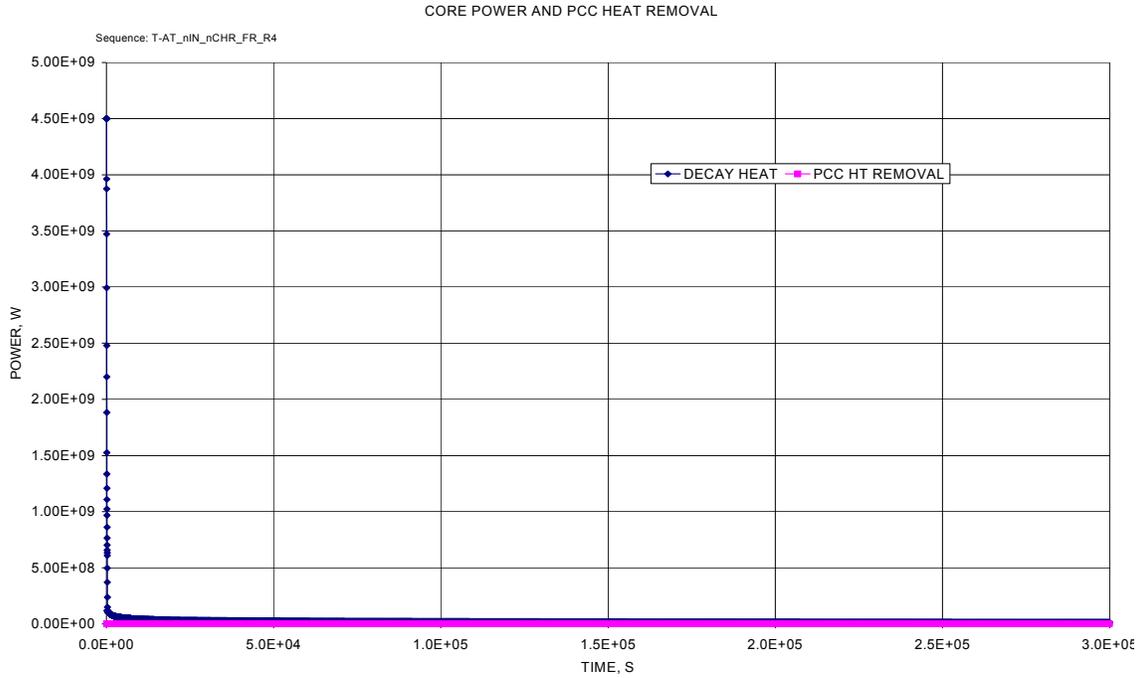


Figure 9A-11e. T-AT_nIN_nCHR_FR_R4 Core Power and PCCS Heat Removal

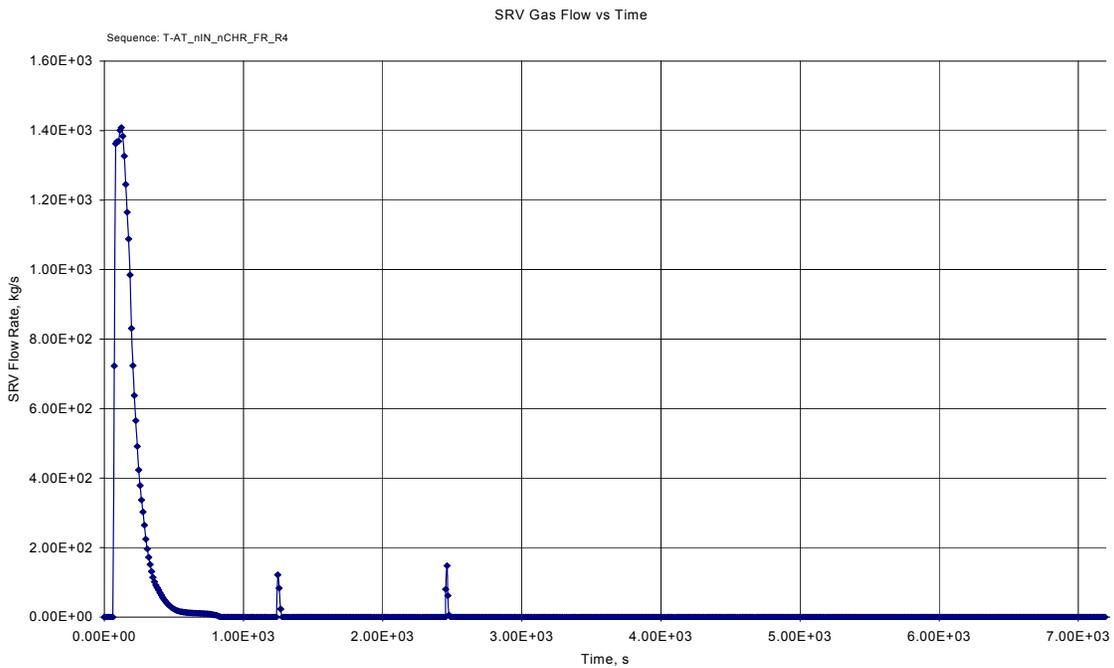


Figure 9A-11f. T-AT_nIN_nCHR_FR_R4 SRV Gas Flow vs. Time

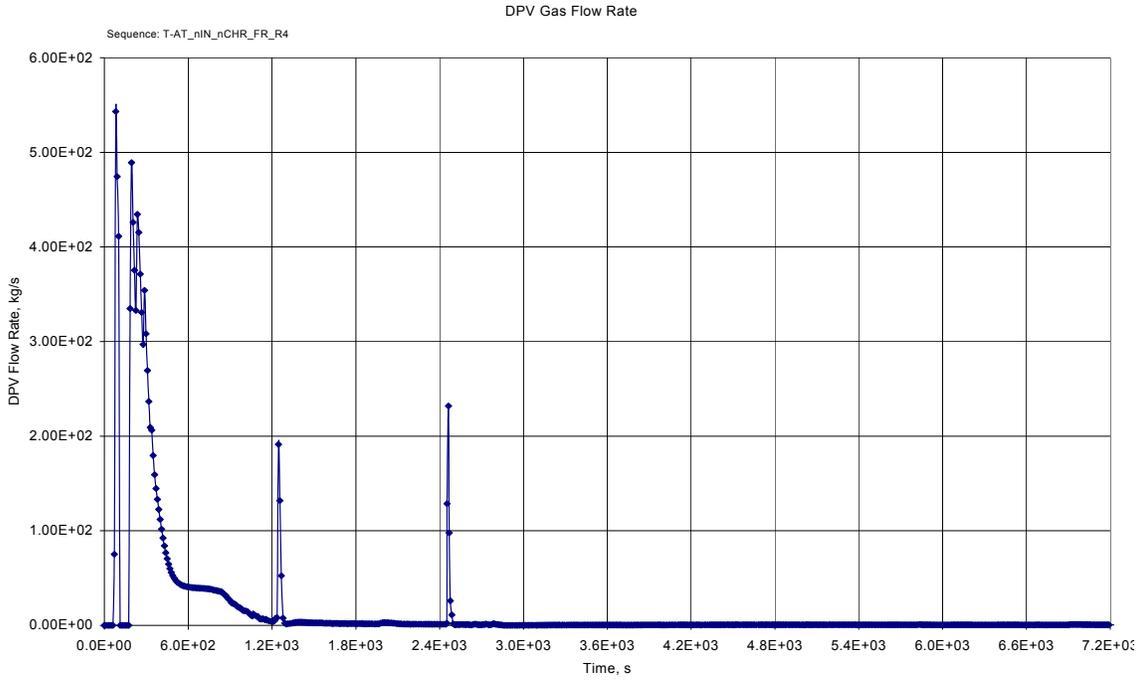


Figure 9A-11g. T-AT_nIN_nCHR_FR_R4 DPV Gas Flow Rate

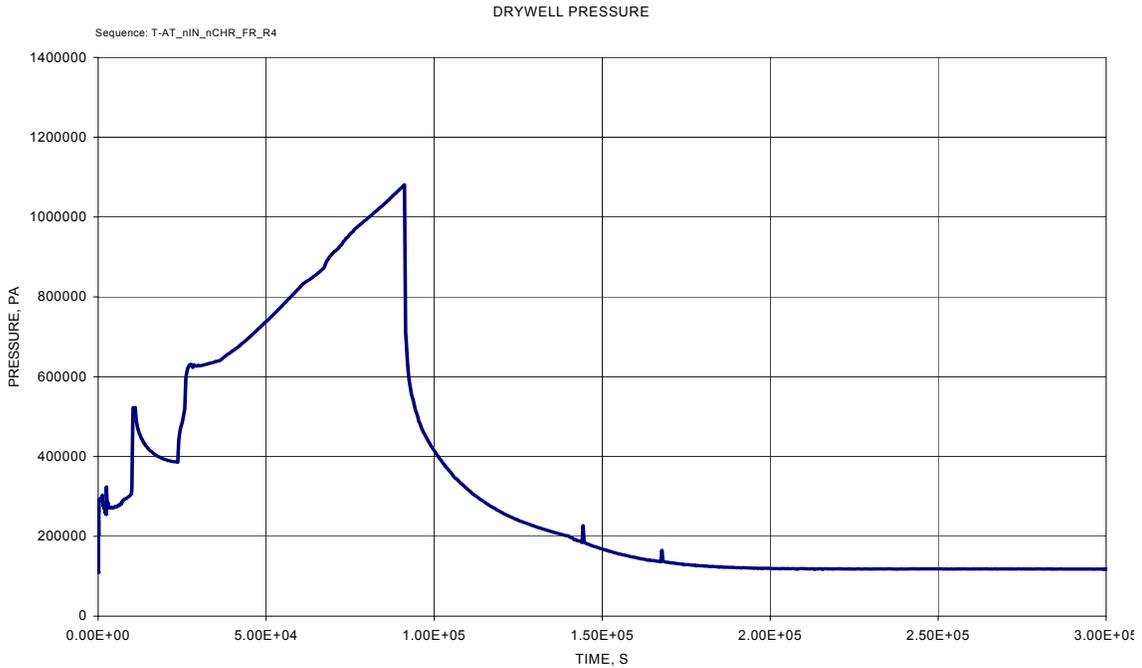


Figure 9A-11h. T-AT_nIN_nCHR_FR_R4 Drywell Pressure

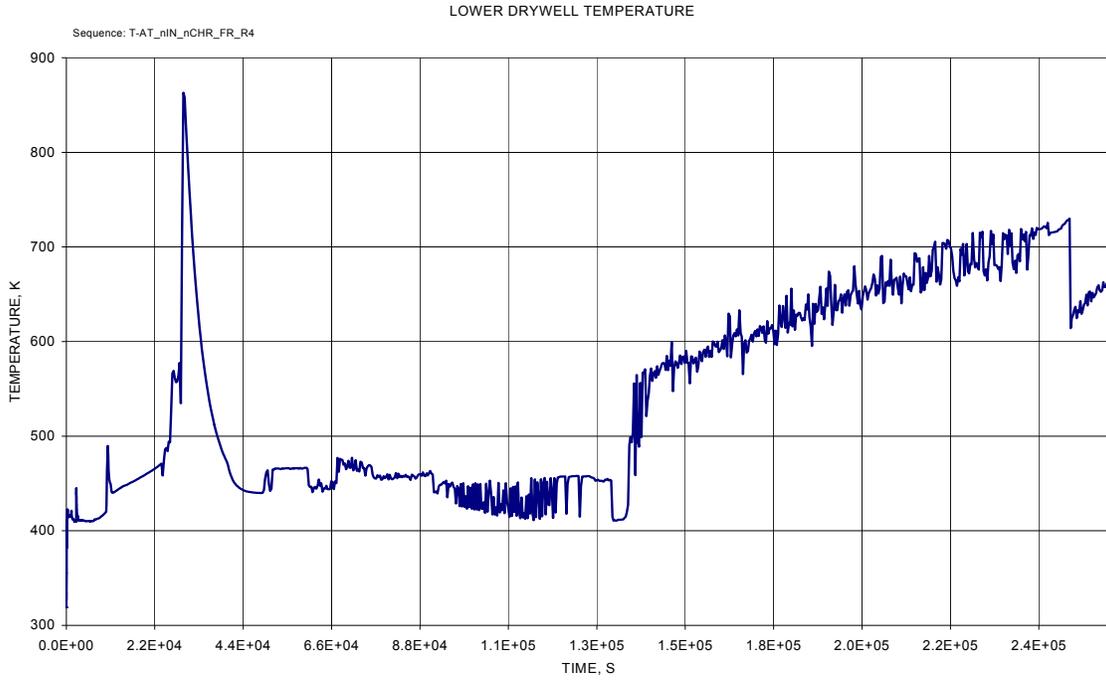


Figure 9A-11i. T-AT_nIN_nCHR_FR_R4 Lower Drywell Temperature

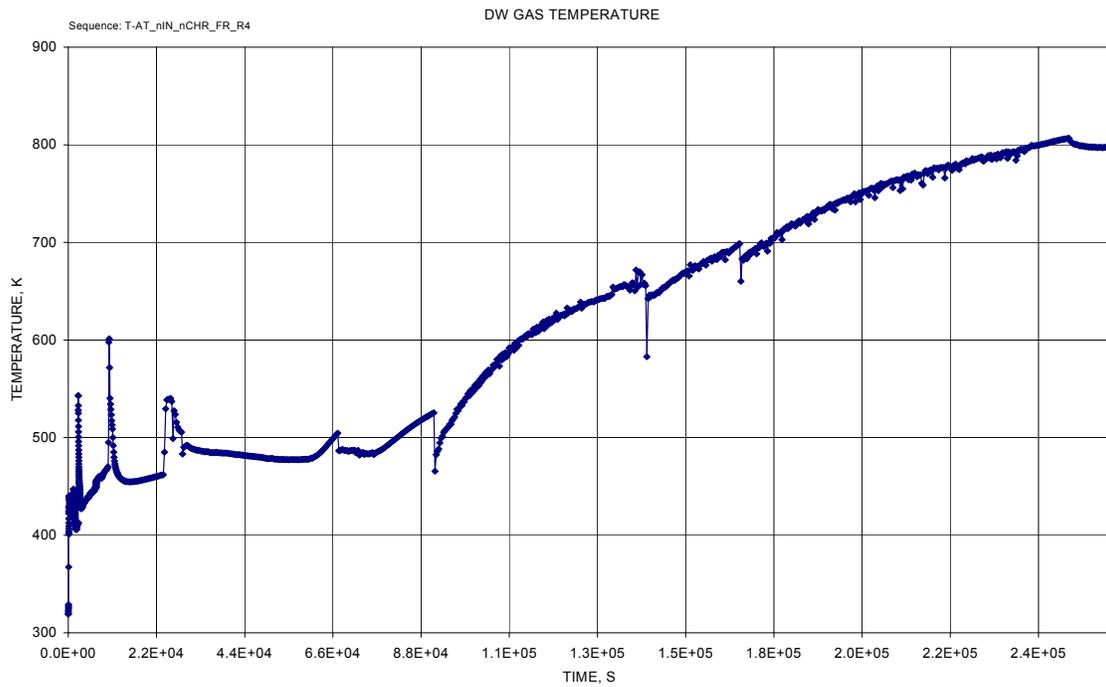


Figure 9A-11j. T-AT_nIN_nCHR_FR_R4 DW Gas Temperature

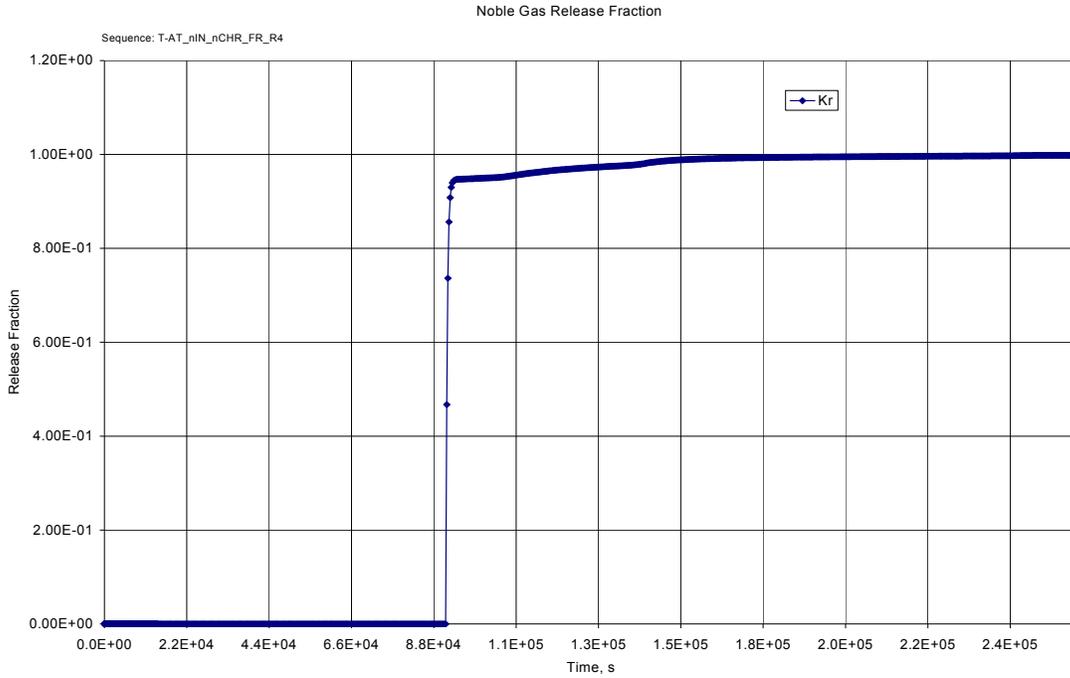


Figure 9A-11k. T-AT_nIN_nCHR_FR_R4 Noble Gas Release Fraction

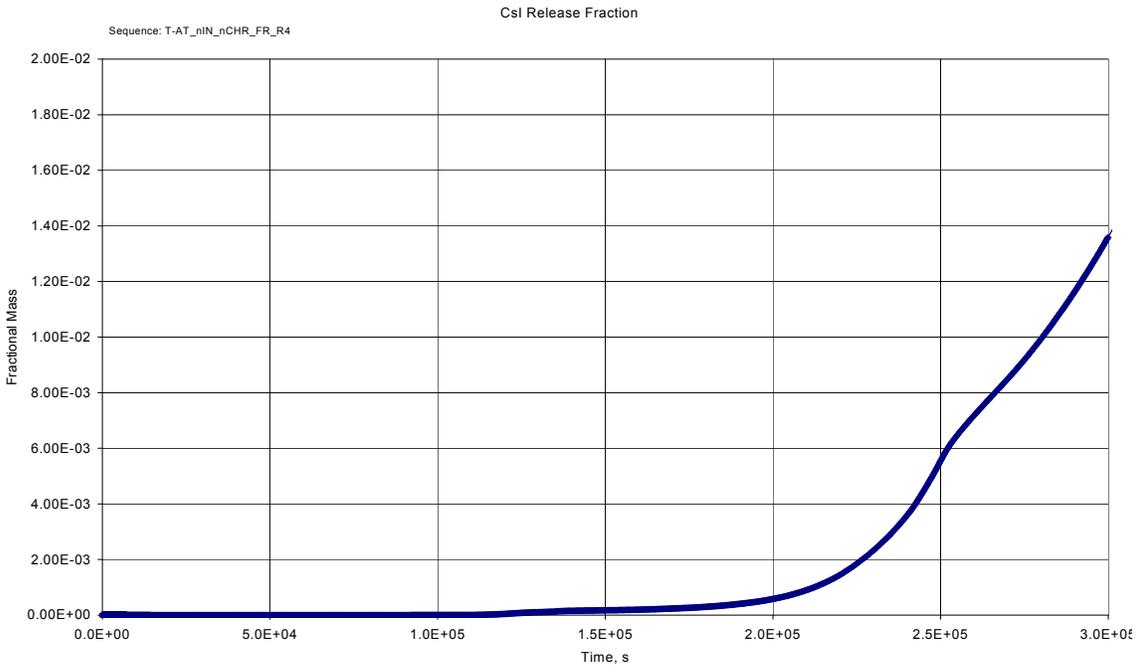


Figure 9A-11l. T-AT_nIN_nCHR_FR_R4 Csl Release Fraction

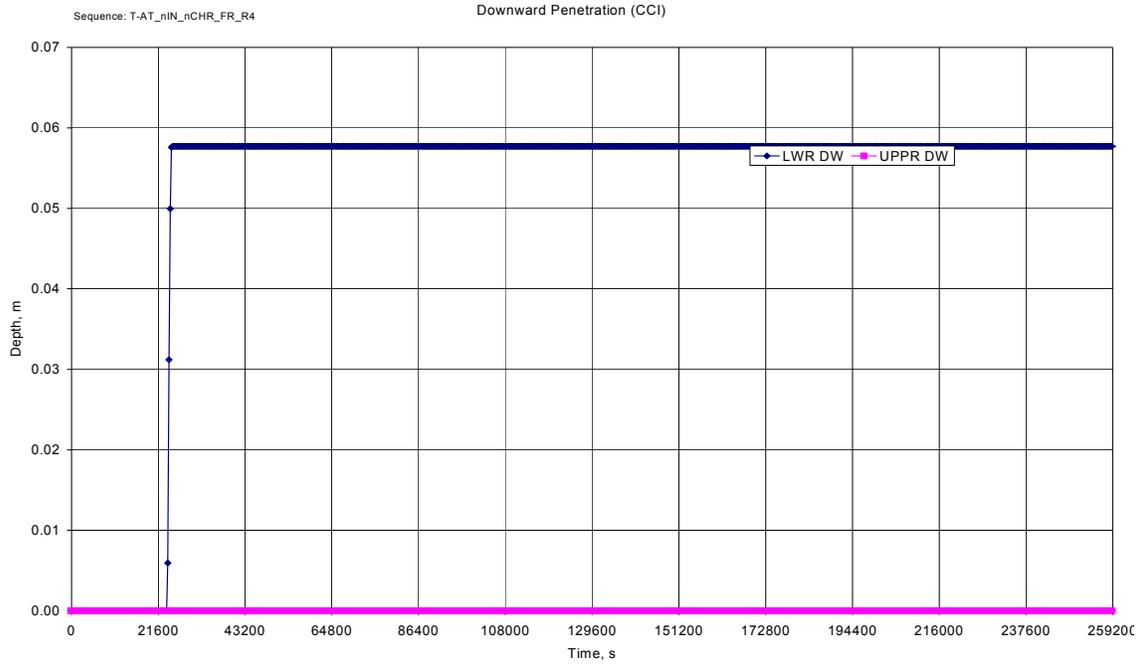


Figure 9A-11m. T-AT_nIN_nCHR_FR_R4 Downward Penetration (CCI)

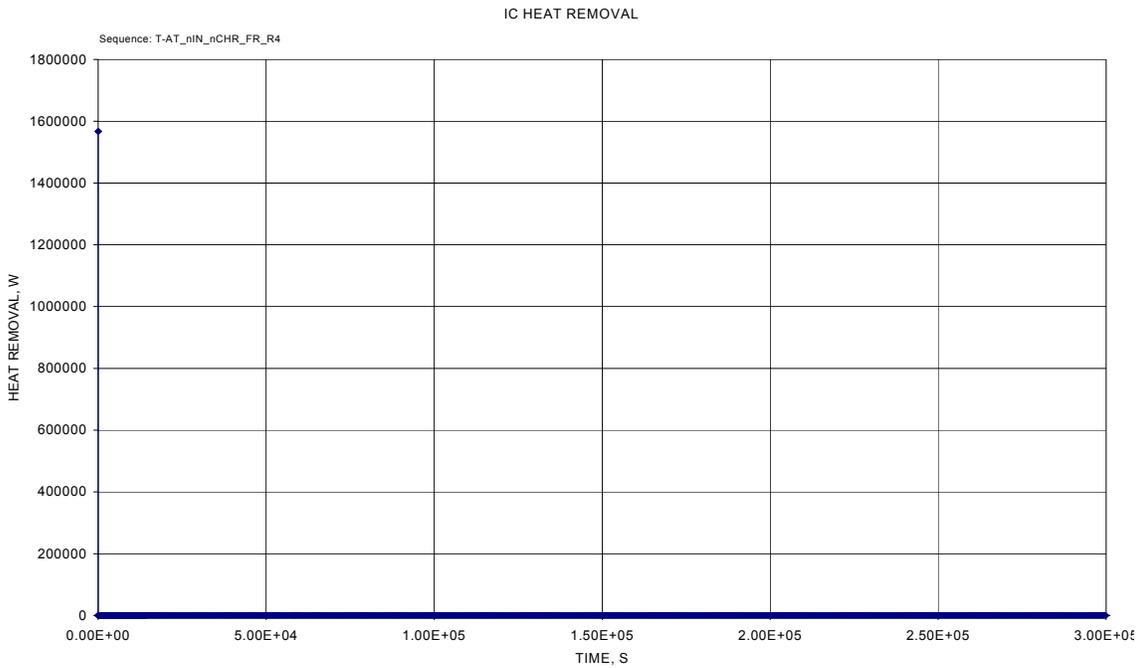


Figure 9A-11n. T-AT_nIN_nCHR_FR_R4 ICS Heat Removal

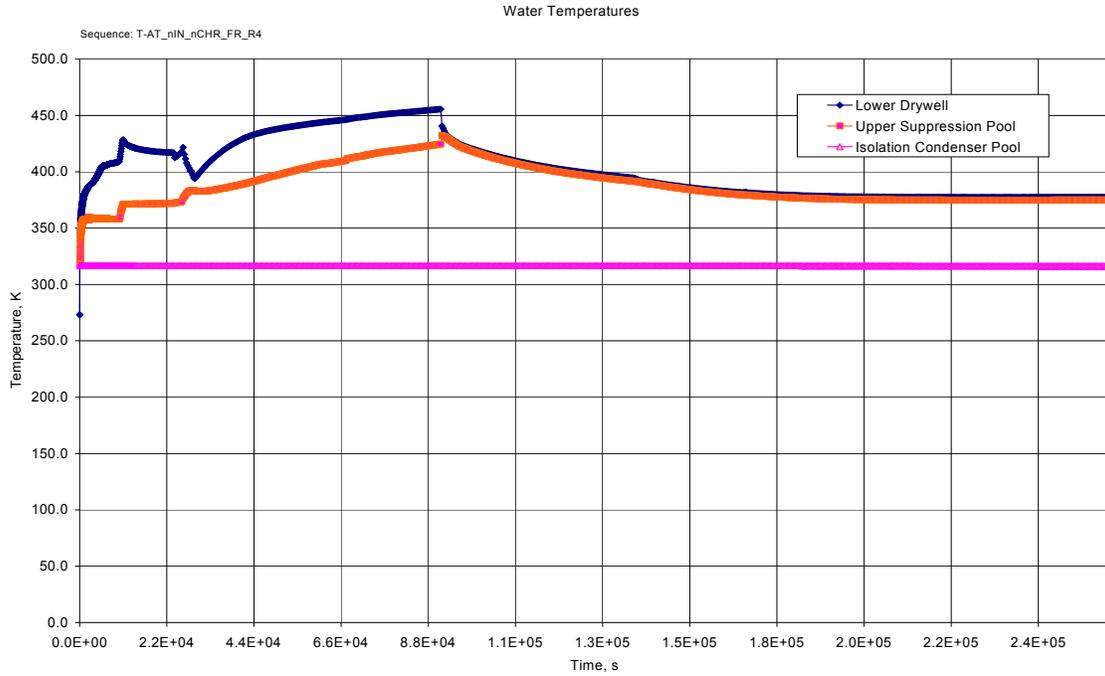


Figure 9A-11o. T-AT_nIN_nCHR_FR_R4 Water Temperature

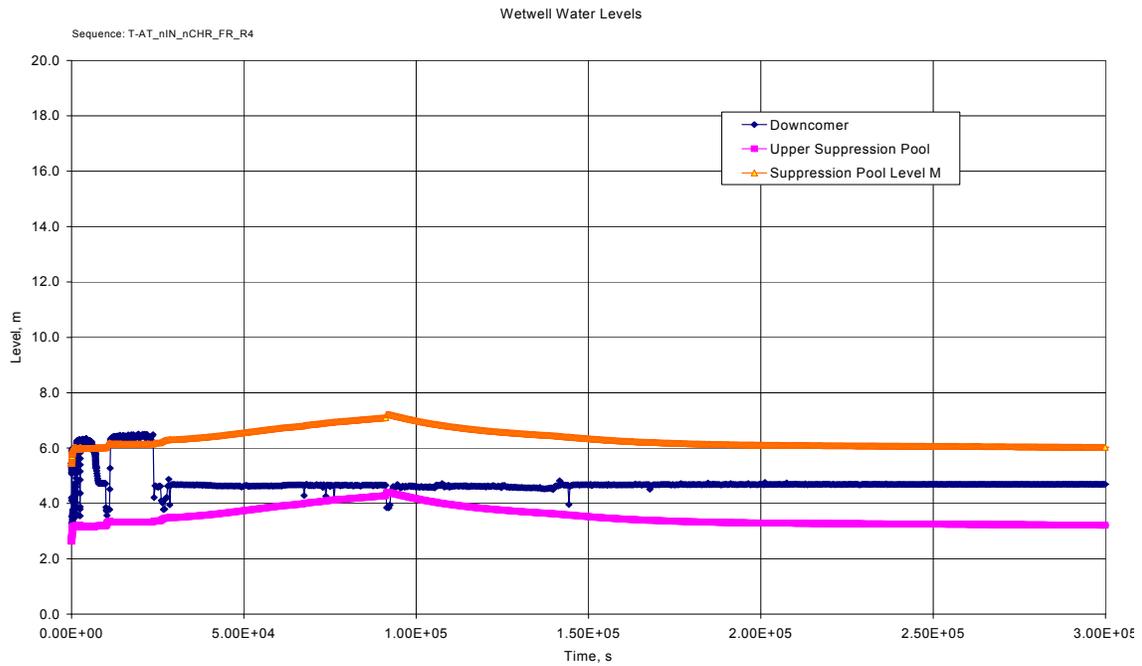


Figure 9A-11p. T-AT_nIN_nCHR_FR_R4 Wetwell Water Levels

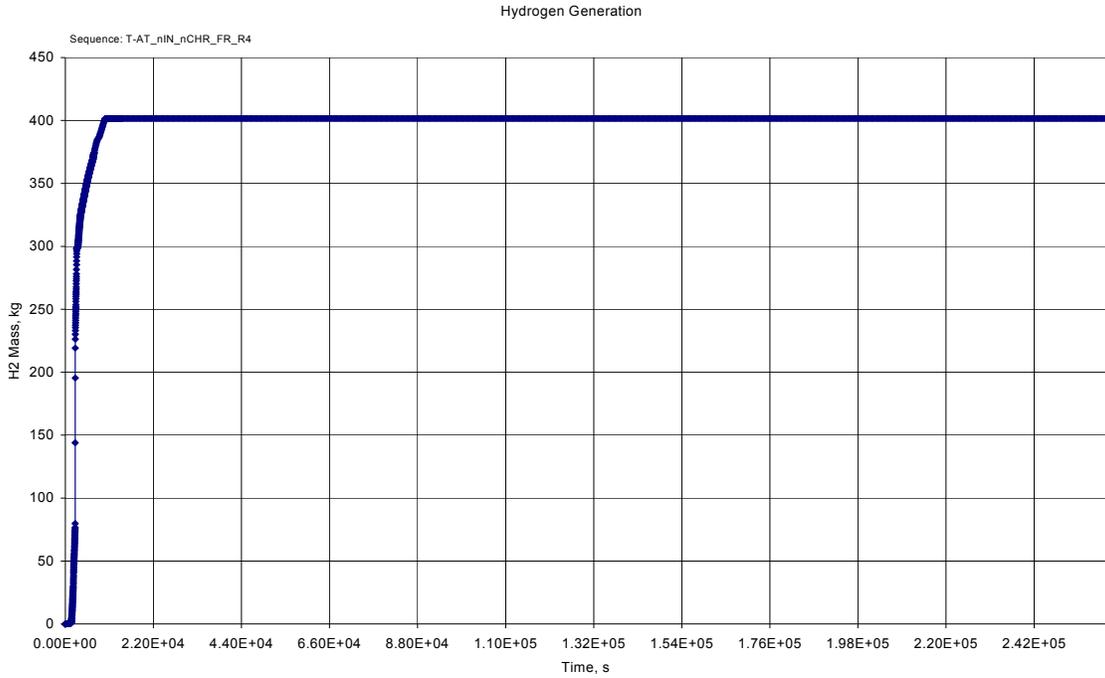


Figure 9A-11q. T-AT_nIN_nCHR_FR_R4 Hydrogen Generation

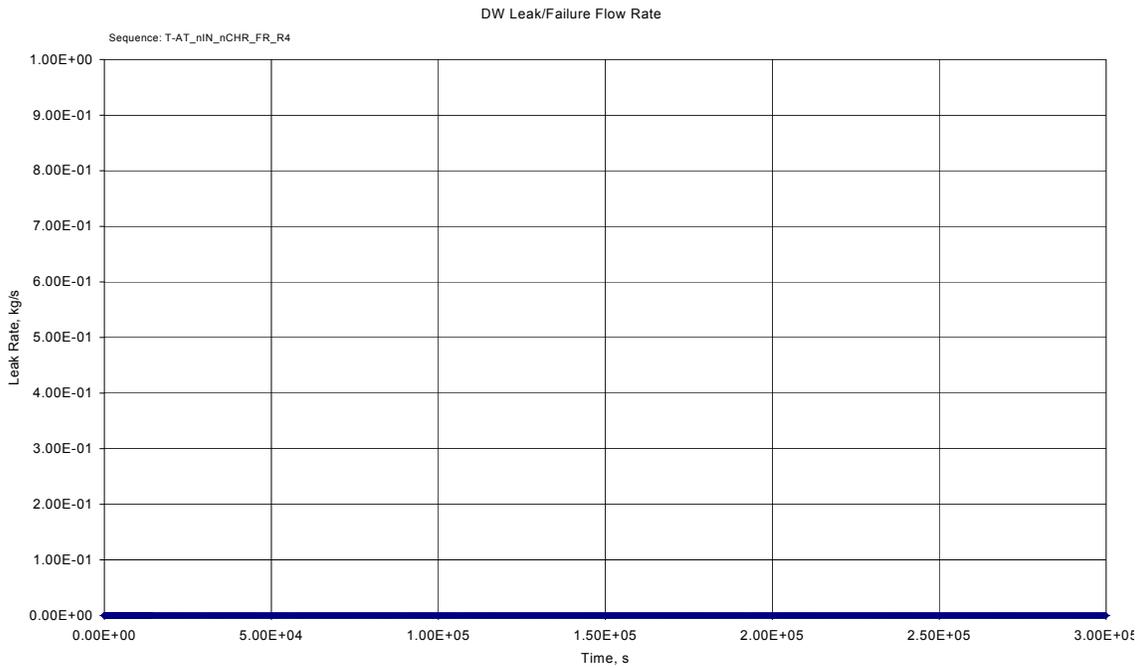


Figure 9A-11r. T-AT_nIN_nCHR_FR_R4 DW Leak/Failure Flow Rate

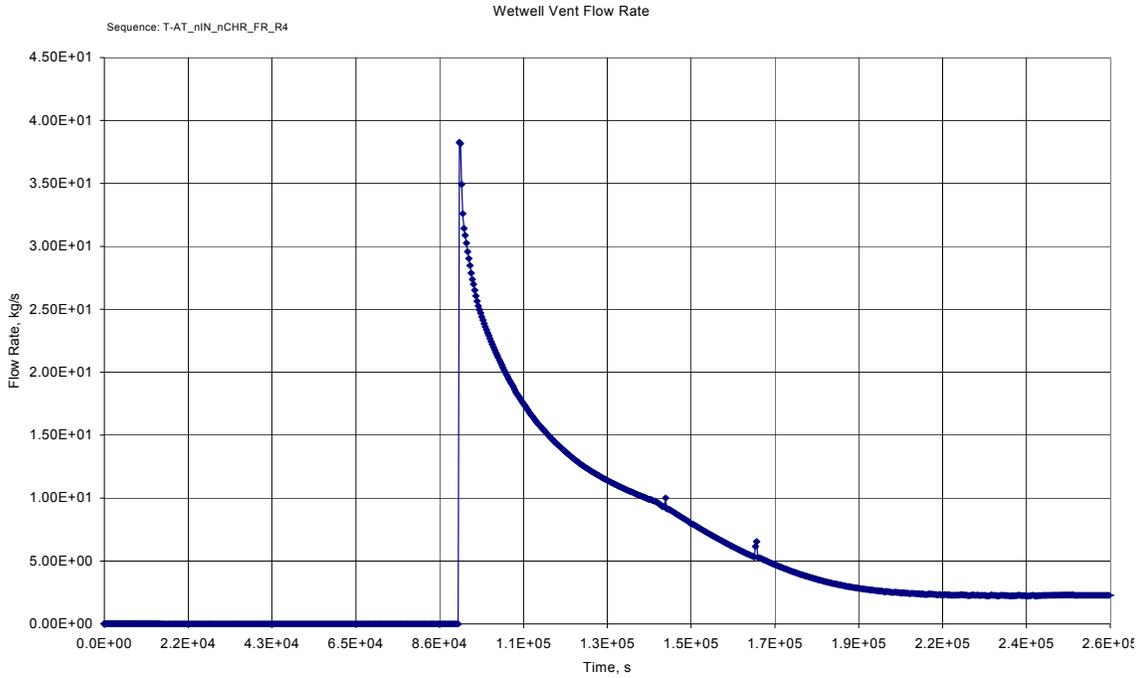


Figure 9A-11s. T-AT_nIN_nCHR_FR_R4 Wetwell Vent Flow Rate

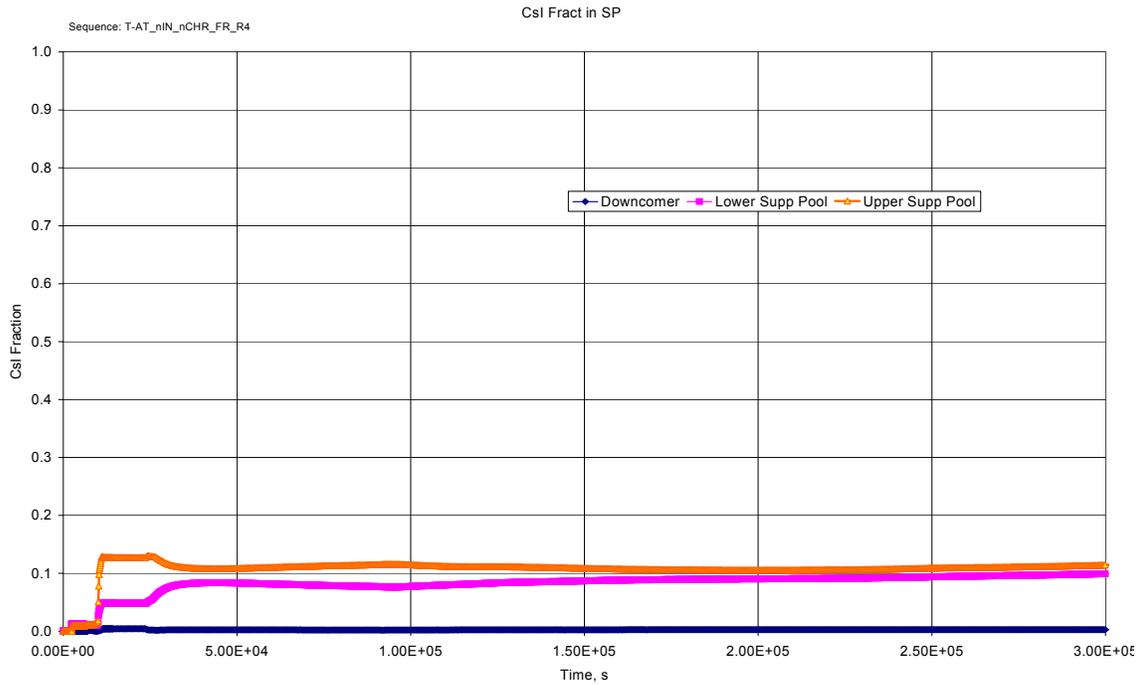


Figure 9A-11t. T-AT_nIN_nCHR_FR_R4 Csl Fraction in SP

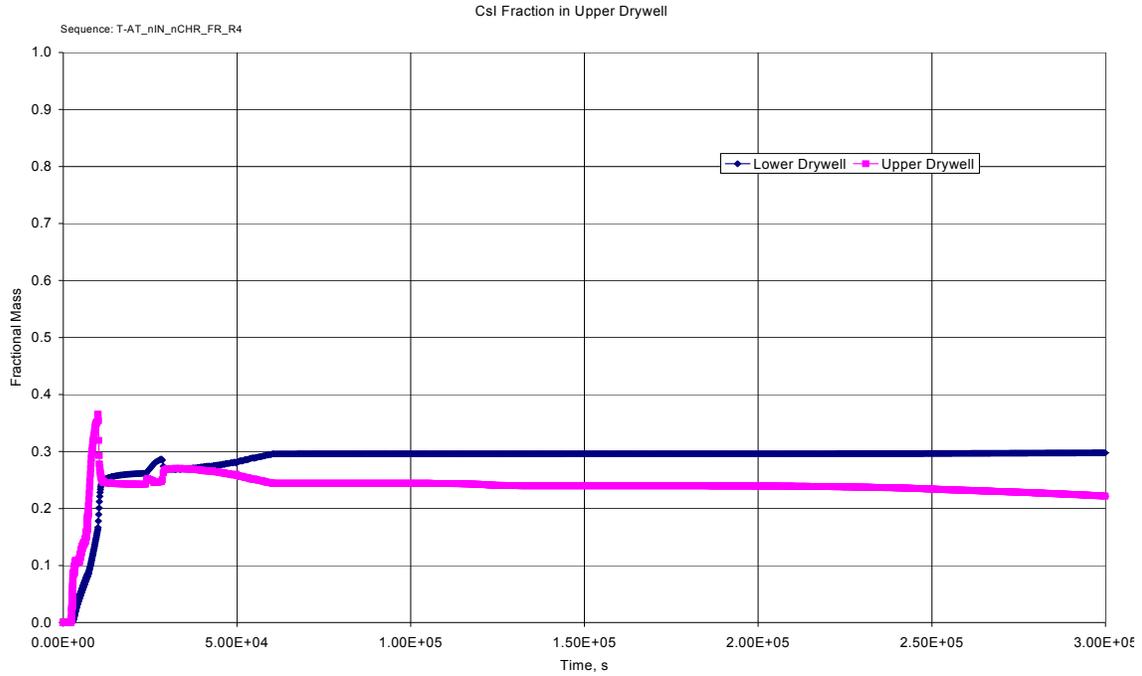


Figure 9A-11u. T-AT_nIN_nCHR_FR_R4 CsI Fraction in Upper Drywell

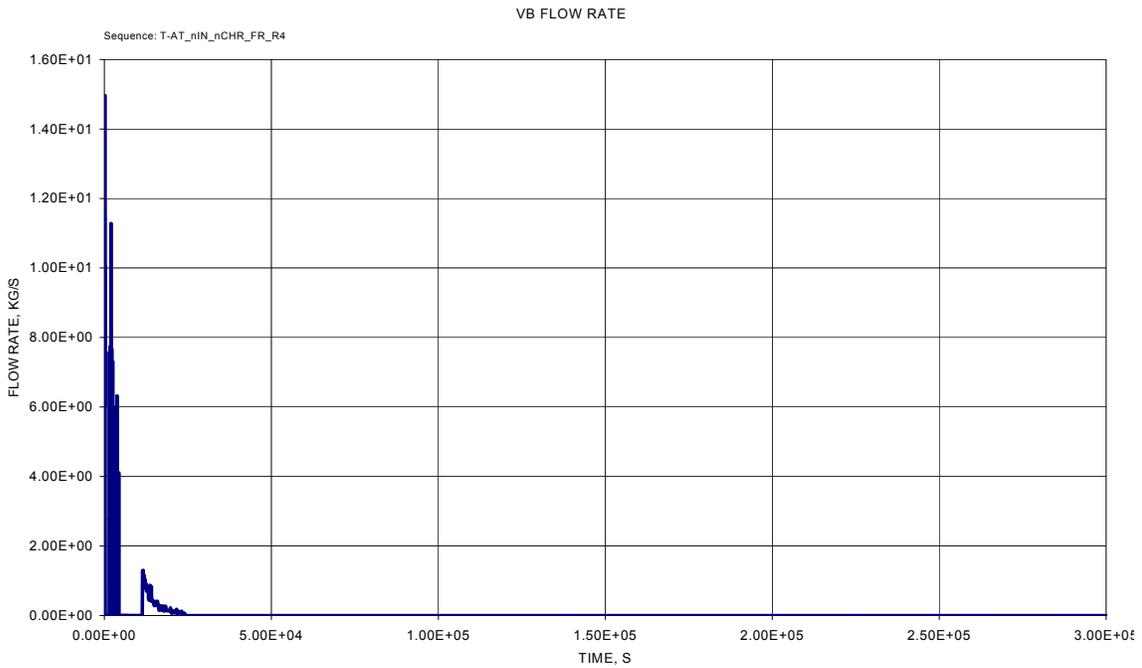


Figure 9A-11v. T-AT_nIN_nCHR_FR_R4 VB Flow Rate

**9A.12. Filtered Release (Vent @ 50% Cont. U.S.)
T-AT_nIN_nCHR_FR50_R1**

- Figure 9A-12a. T-AT_nIN_nCHR_FR50_R1 RPV Pressure **(DELETED)**
- Figure 9A-12b. T-AT_nIN_nCHR_FR50_R1 RPV Water Levels **(DELETED)**
- Figure 9A-12c. T-AT_nIN_nCHR_FR50_R1 Core Temperature **(DELETED)**
- Figure 9A-12d. T-AT_nIN_nCHR_FR50_R1 Drywell Water Levels **(DELETED)**
- Figure 9A-12e. T-AT_nIN_nCHR_FR50_R1 Core Power and PCCS Heat Removal **(DELETED)**
- Figure 9A-12f. T-AT_nIN_nCHR_FR50_R1 SRV Gas Flow vs. Time **(DELETED)**
- Figure 9A-12g. T-AT_nIN_nCHR_FR50_R1 DPV Gas Flow Rate **(DELETED)**
- Figure 9A-12h. T-AT_nIN_nCHR_FR50_R1 Drywell Pressure **(DELETED)**
- Figure 9A-12i. T-AT_nIN_nCHR_FR50_R1 Lower Drywell Temperature **(DELETED)**
- Figure 9A-12j. T-AT_nIN_nCHR_FR50_R1 DW Gas Temperature **(DELETED)**
- Figure 9A-12k. T-AT_nIN_nCHR_FR50_R1 Noble Gas Release Fraction **(DELETED)**
- Figure 9A-12l. T-AT_nIN_nCHR_FR50_R1 Csl Release Fraction **(DELETED)**
- Figure 9A-12m. T-AT_nIN_nCHR_FR50_R1 Downward Penetration (CCI) **(DELETED)**
- Figure 9A-12n. T-AT_nIN_nCHR_FR50_R1 ICS Heat Removal **(DELETED)**
- Figure 9A-12o. T-AT_nIN_nCHR_FR50_R1 Water Temperature **(DELETED)**
- Figure 9A-12p. T-AT_nIN_nCHR_FR50_R1 Wetwell Water Levels **(DELETED)**
- Figure 9A-12q. T-AT_nIN_nCHR_FR50_R1 Hydrogen Generation **(DELETED)**
- Figure 9A-12r. T-AT_nIN_nCHR_FR50_R1 DW Leak/Failure Flow Rate **(DELETED)**
- Figure 9A-12s. T-AT_nIN_nCHR_FR50_R1 Wetwell Vent Flow Rate **(DELETED)**
- Figure 9A-12t. T-AT_nIN_nCHR_FR50_R1 Csl Fraction in SP **(DELETED)**
- Figure 9A-12u. T-AT_nIN_nCHR_FR50_R1 Csl Fraction in Upper Drywell **(DELETED)**
- Figure 9A-12v. T-AT_nIN_nCHR_FR50_R1 VB Flow Rate **(DELETED)**

9A.13 Containment Overpressure (VB) - High Pressure T_nDP_nIN_VB_R4

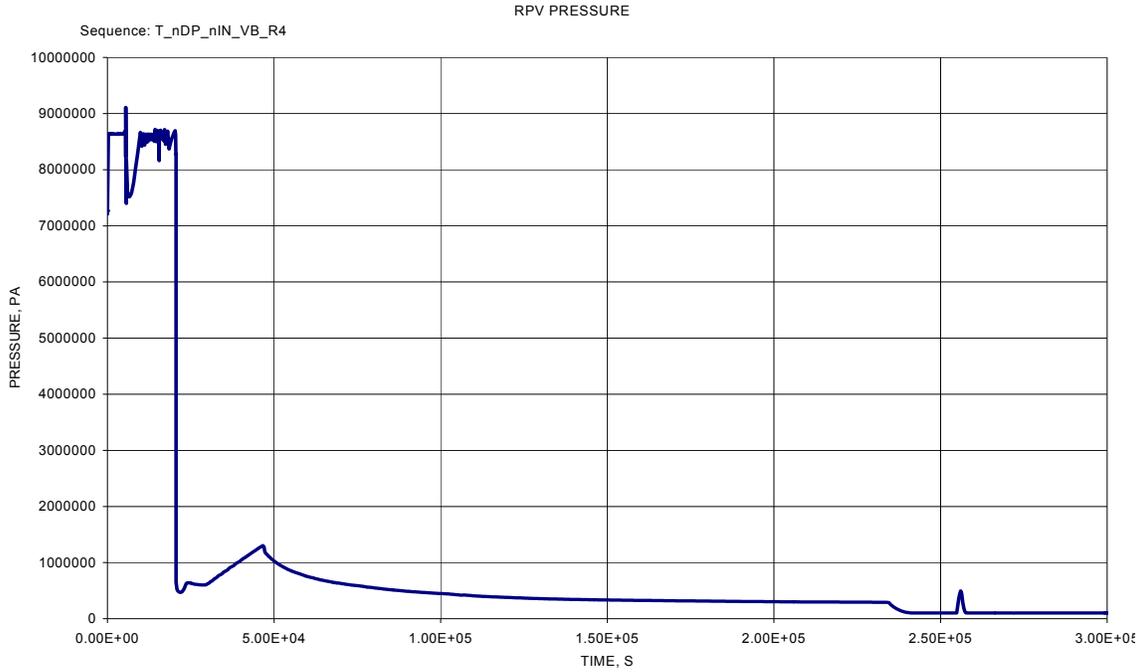


Figure 9A-13a. T_nDP_nIN_VB_R4 RPV Pressure

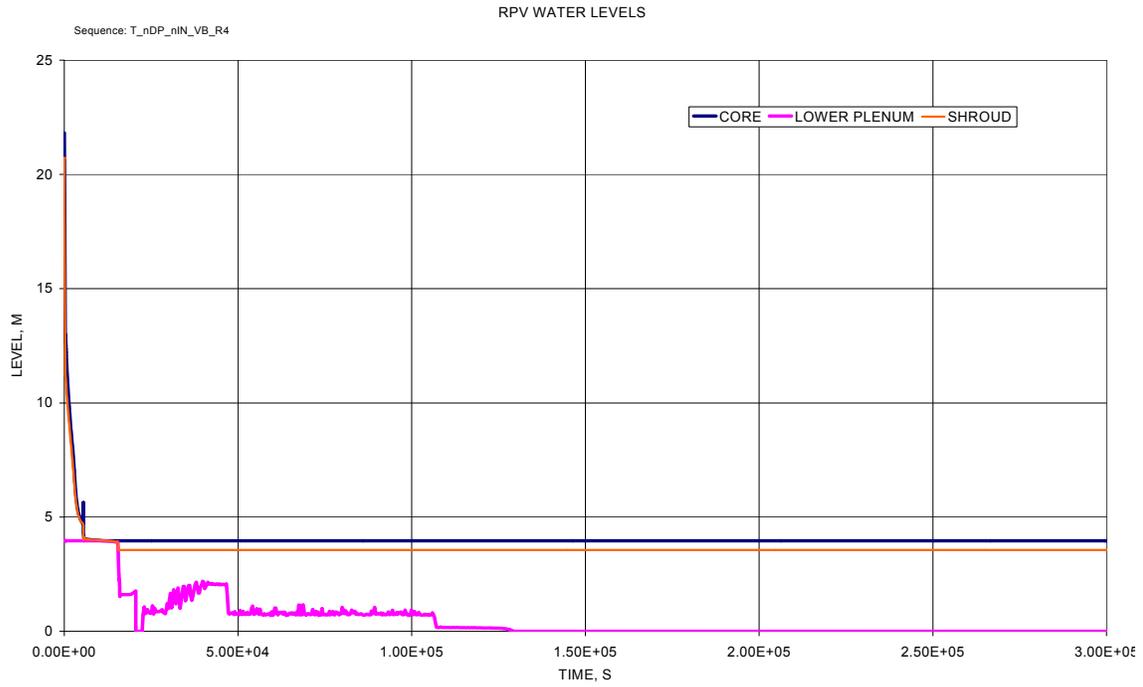


Figure 9A-13b. T_nDP_nIN_VB_R4 RPV Water Levels

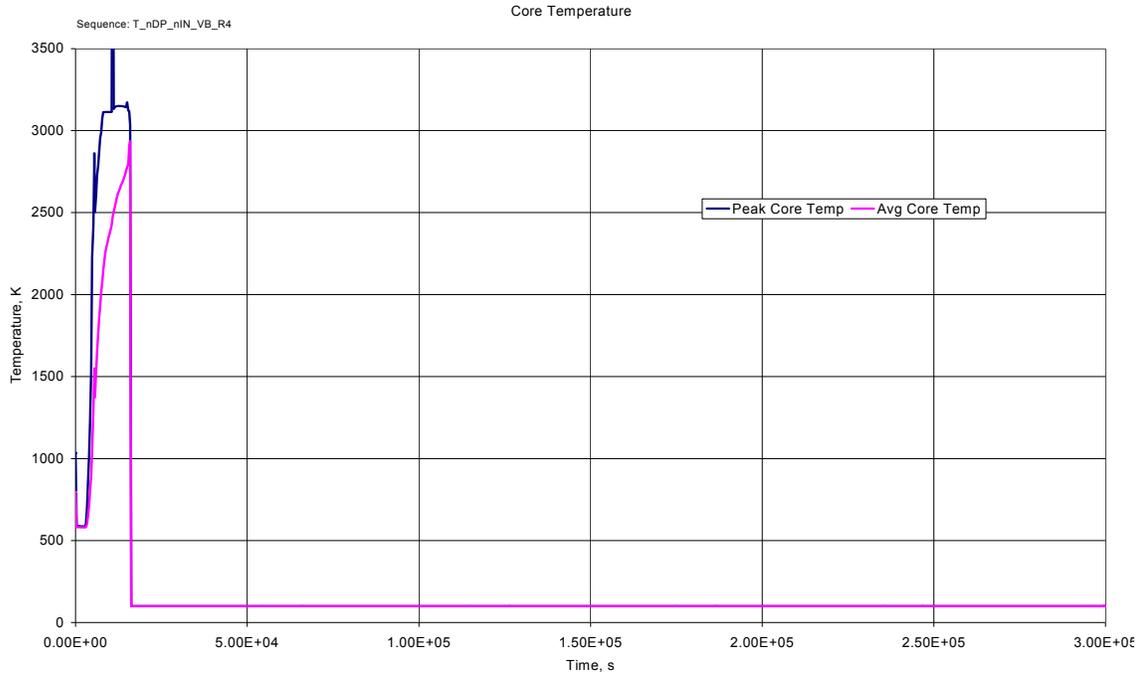


Figure 9A-13c. T_nDP_nIN_VB_R4 Core Temperature

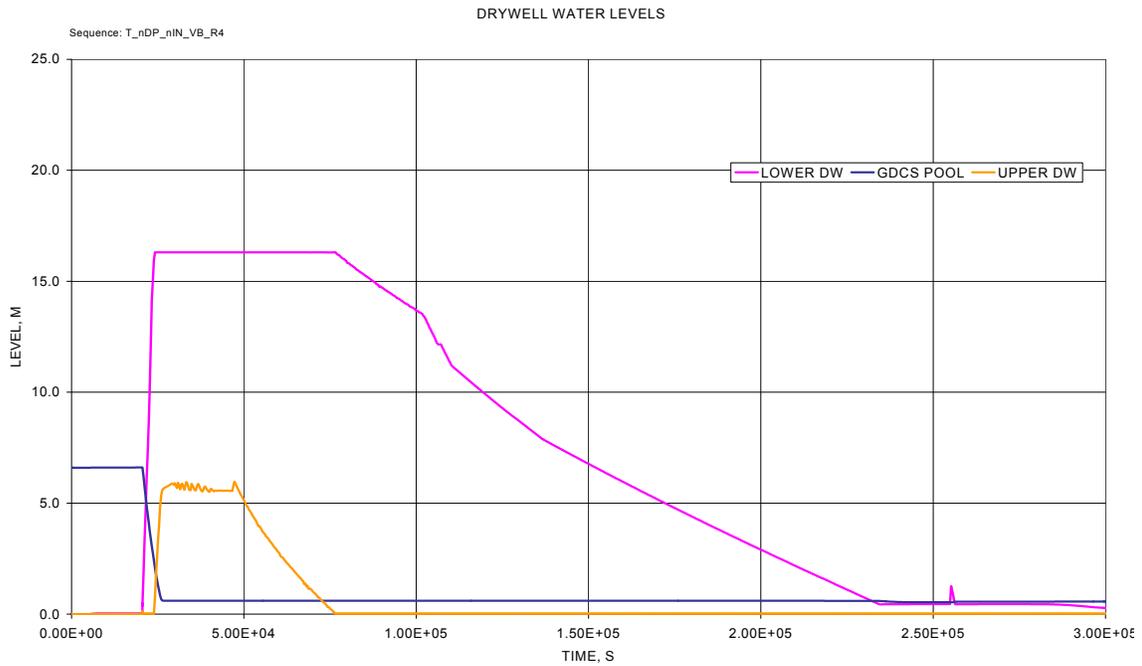


Figure 9A-13d. T_nDP_nIN_VB_R4 Drywell Water Levels

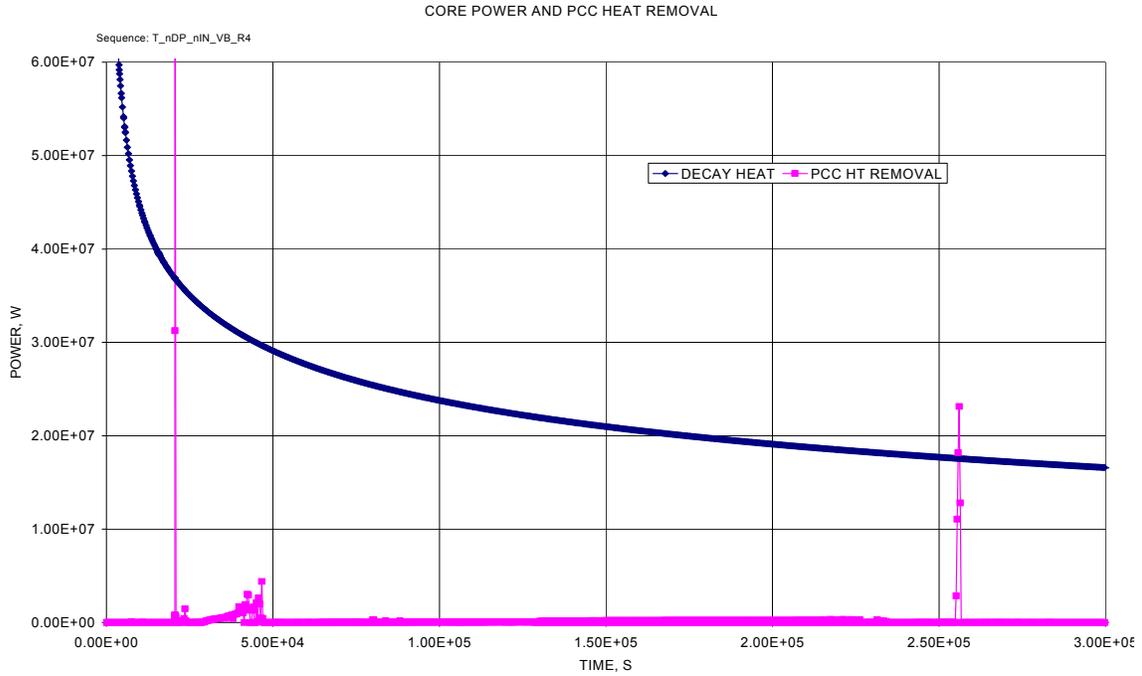


Figure 9A-13e. T_nDP_nIN_VB_R4 Core Power and PCCS Heat Removal

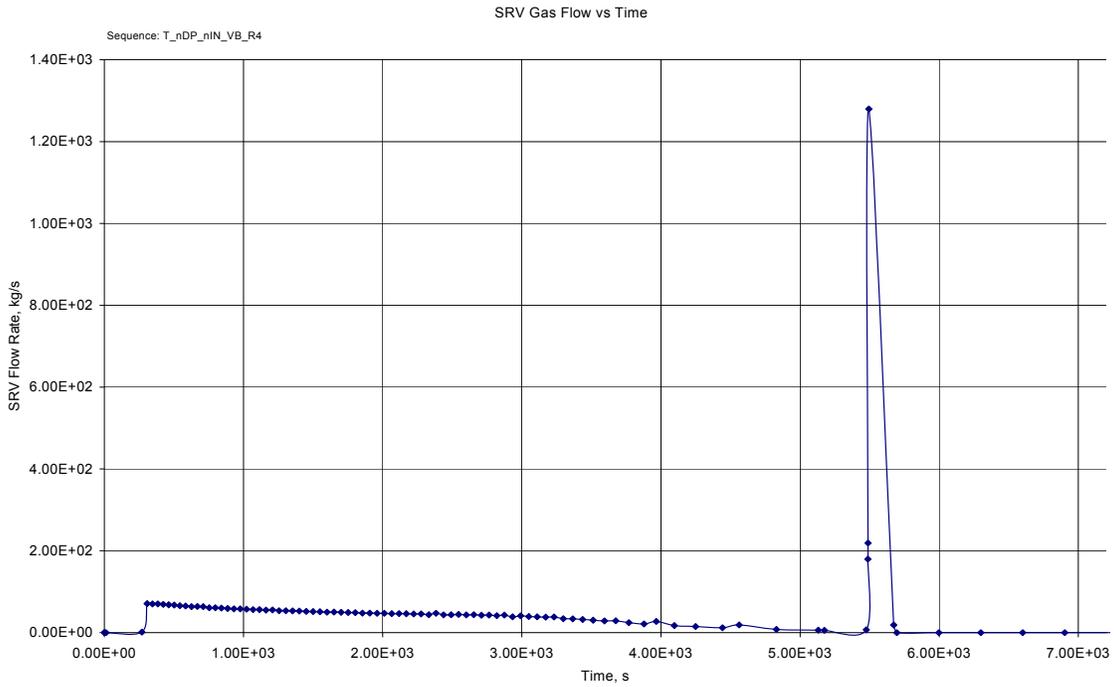


Figure 9A-13f. T_nDP_nIN_VB_R4 SRV Gas Flow Rate

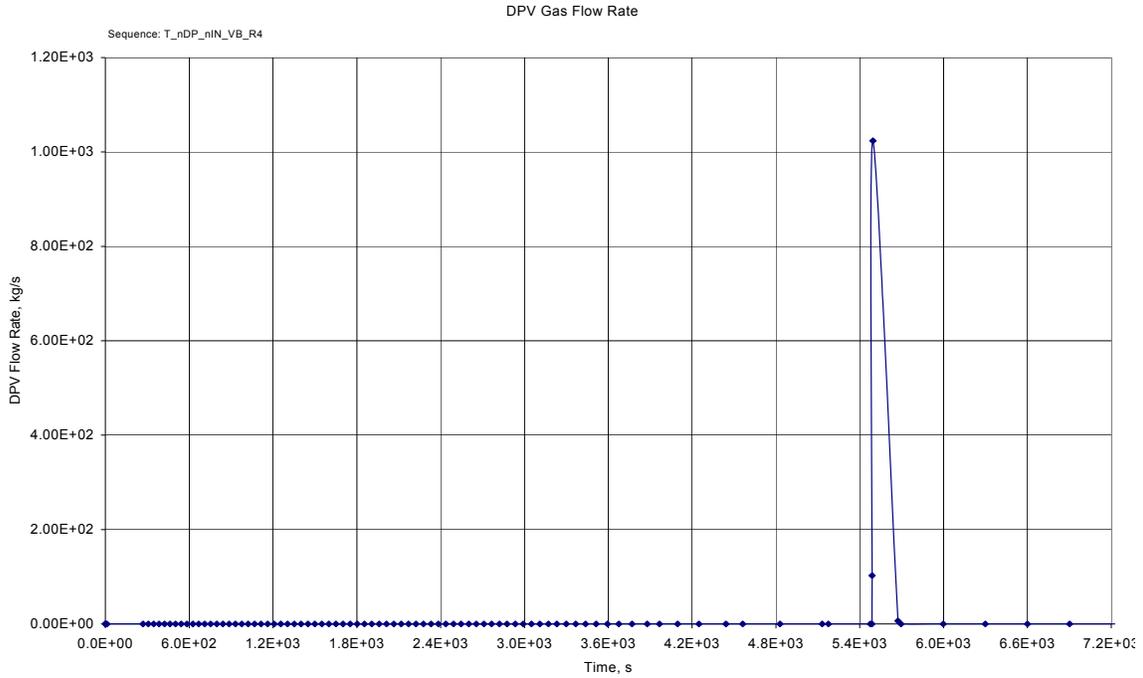


Figure 9A-13g. T_nDP_nIN_VB_R4 DPV Gas Flow Rate

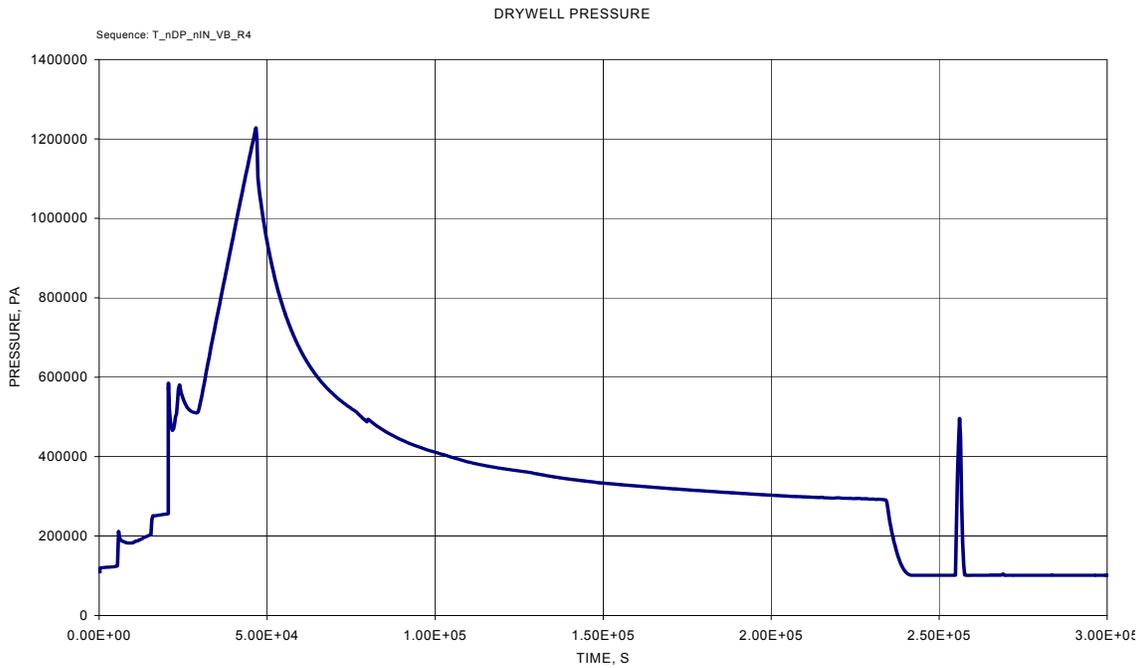


Figure 9A-13h. T_nDP_nIN_VB_R4 Drywell Pressure

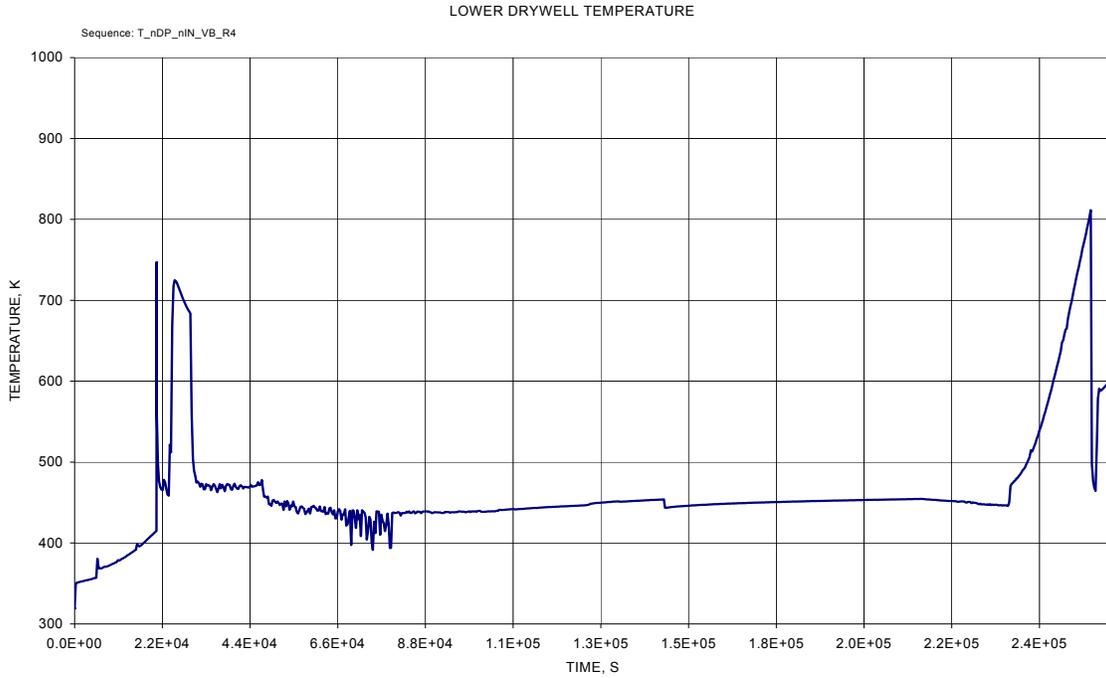


Figure 9A-13i. T_nDP_nIN_VB_R4 Lower Drywell Temperature

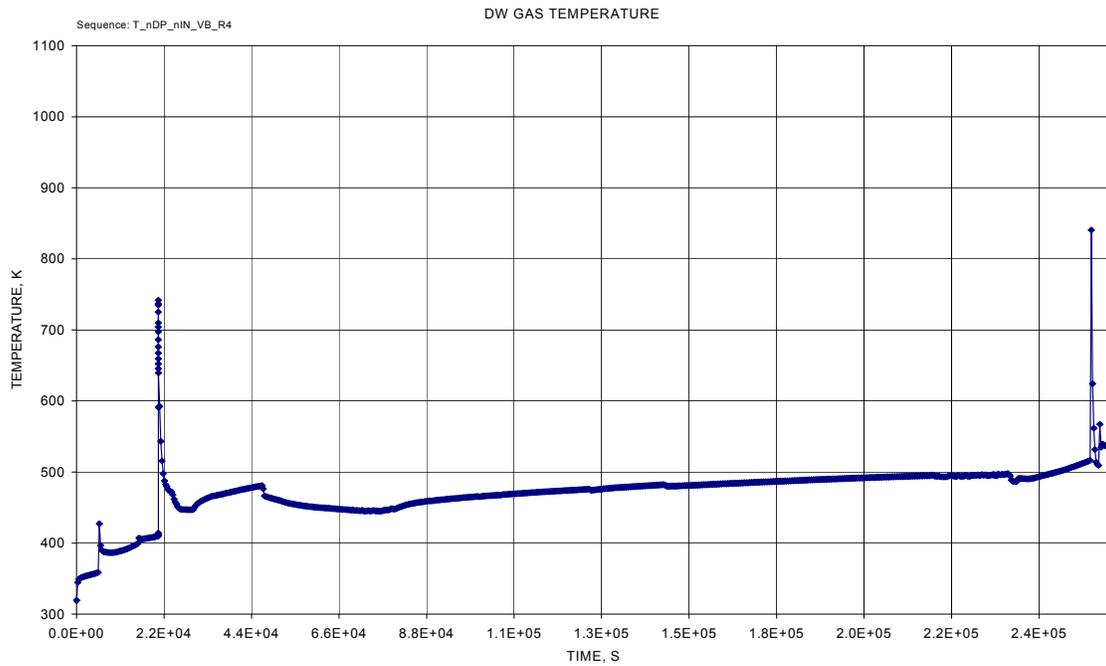


Figure 9A-13j. T_nDP_nIN_VB_R4 Drywell Gas Temperature

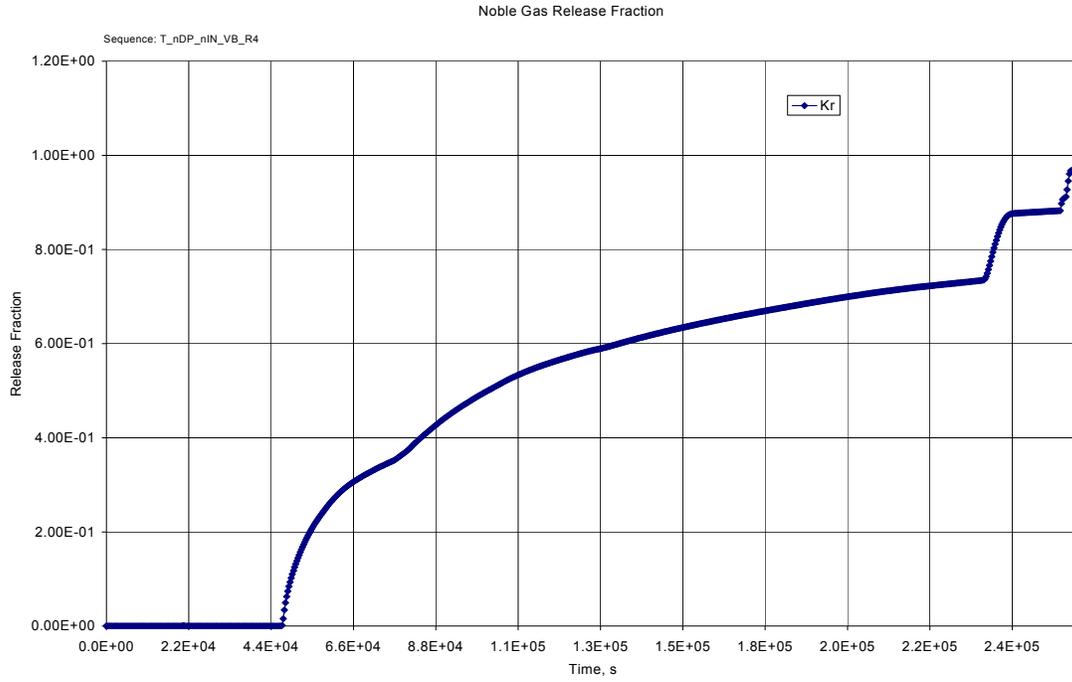


Figure 9A-13k. T_nDP_nIN_VB_R4 Noble Gas Release Fraction

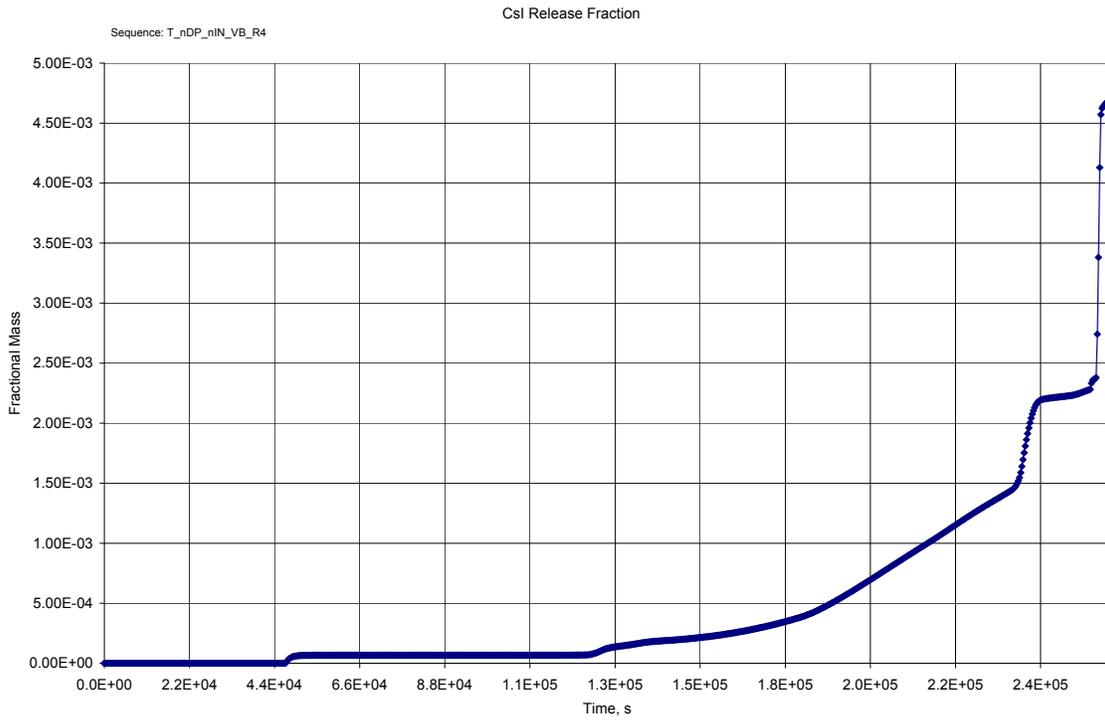


Figure 9A-13l. T_nDP_nIN_VB_R4 CsI Release Fraction

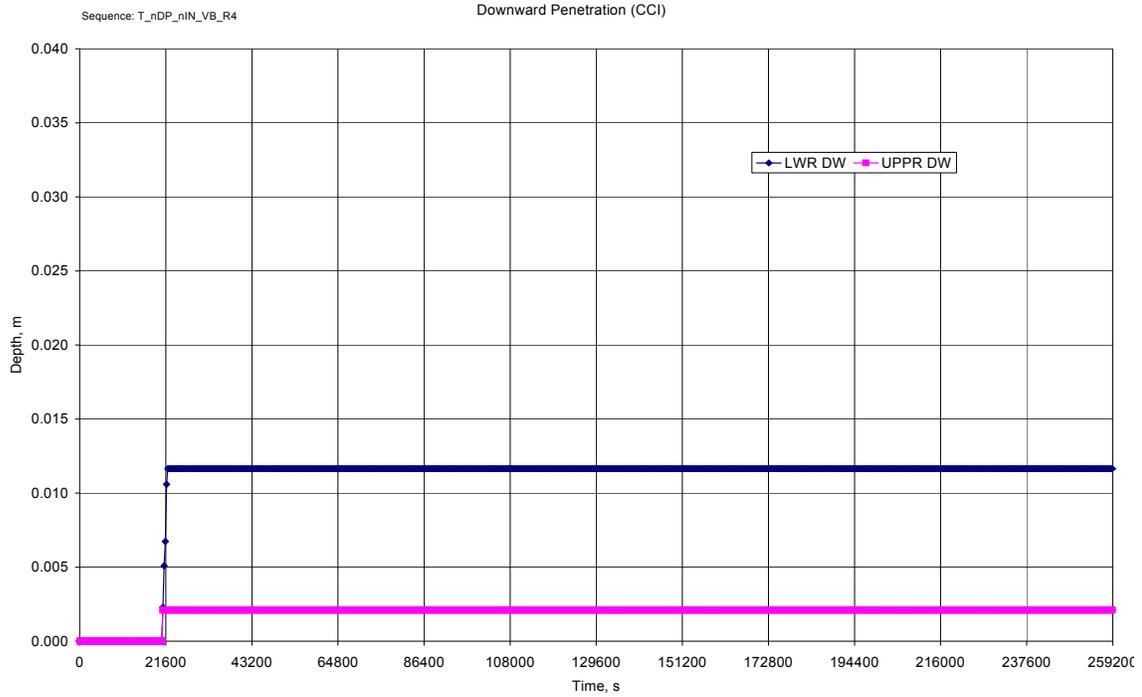


Figure 9A-13m. T_nDP_nIN_VB_R4 Downward Penetration (CCI)

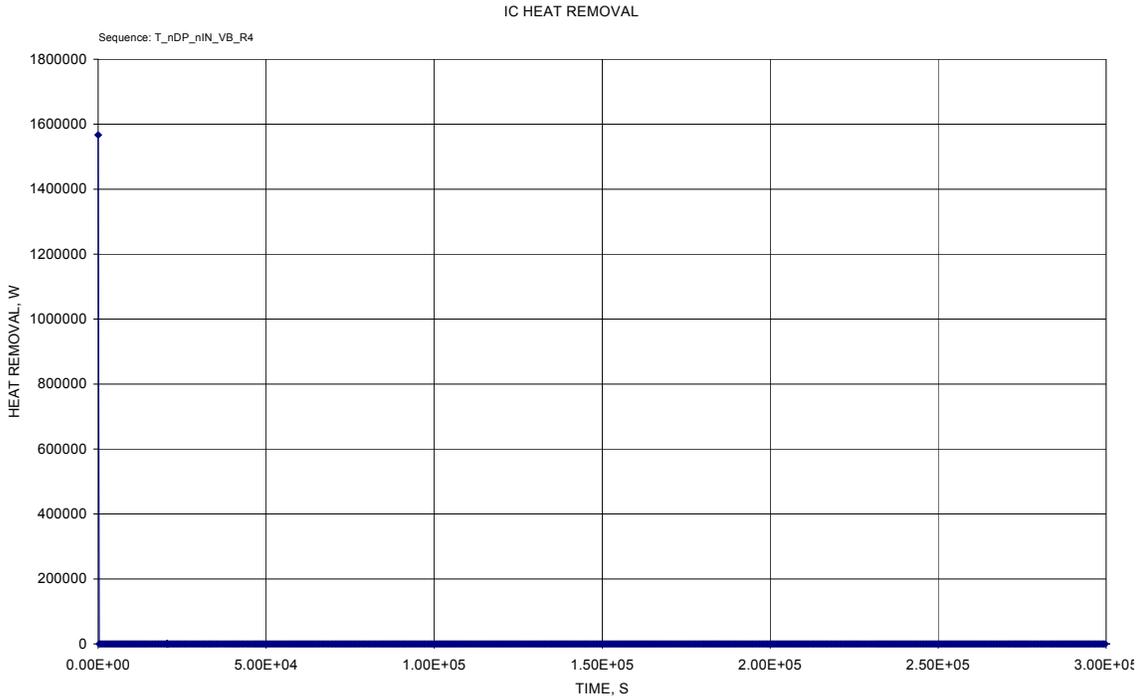


Figure 9A-13n. T_nDP_nIN_VB_R4 ICS Heat Removal

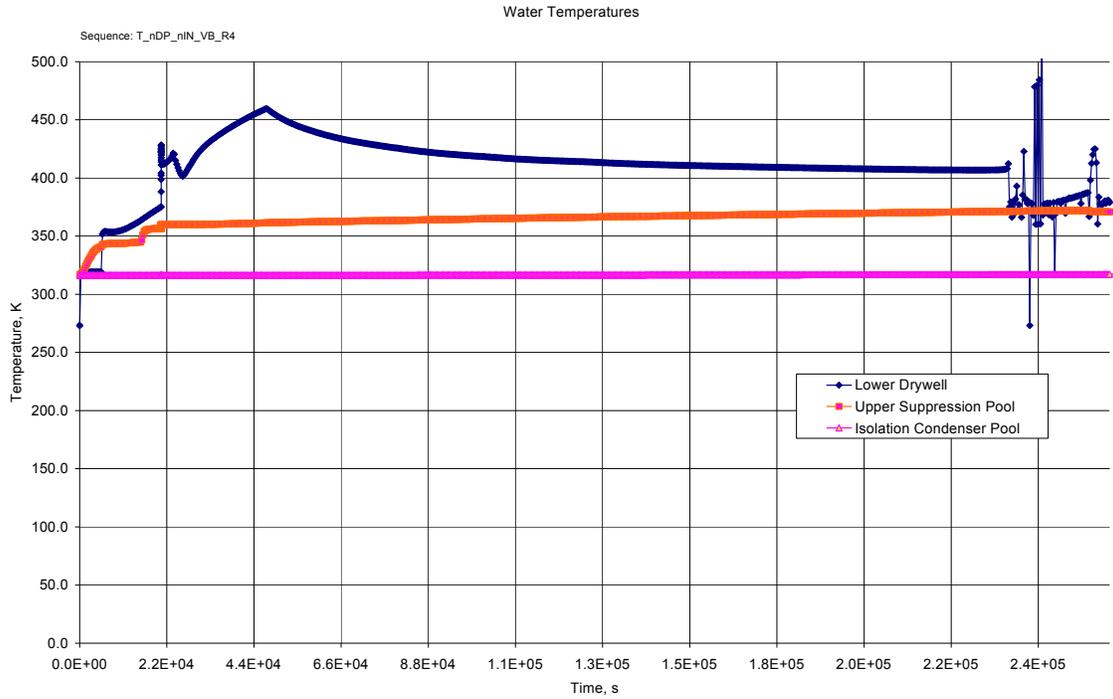


Figure 9A-13o. T_nDP_nIN_VB_R4 Water Temperatures

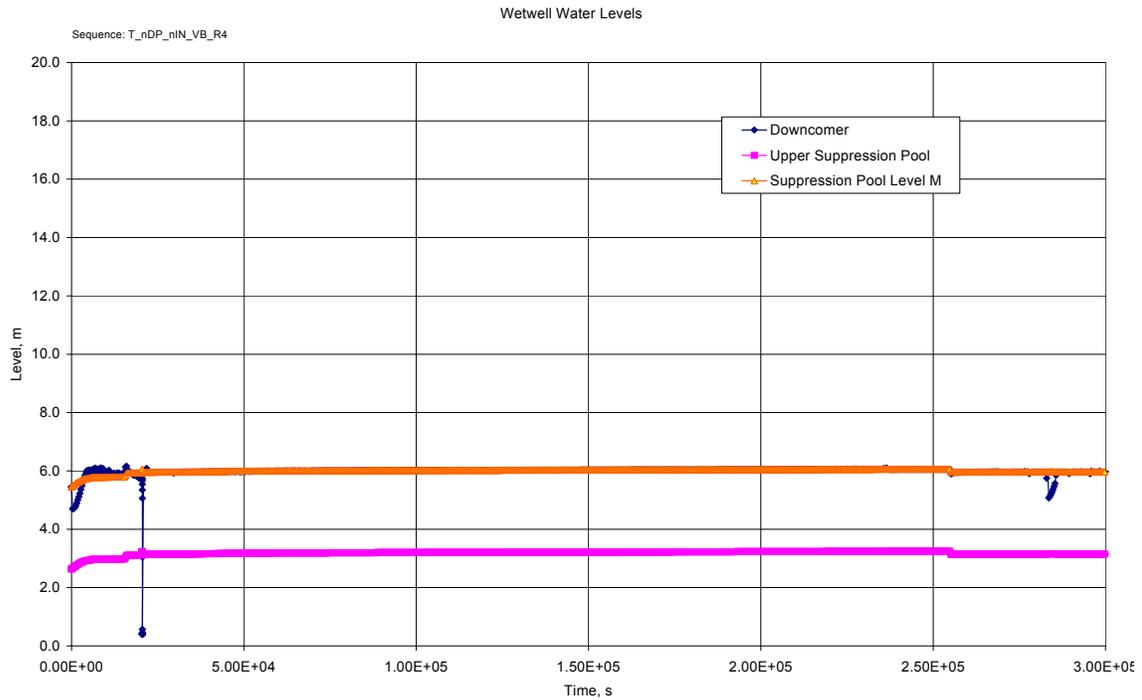


Figure 9A-13p. T_nDP_nIN_VB_R4 Wetwell Water Levels

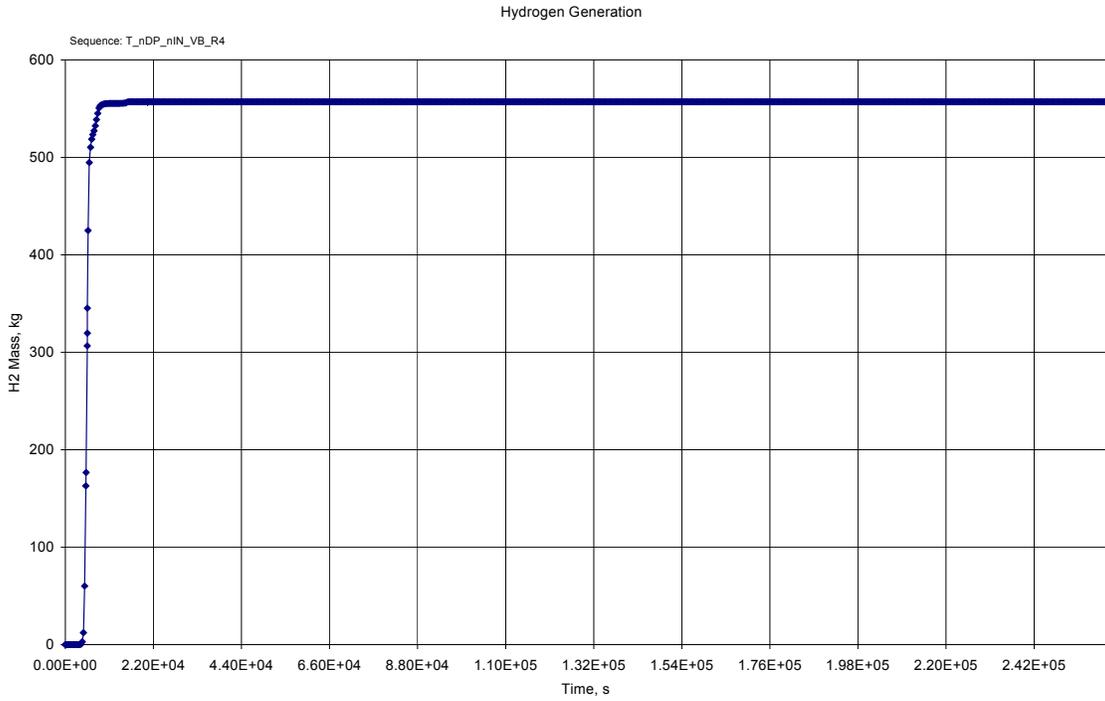


Figure 9A-13q. T_nDP_nIN_VB_R4 Hydrogen Generation

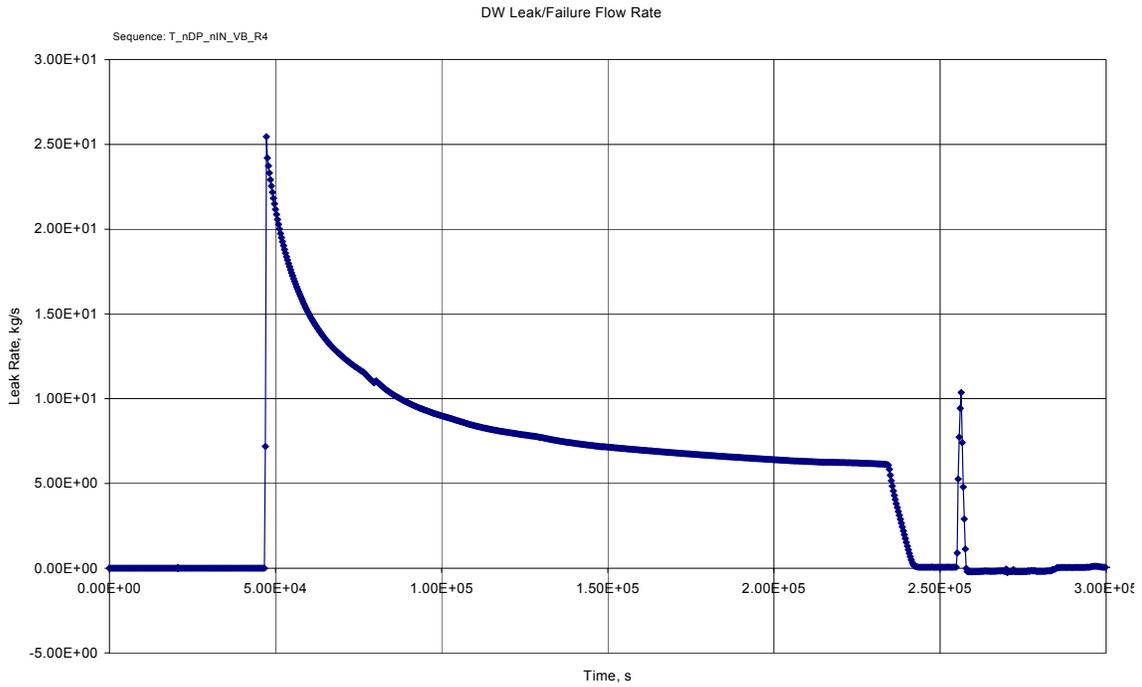


Figure 9A-13r. T_nDP_nIN_VB_R4 Drywell Leak/Failure Flow Rate

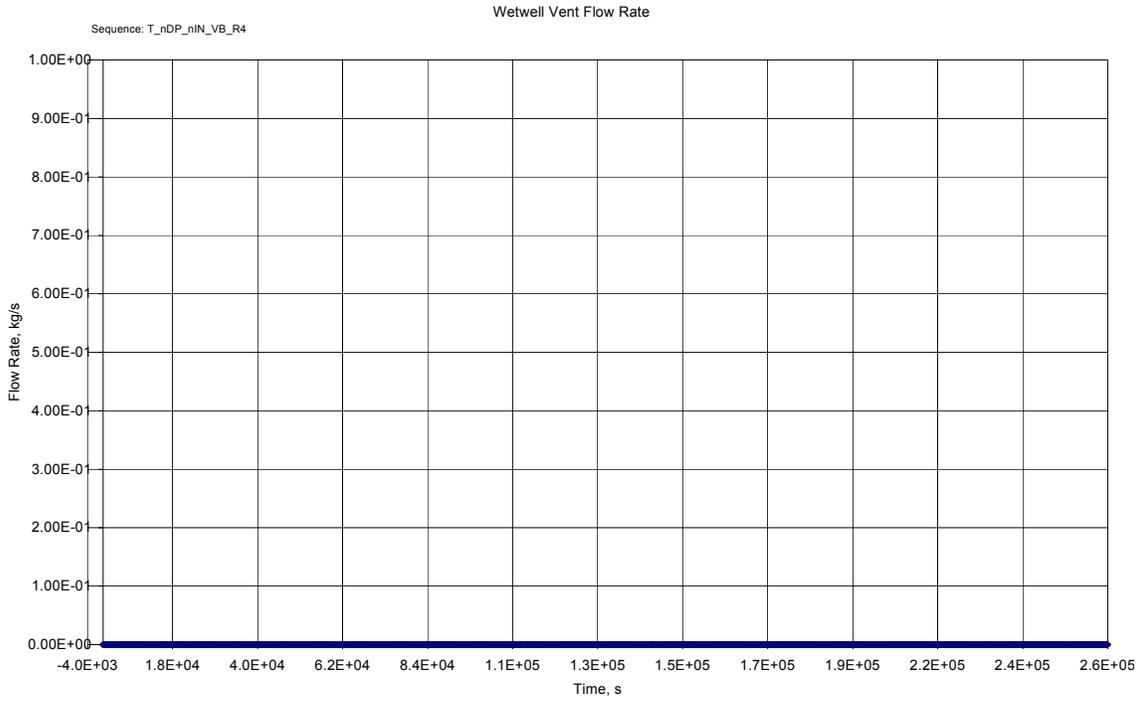


Figure 9A-13s. T_nDP_nIN_VB_R4 Wetwell Vent Flow Rate

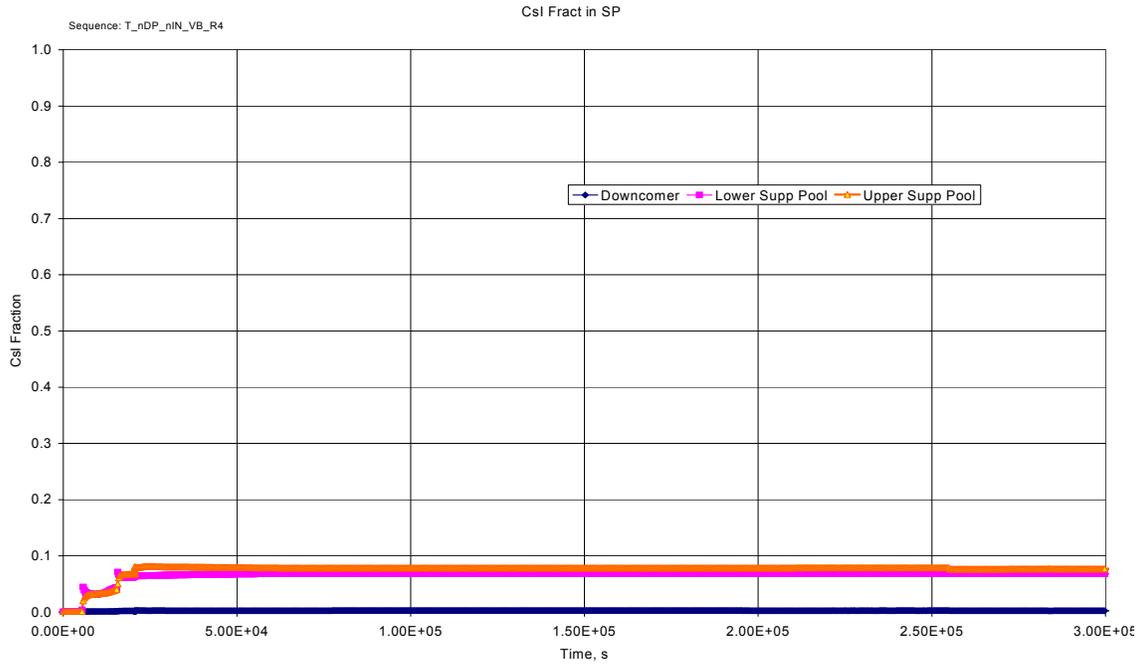


Figure 9A-13t. T_nDP_nIN_VB_R4 Csl Fraction in Suppression Pool

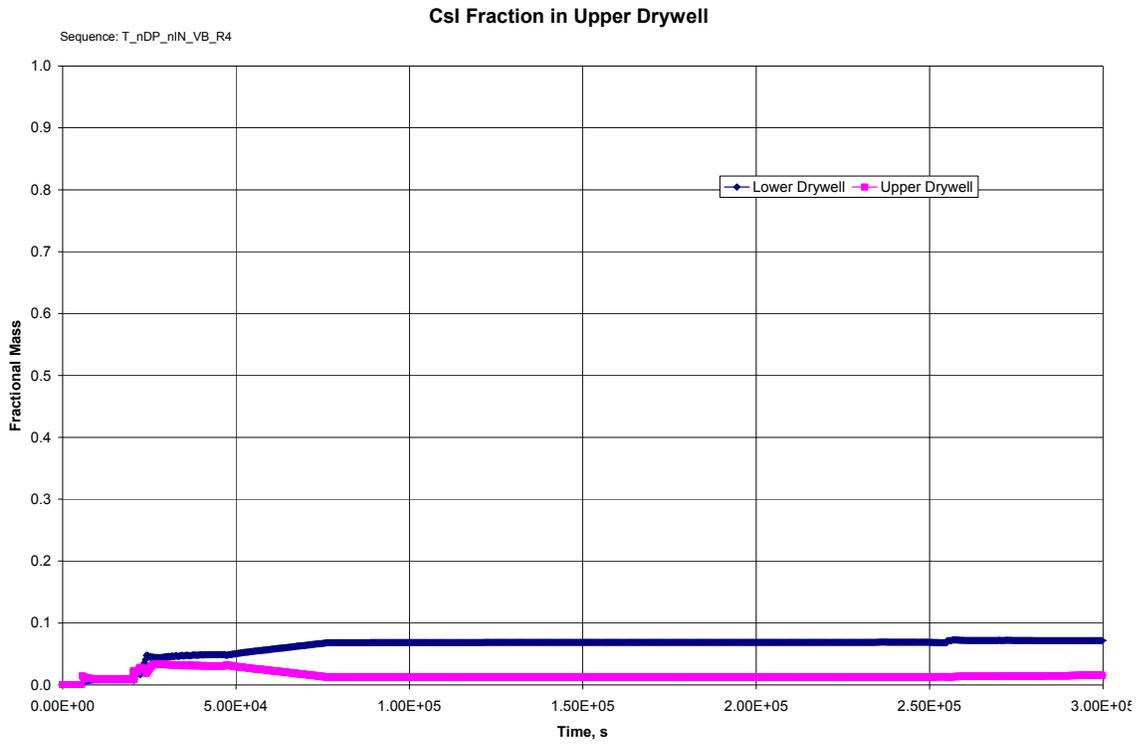


Figure 9A-13u. T_nDP_nIN_VB_R4 CsI Fraction in Upper Drywell

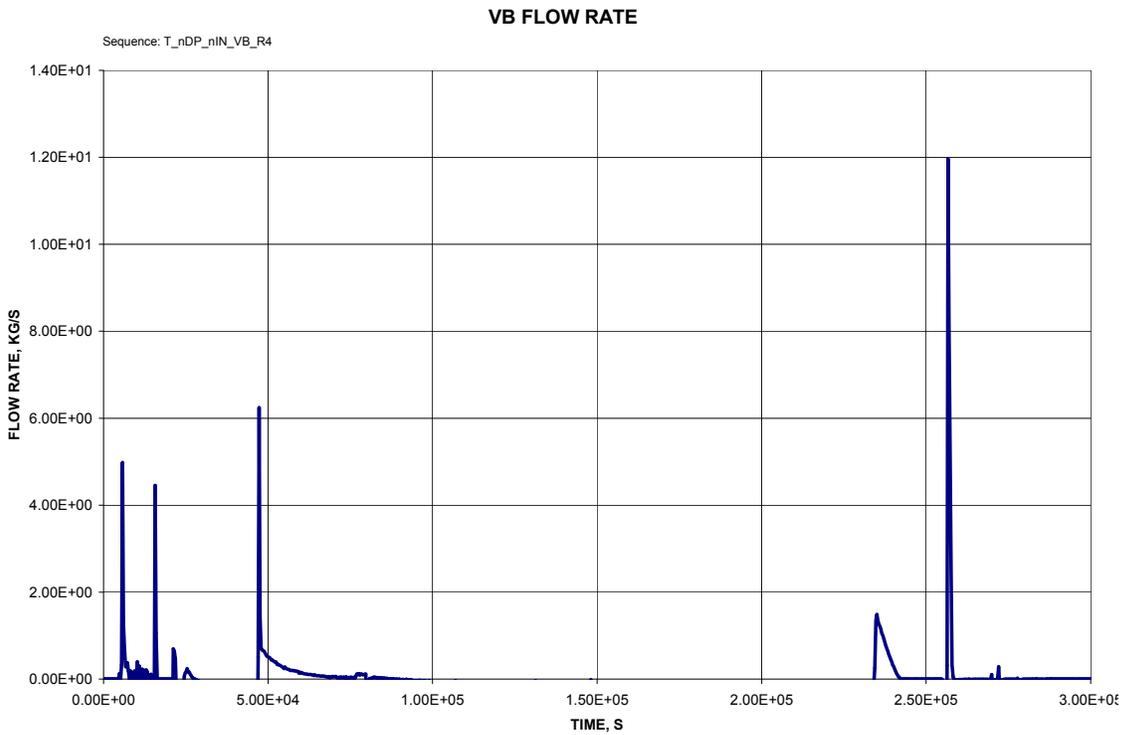


Figure 9A-13v. T_nDP_nIN_VB_R4 VB Flow Rate

9A.14 Containment Overpressure (VB) - Low Pressure T_nIN_VB_R4

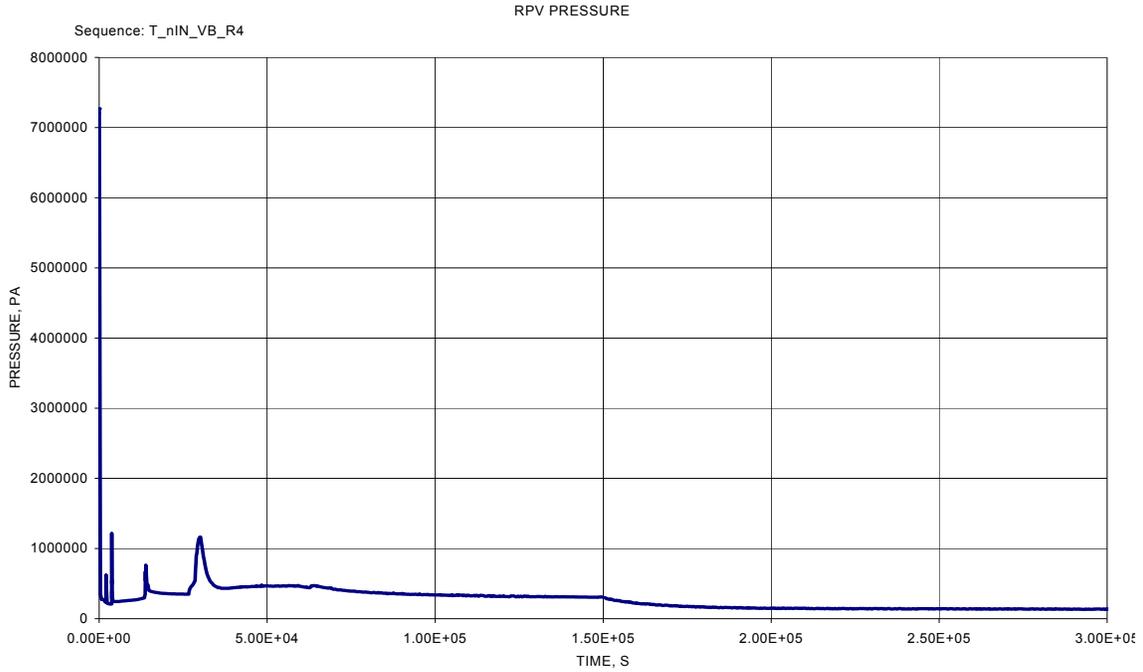


Figure 9A-14a. T_nIN_VB_R4 RPV Pressure

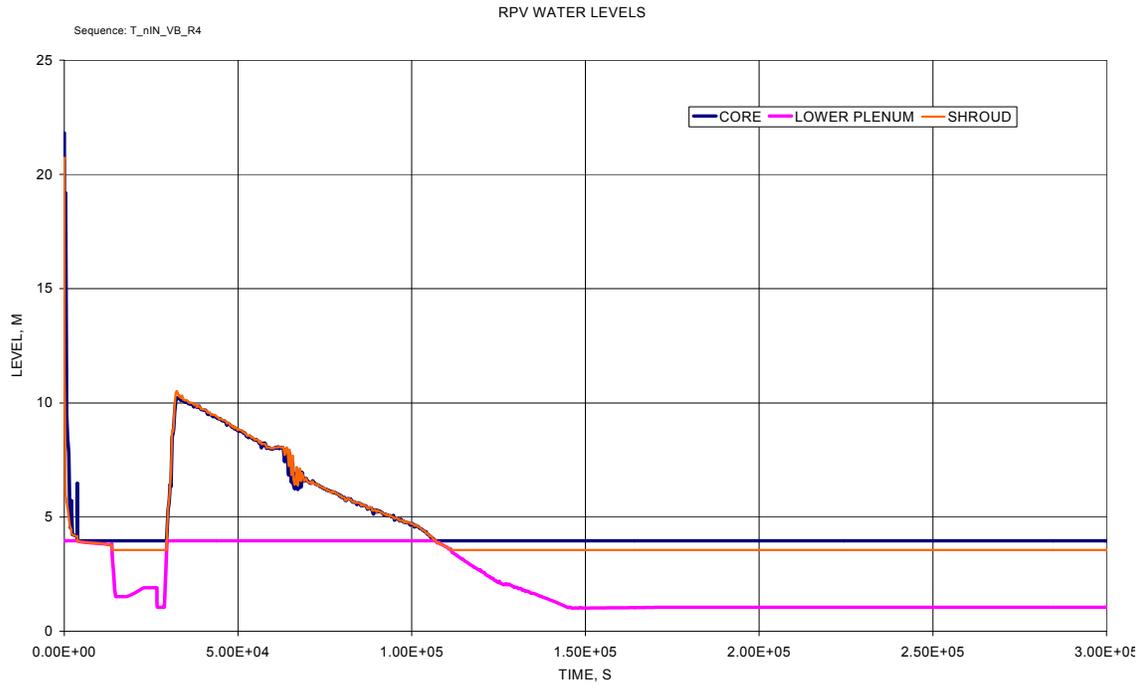


Figure 9A-14b. T_nIN_VB_R4 RPV Water Levels

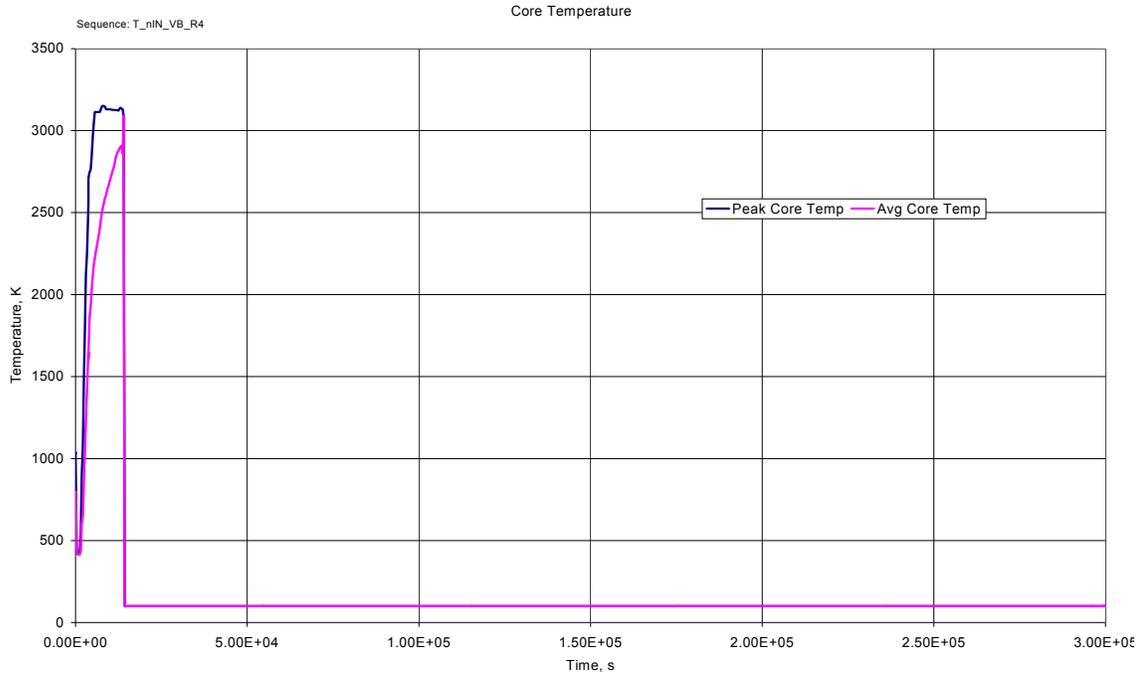


Figure 9A-14c. T_nIN_VB_R4 Core Temperature

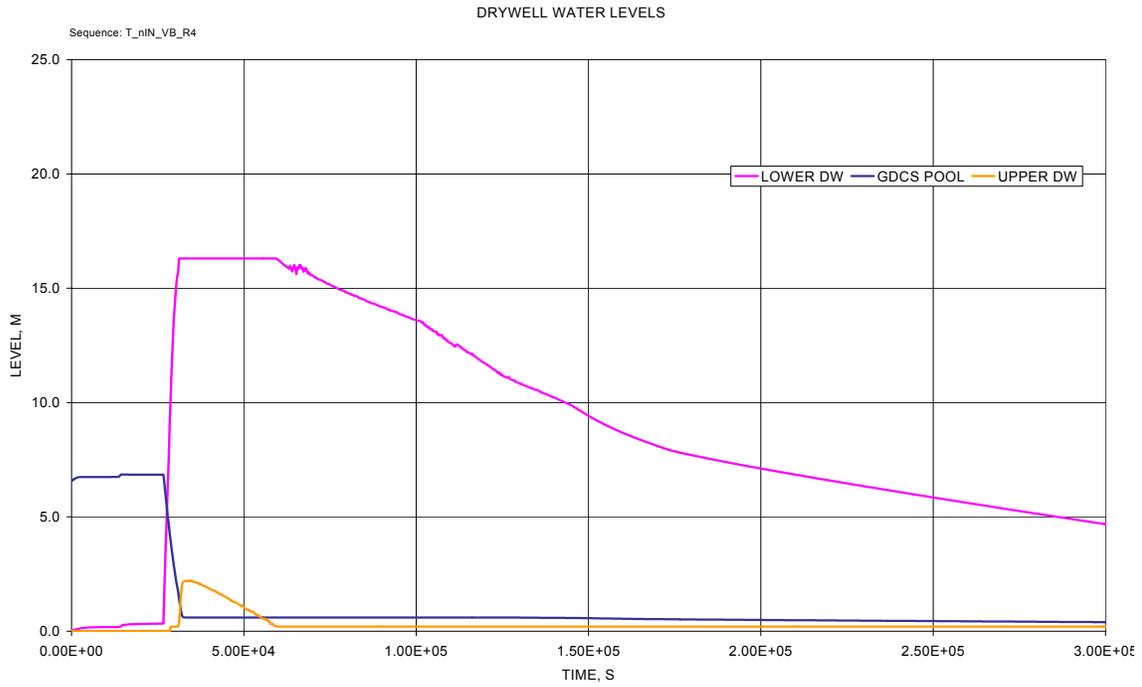


Figure 9A-14d. T_nIN_VB_R4 Drywell Water Levels

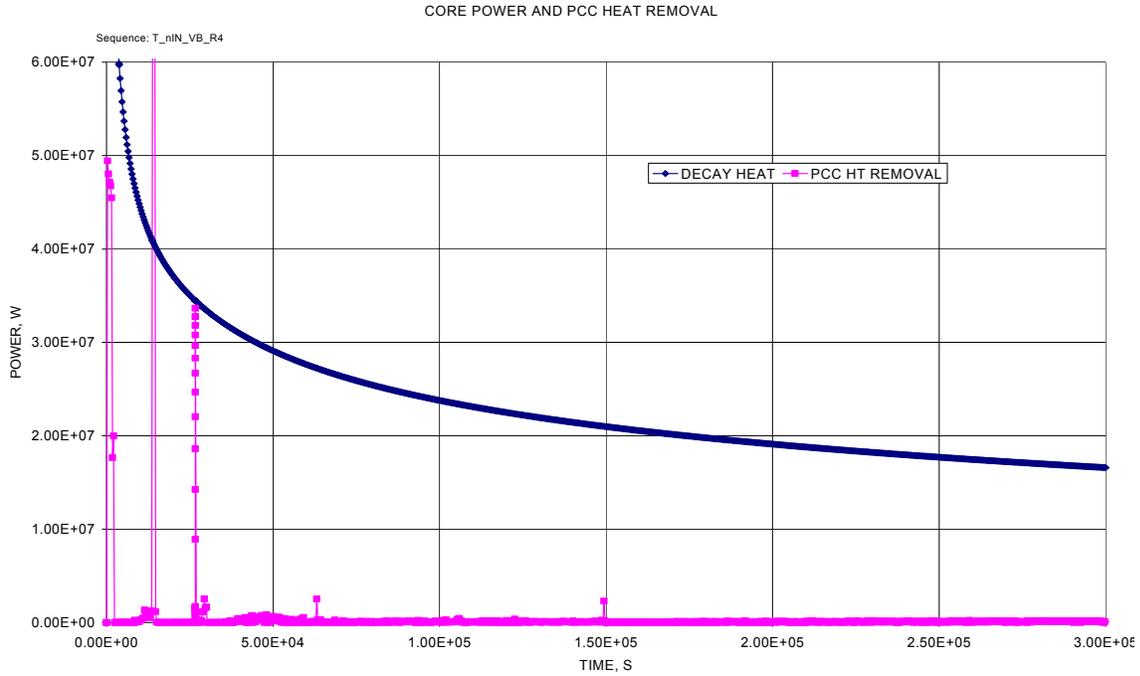


Figure 9A-14e. T_nIN_VB_R4 Core Power and PCCS Heat Removal

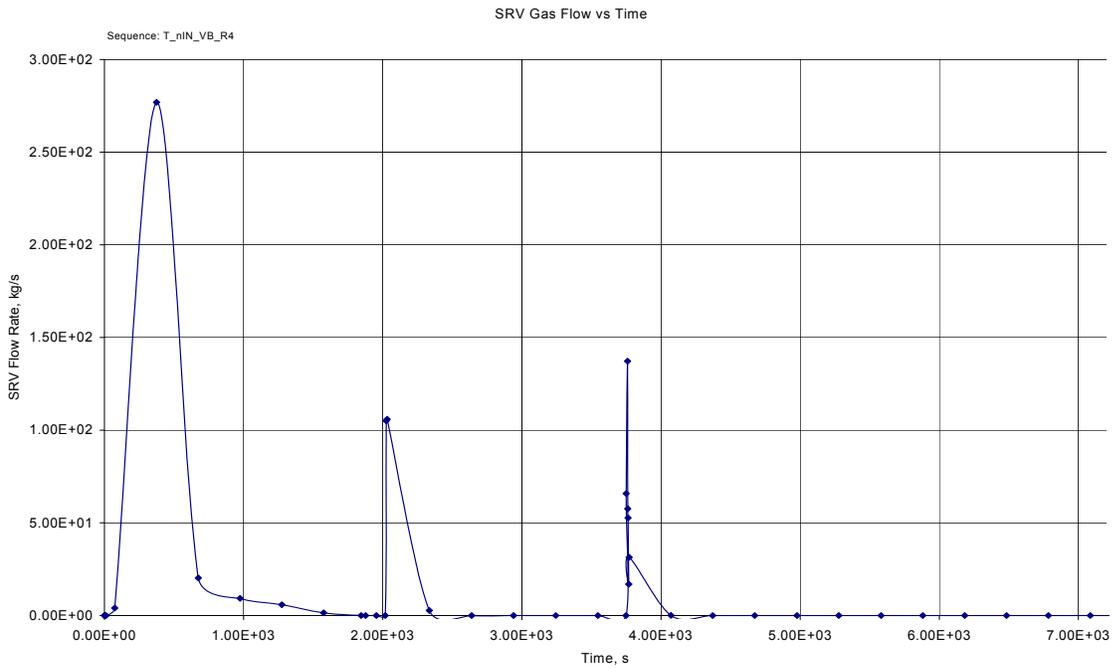


Figure 9A-14f. T_nIN_VB_R4 SRV Gas Flow Rate

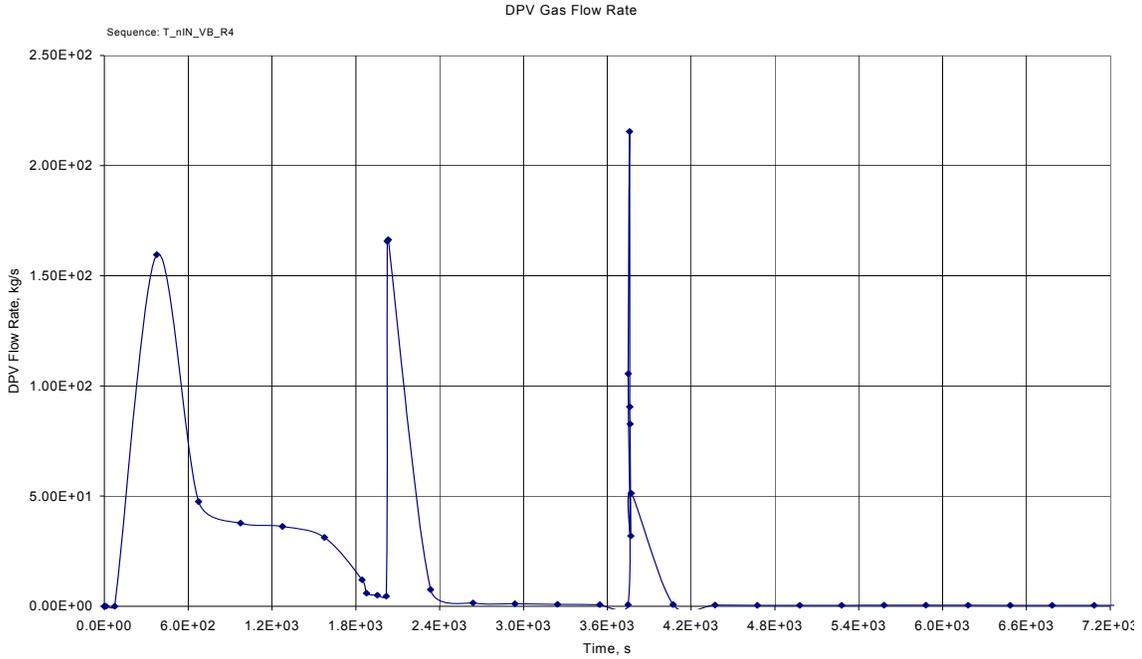


Figure 9A-14g. T_nIN_VB_R4 DPV Gas Flow Rate

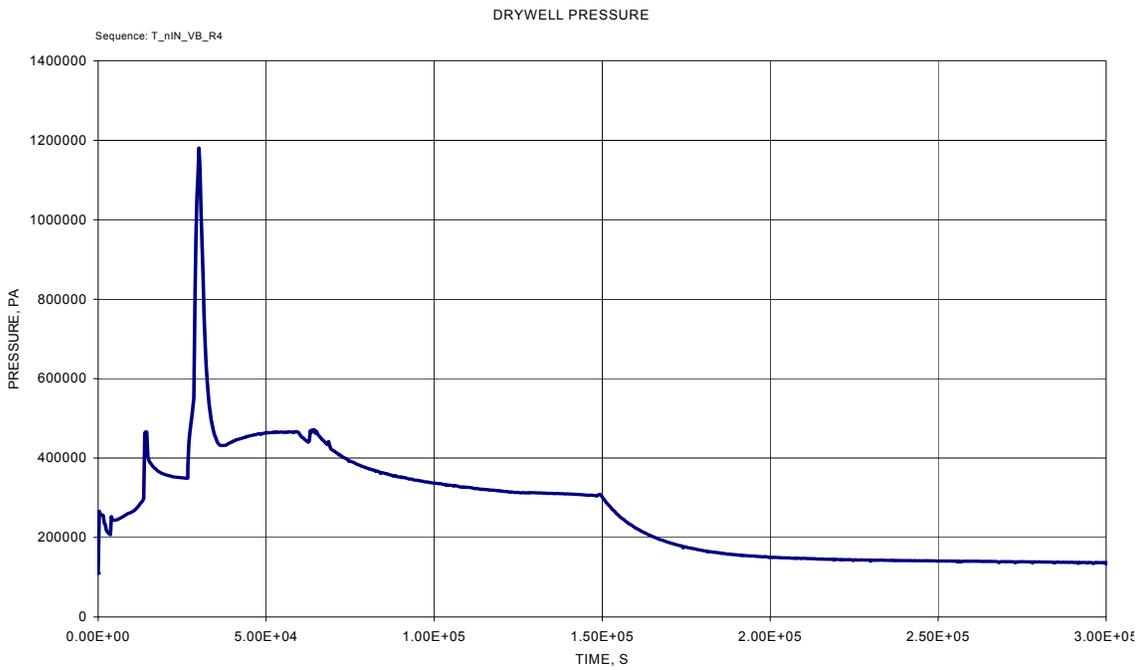


Figure 9A-14h. T_nIN_VB_R4 Drywell Pressure

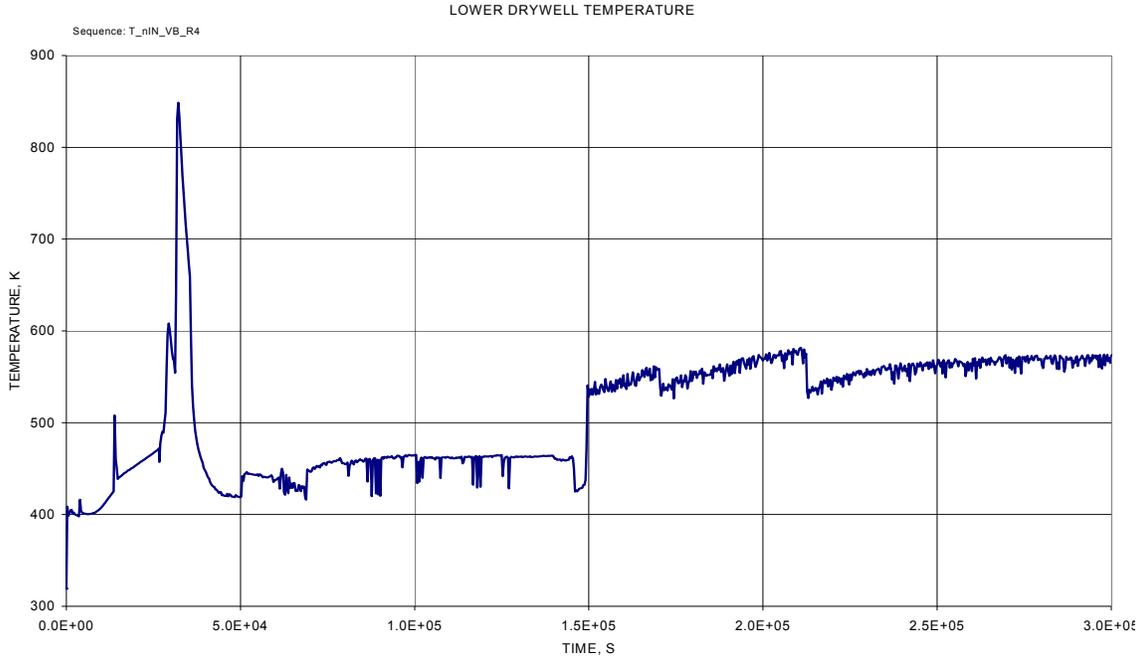


Figure 9A-14i. T_nIN_VB_R4 Lower Drywell Temperature

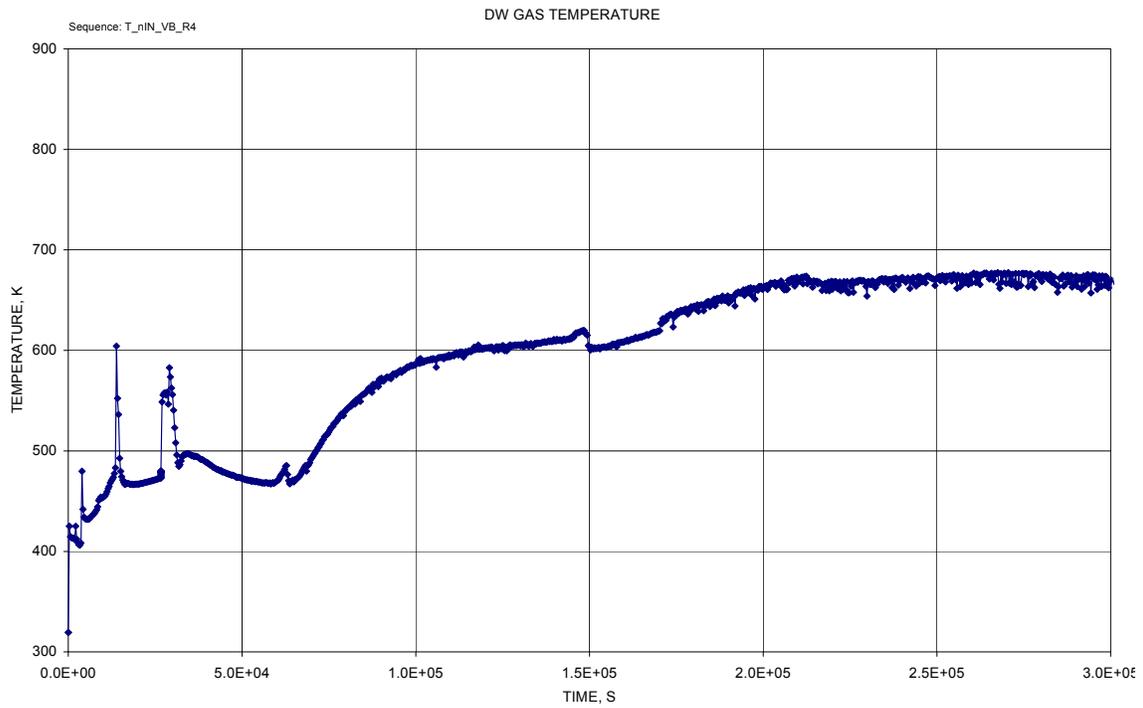


Figure 9A-14j. T_nIN_VB_R4 Drywell Gas Temperature

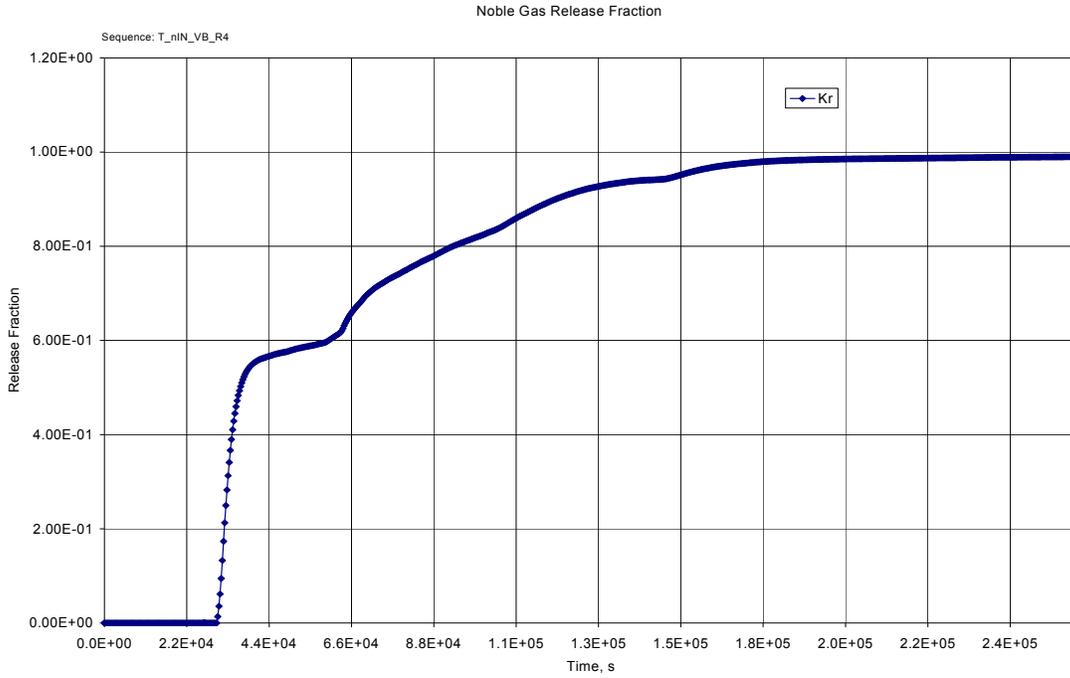


Figure 9A-14k. T_nIN_VB_R4 Noble Gas Release Fraction

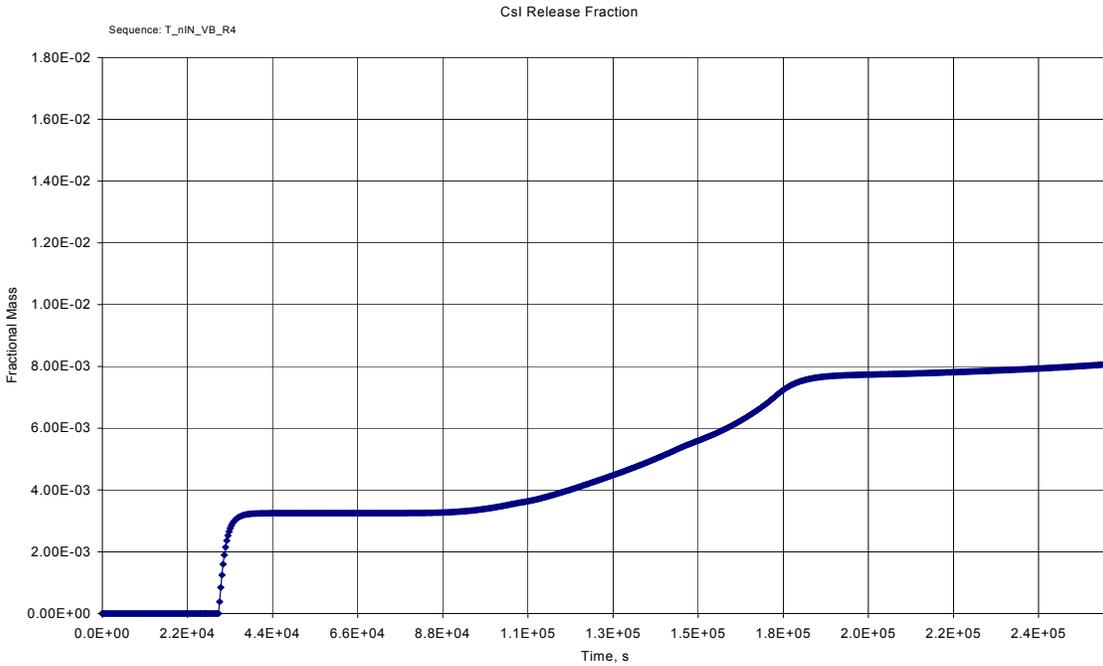


Figure 9A-14l. T_nIN_VB_R4 CsI Release Fraction

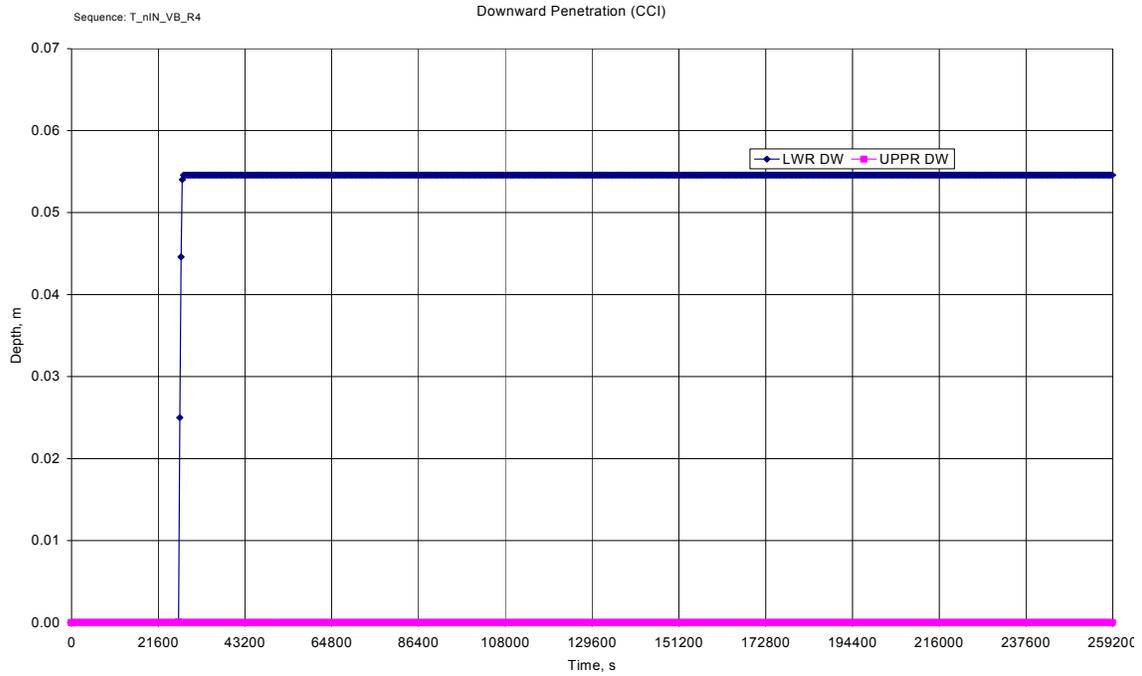


Figure 9A-14m. T_nIN_VB_R4 Downward Penetration (CCI)

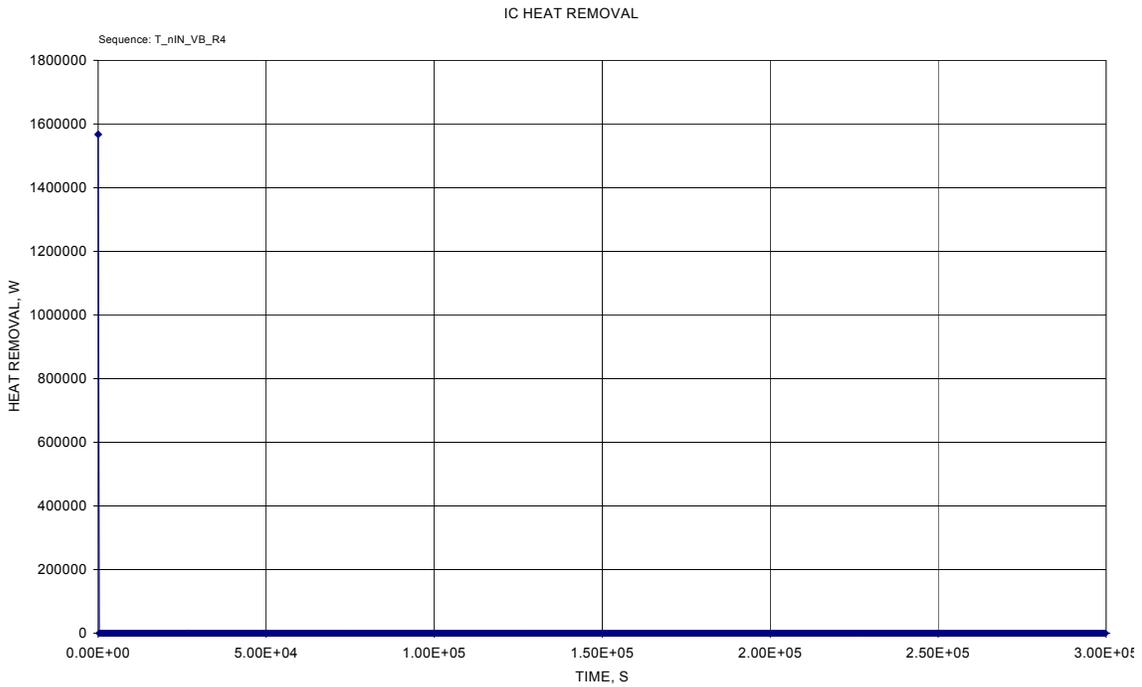


Figure 9A-14n. T_nIN_VB_R4 ICS Heat Removal

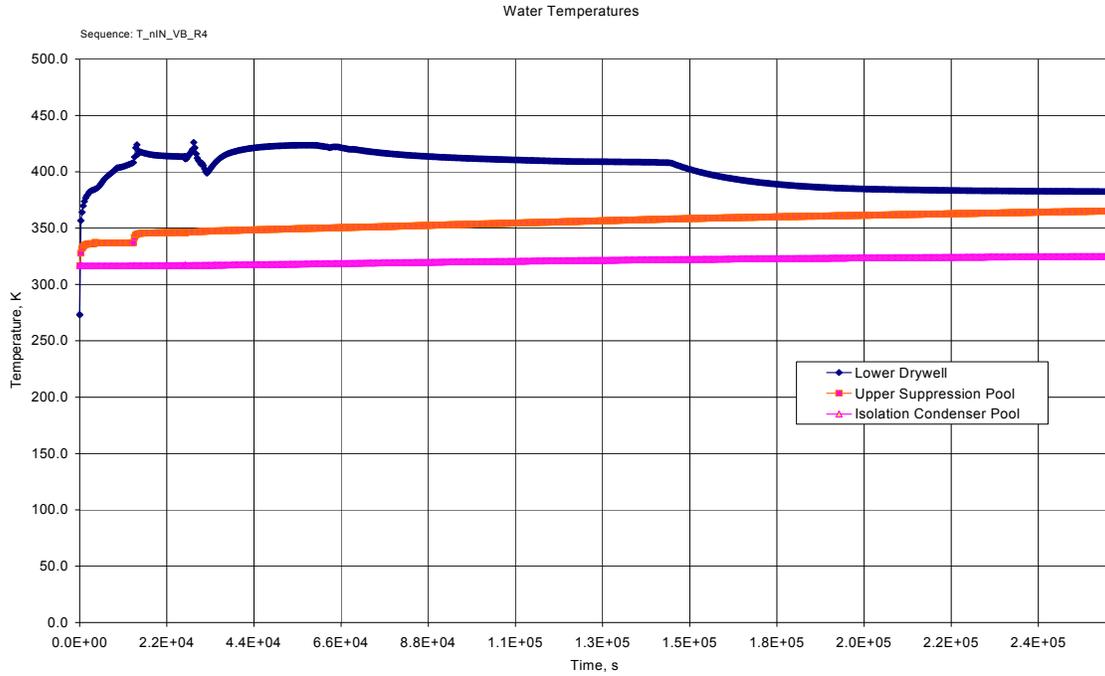


Figure 9A-14o. T_nIN_VB_R4 Water Temperatures

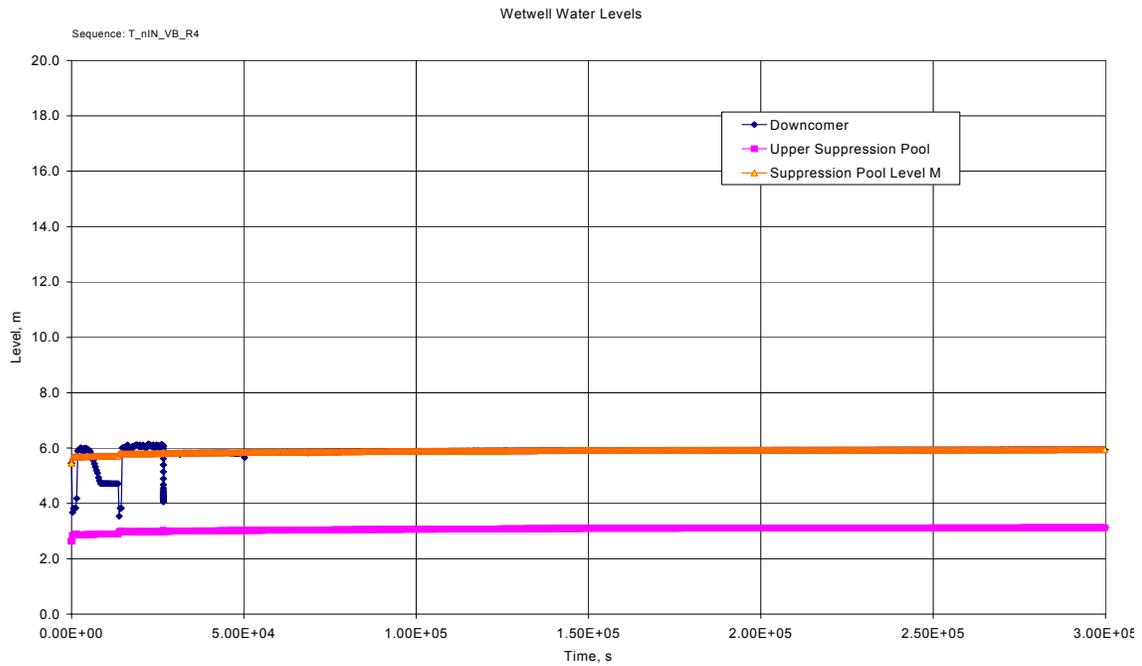


Figure 9A-14p. T_nIN_VB_R4 Wetwell Water Levels

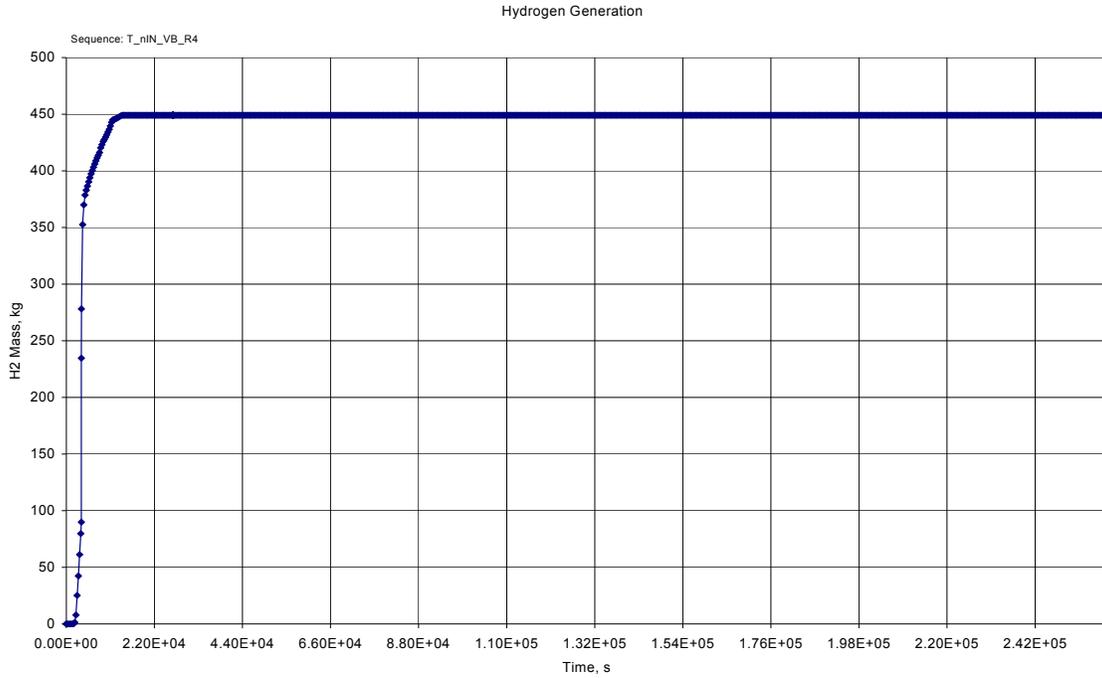


Figure 9A-14q. T_nIN_VB_R4 Hydrogen Generation

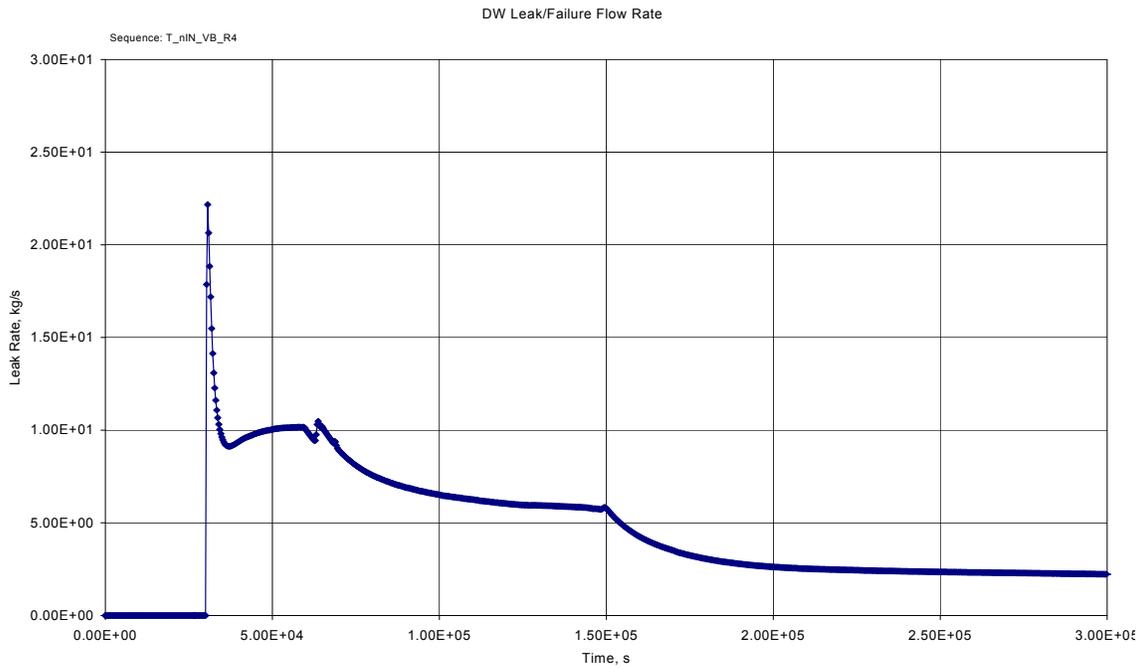


Figure 9A-14r. T_nIN_VB_R4 Drywell Leak/Failure Flow Rate

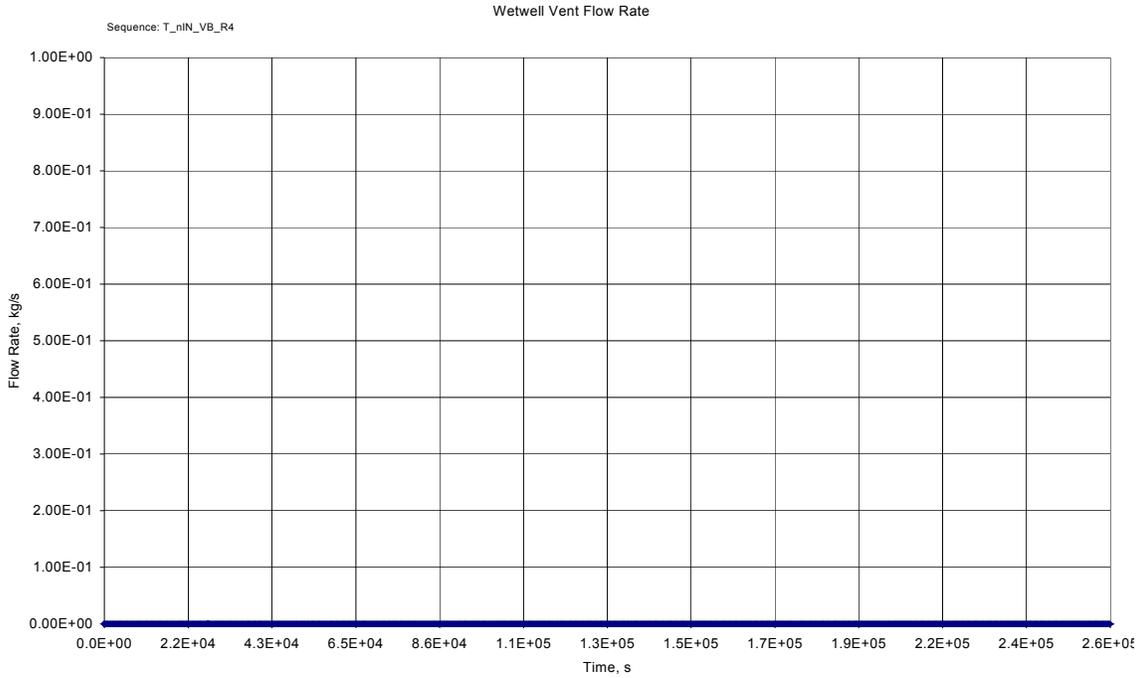


Figure 9A-14s. T_nIN_VB_R4 Wetwell Vent Flow Rate

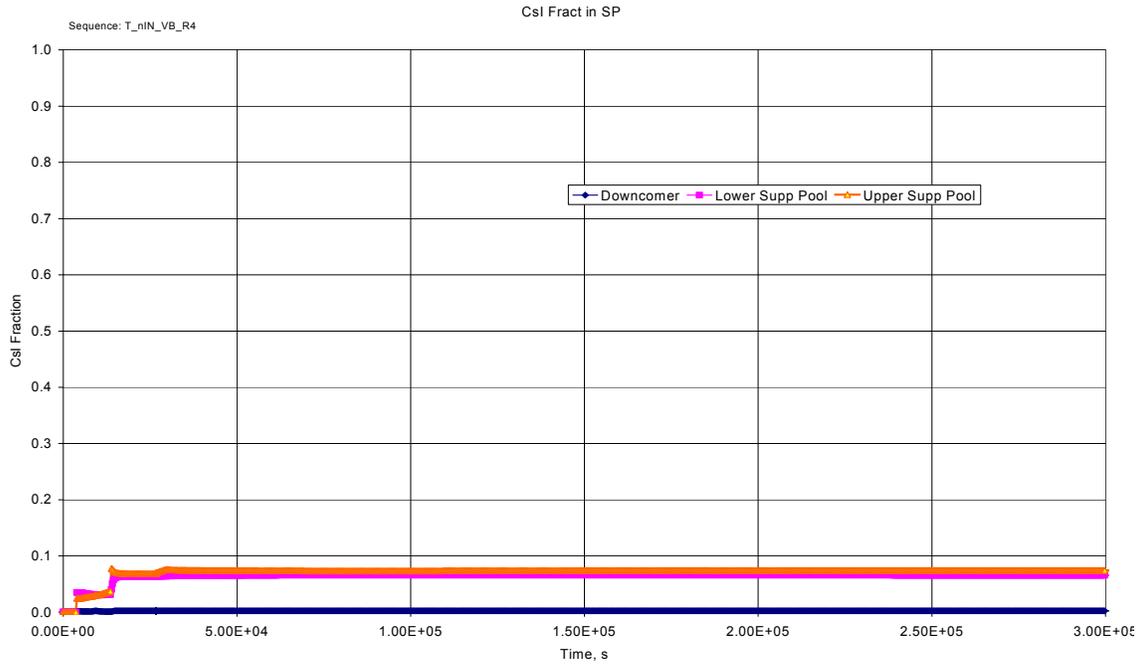


Figure 9A-14t. T_nIN_VB_R4 Csl Release Fraction In SP

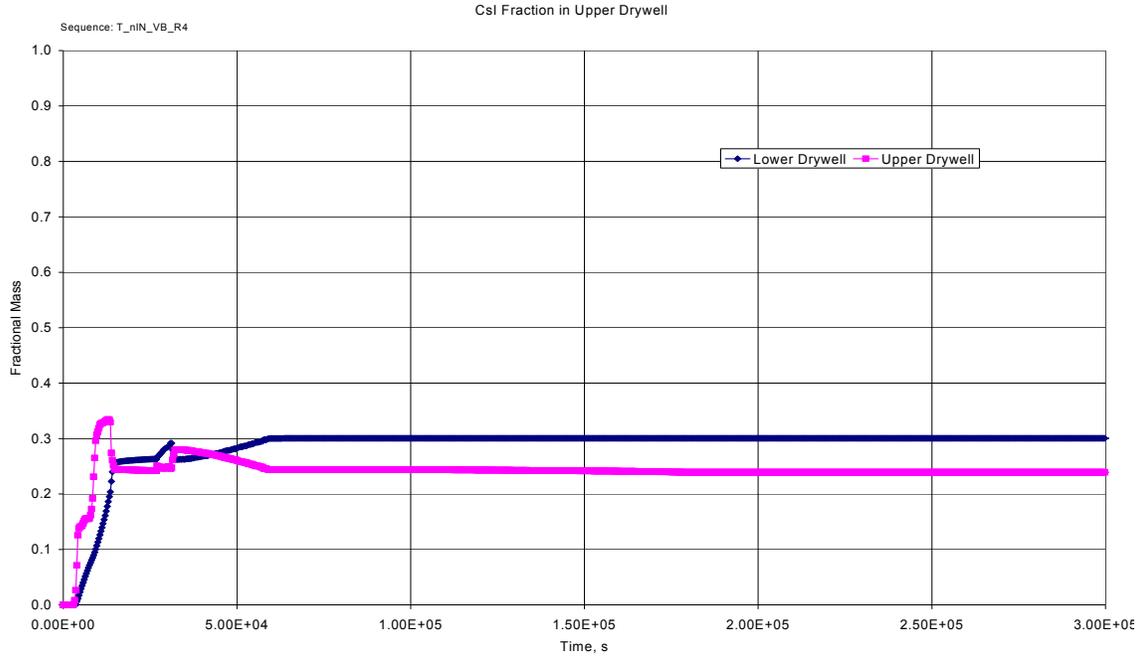


Figure 9A-14u. T_nIN_VB_R4 Csi Fraction in Upper Drywell

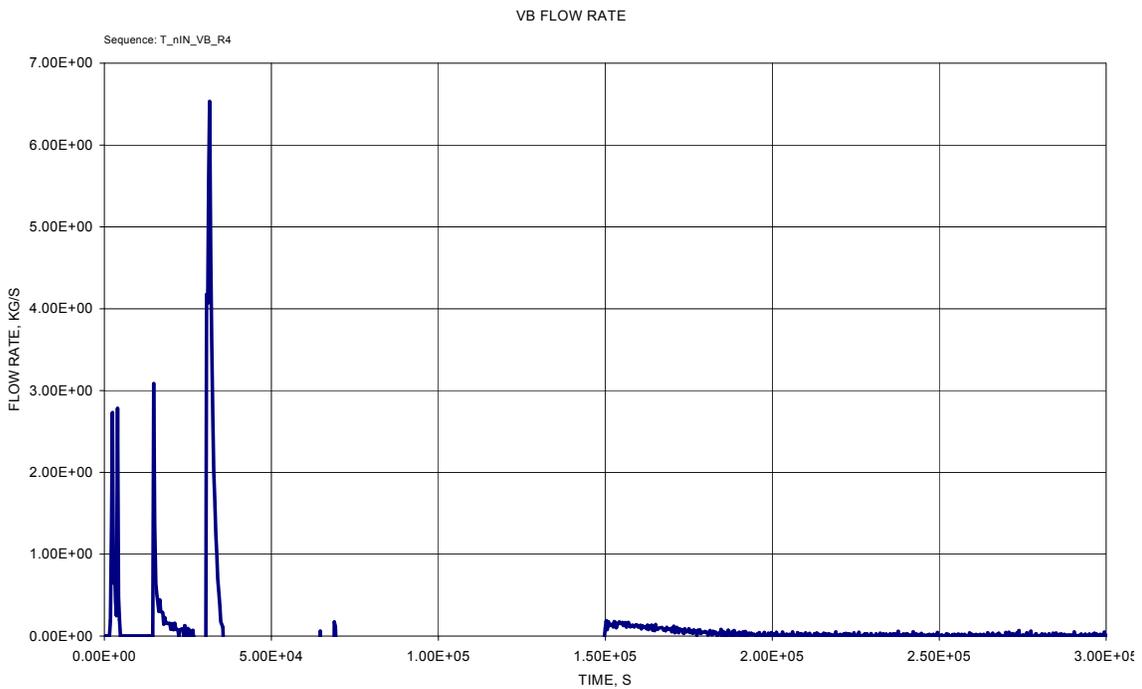


Figure 9A-14v. T_nIN_VB_R4 Vacuum Breaker Flow Rate

9A.15 Containment Overpressure (W1) T_nDP_nIN_nCHR_W1_R4

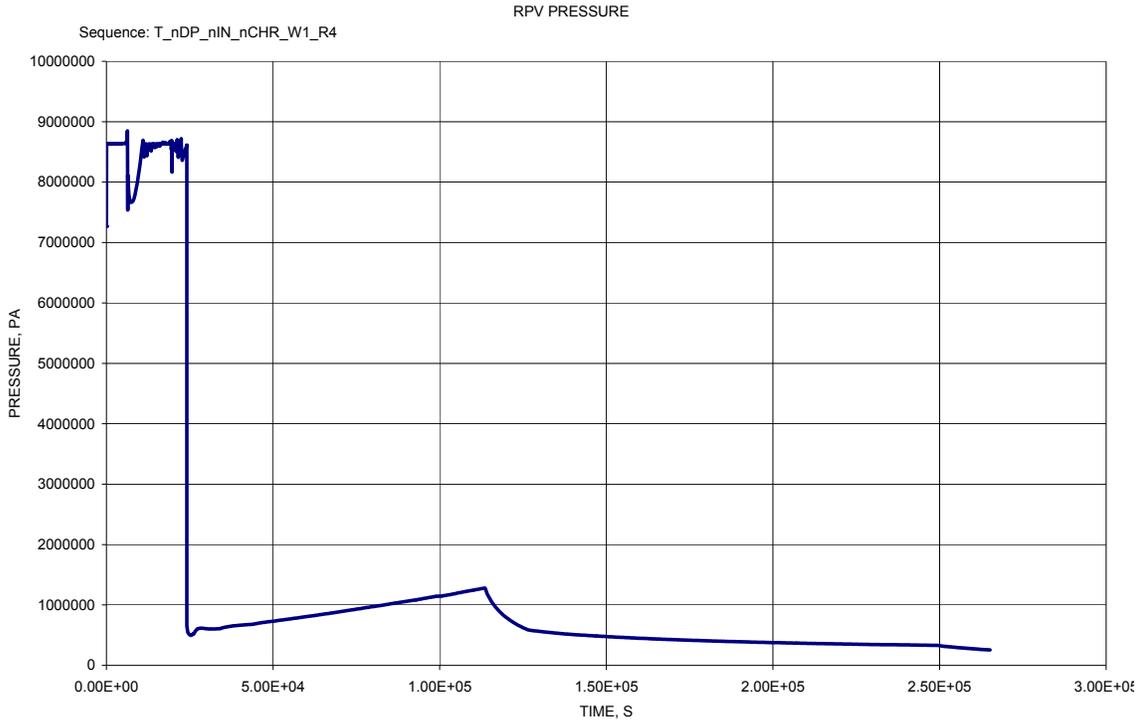


Figure 9A-15a. T_nDP_nIN_nCHR_W1_R4 RPV Pressure

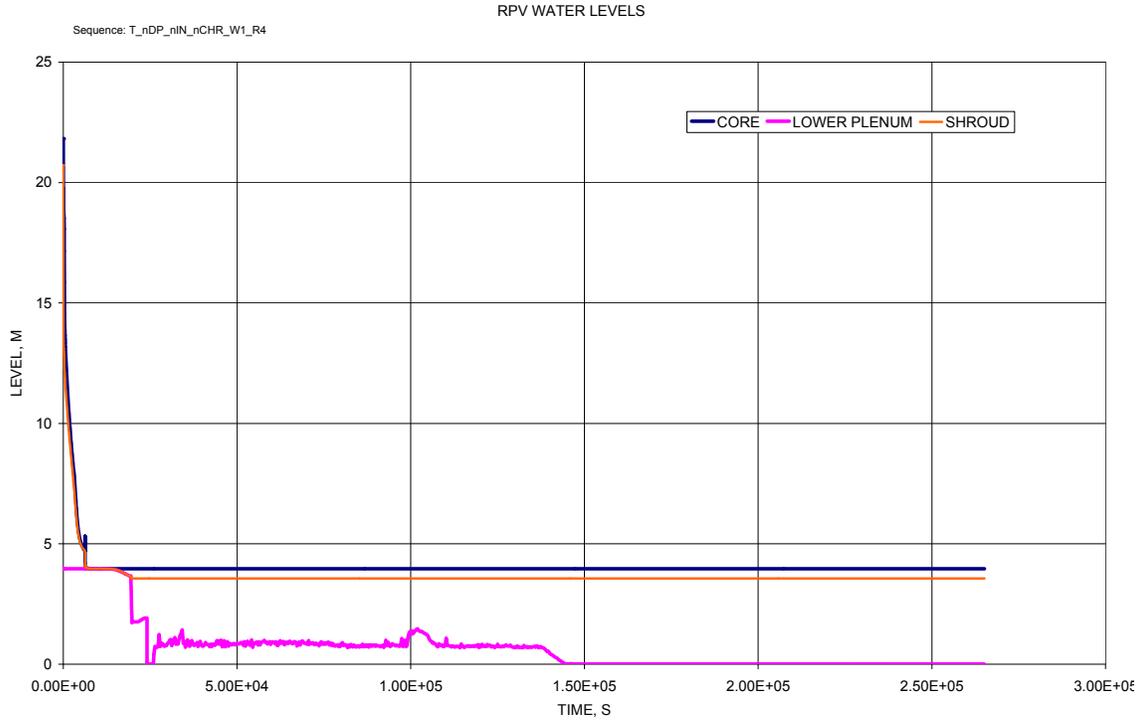


Figure 9A-15b. T_nDP_nIN_nCHR_W1_R4 RPV Water Levels

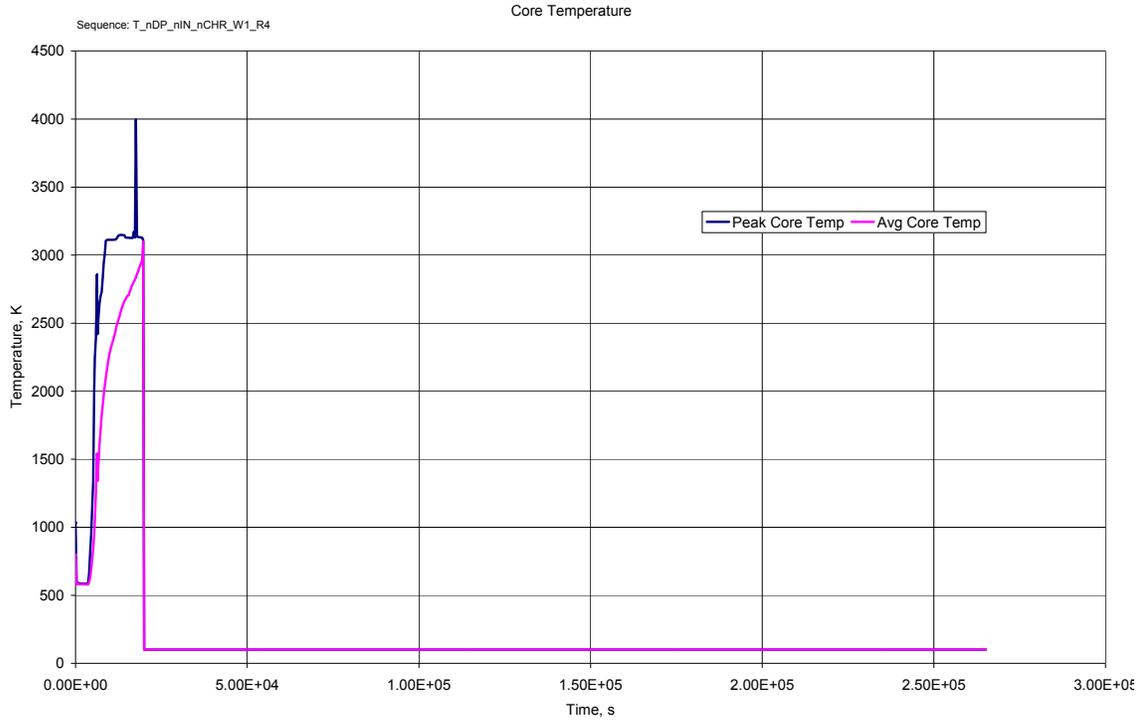


Figure 9A-15c. T_nDP_nIN_nCHR_W1_R4 Core Temperature

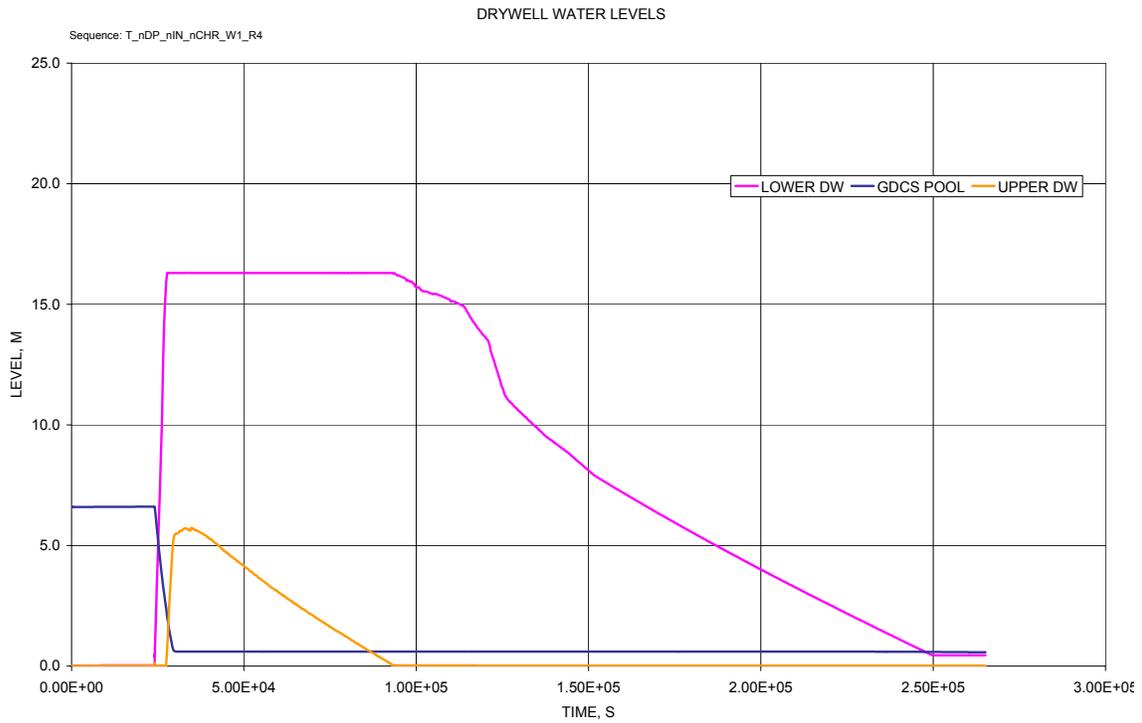


Figure 9A-15d. T_nDP_nIN_nCHR_W1_R4 Drywell Water Levels

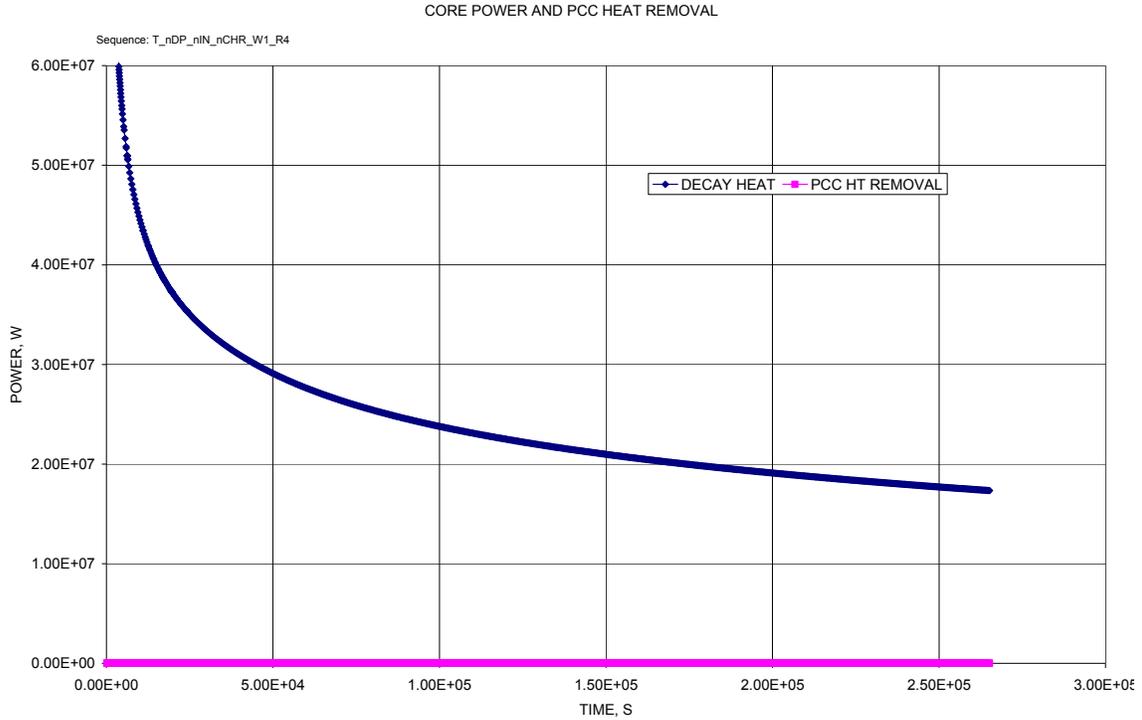


Figure 9A-15e. T_nDP_nIN_nCHR_W1_R4 Core Power and PCCS Heat Removal

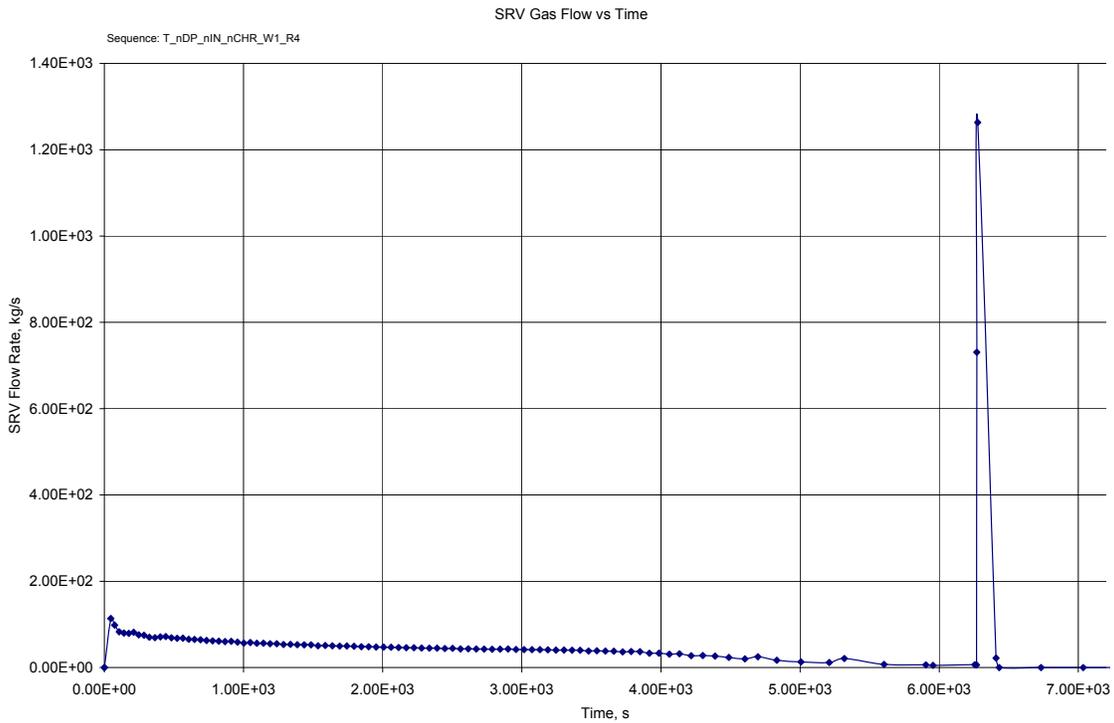


Figure 9A-15f. T_nDP_nIN_nCHR_W1_R4 SRV Gas Flow Rate

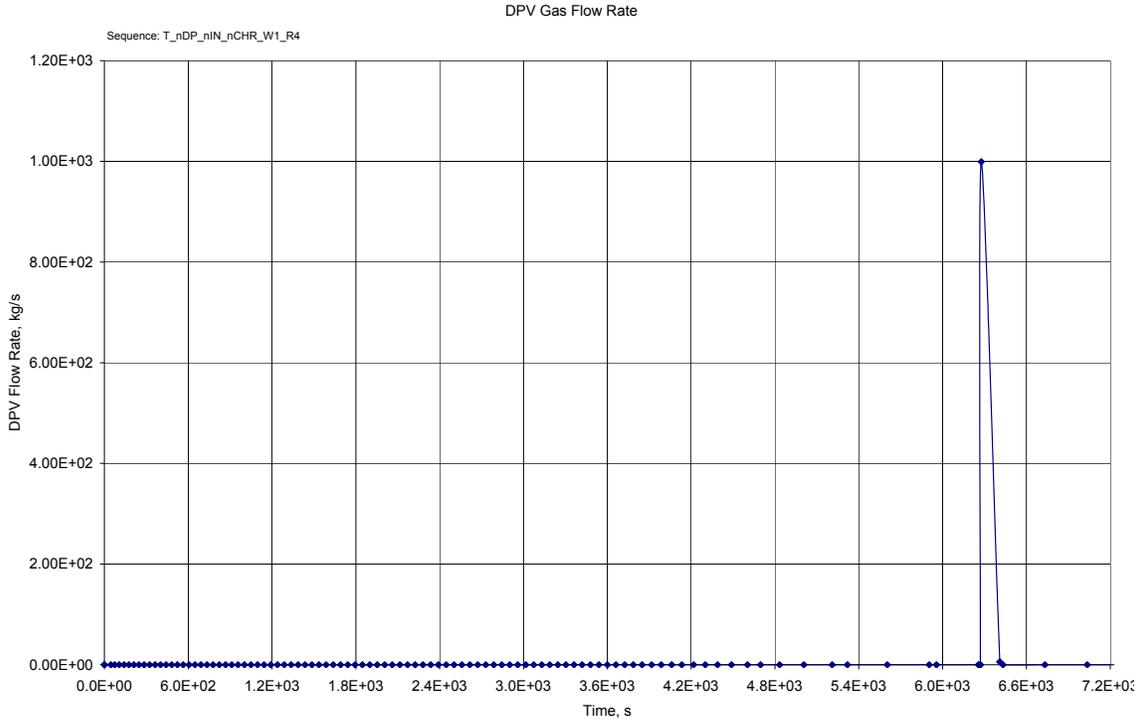


Figure 9A-15g. T_nDP_nIN_nCHR_W1_R4 DPV Gas Flow Rate

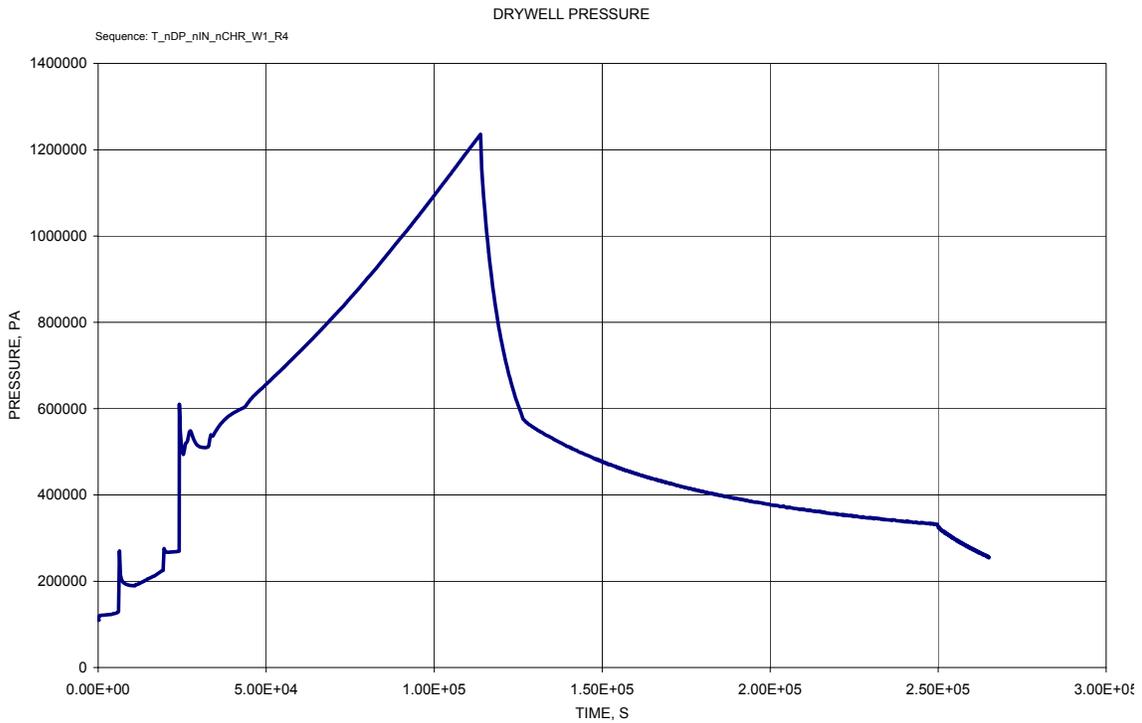


Figure 9A-15h. T_nDP_nIN_nCHR_W1_R4 Drywell Pressure

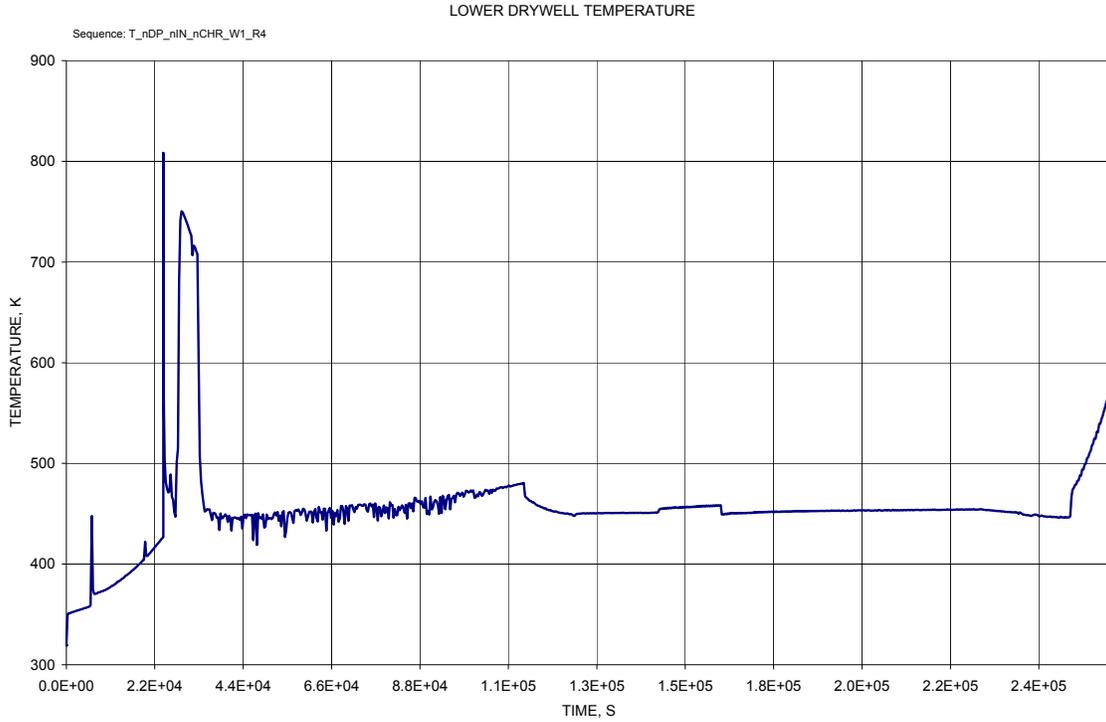


Figure 9A-15i. T_nDP_nIN_nCHR_W1_R4 Lower Drywell Temperature

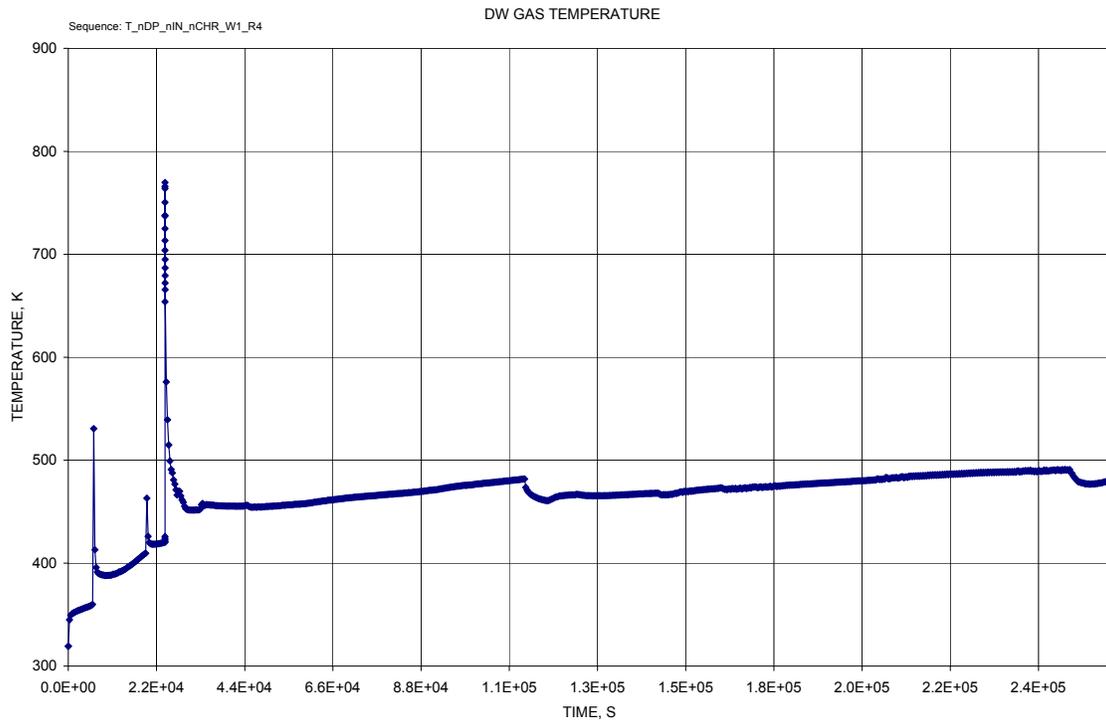


Figure 9A-15j. T_nDP_nIN_nCHR_W1_R4 Drywell Gas Temperature

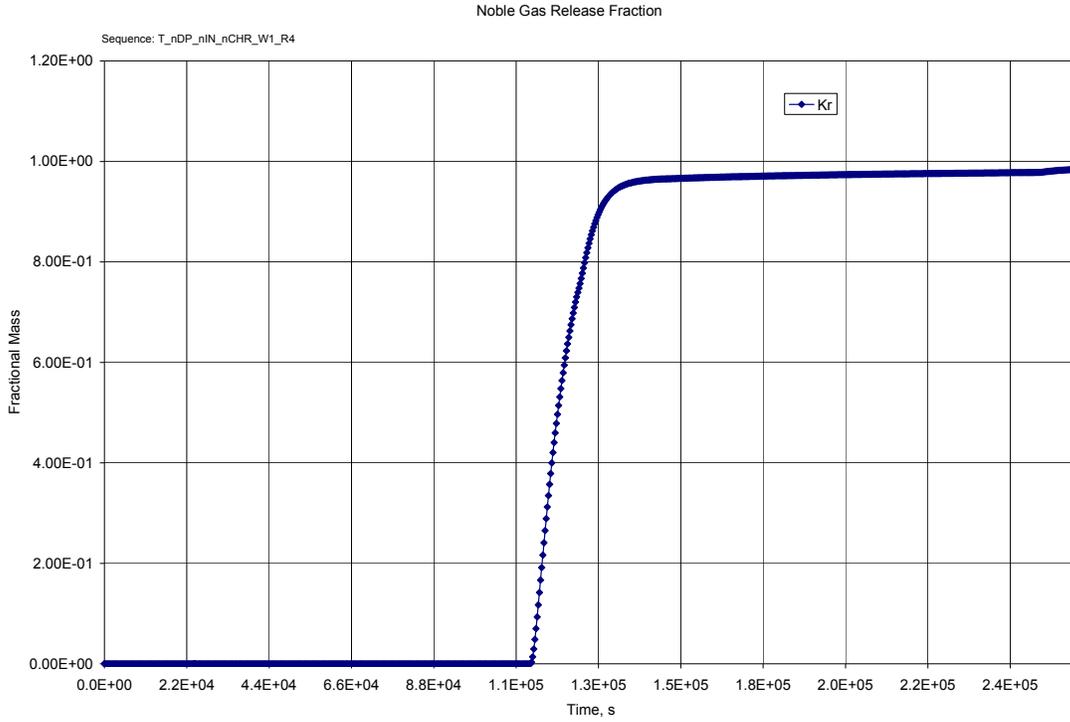


Figure 9A-15k. T_nDP_nIN_nCHR_W1_R4 Noble Gas Release Fraction

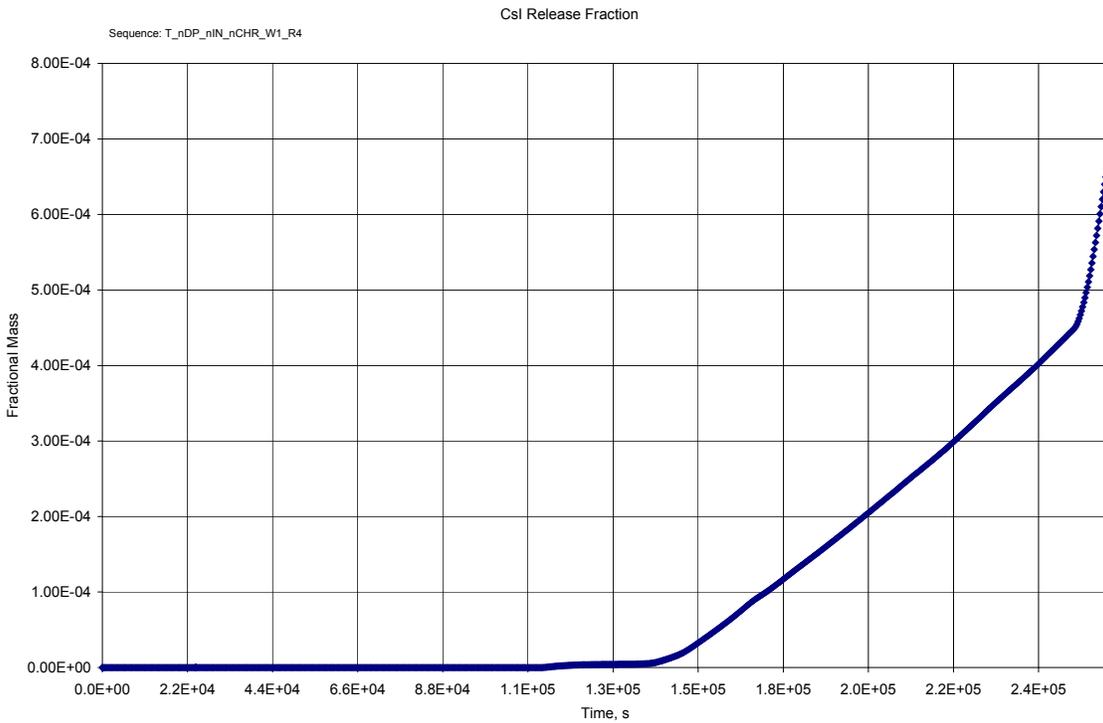


Figure 9A-15l. T_nDP_nIN_nCHR_W1_R4CsI Release Fraction

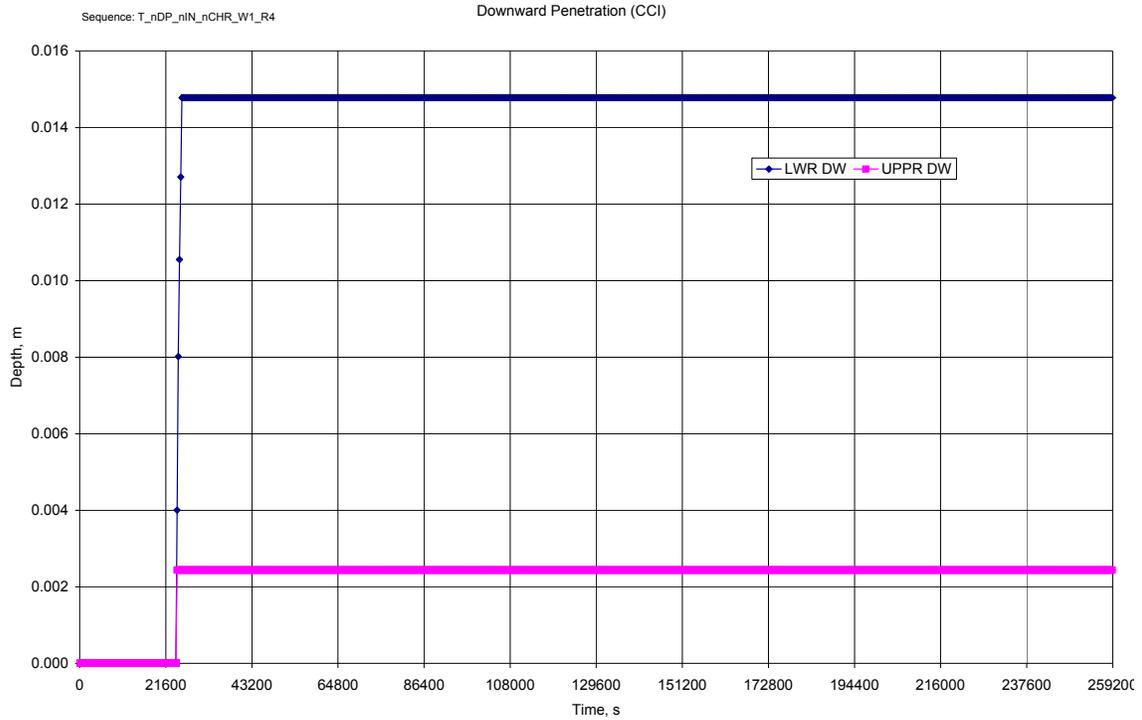


Figure 9A-15m. T_nDP_nIN_nCHR_W1_R4 Downward Penetration (CCI)

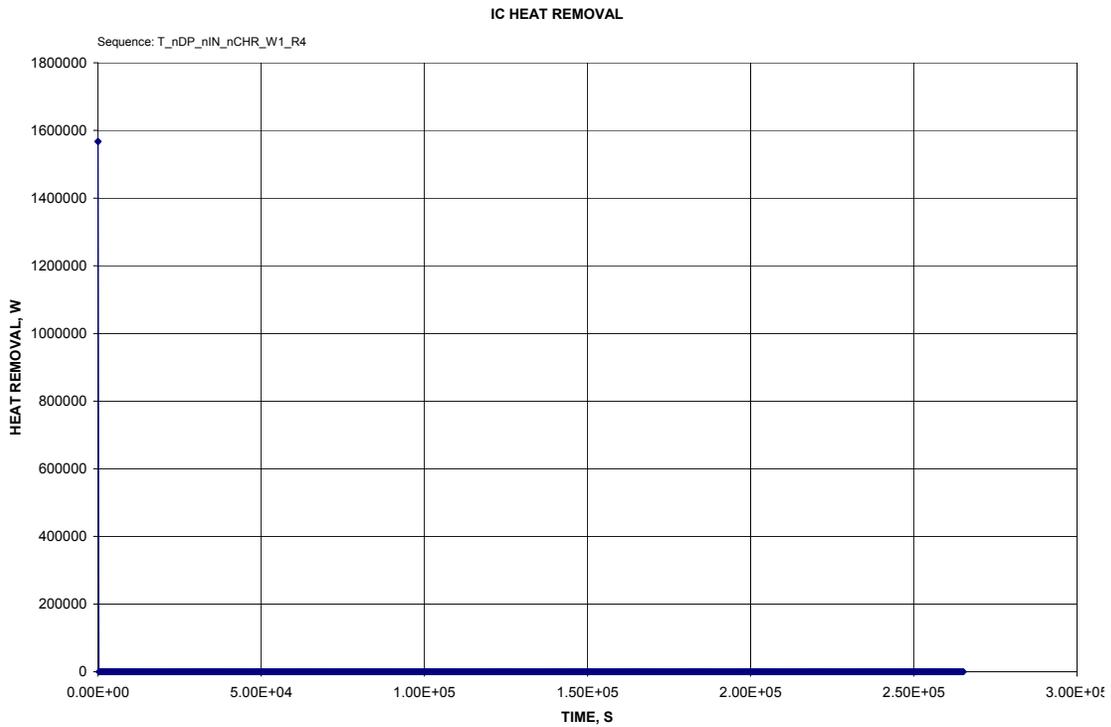


Figure 9A-15n. T_nDP_nIN_nCHR_W1_R4 ICS Heat Removal

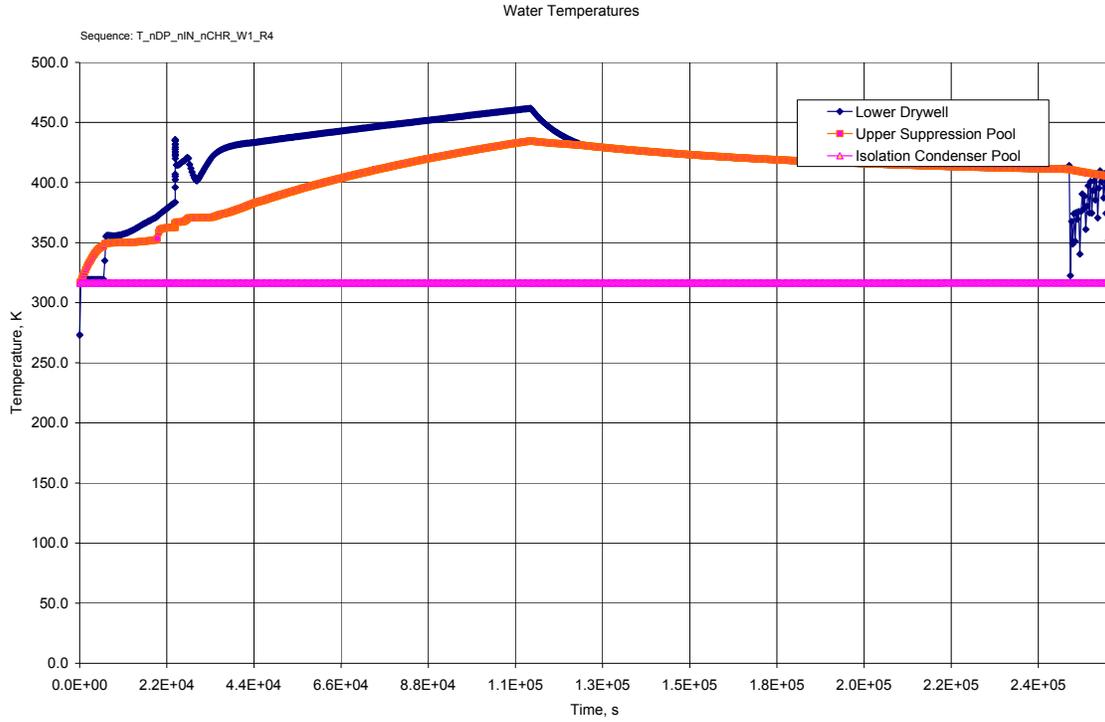


Figure 9A-15o. T_nDP_nIN_nCHR_W1_R4 Water Temperatures

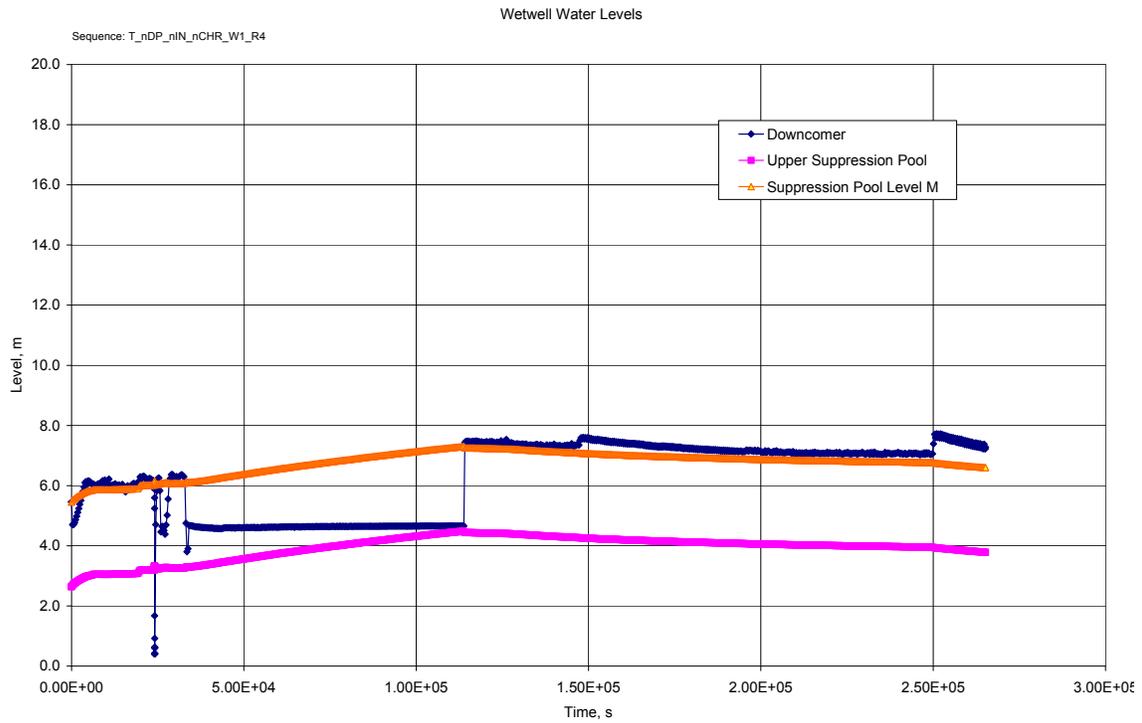


Figure 9A-15p. T_nDP_nIN_nCHR_W1_R4 Wetwell Water Levels

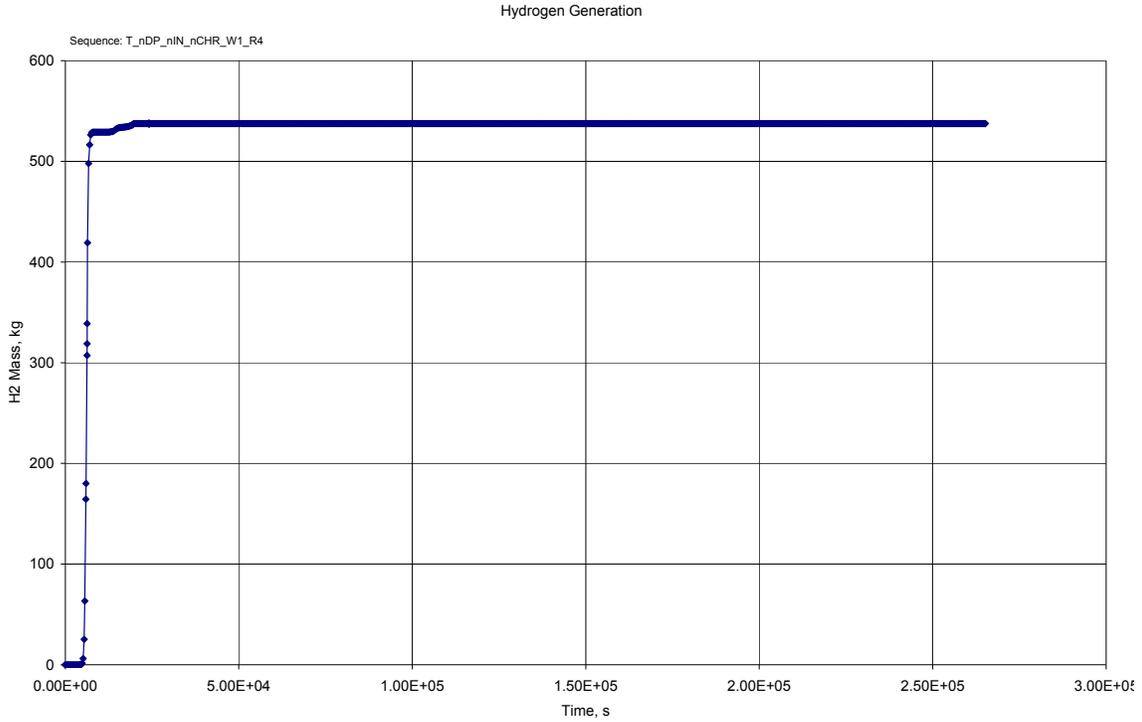


Figure 9A-15q. T_nDP_nIN_nCHR_W1_R4 Hydrogen Generation

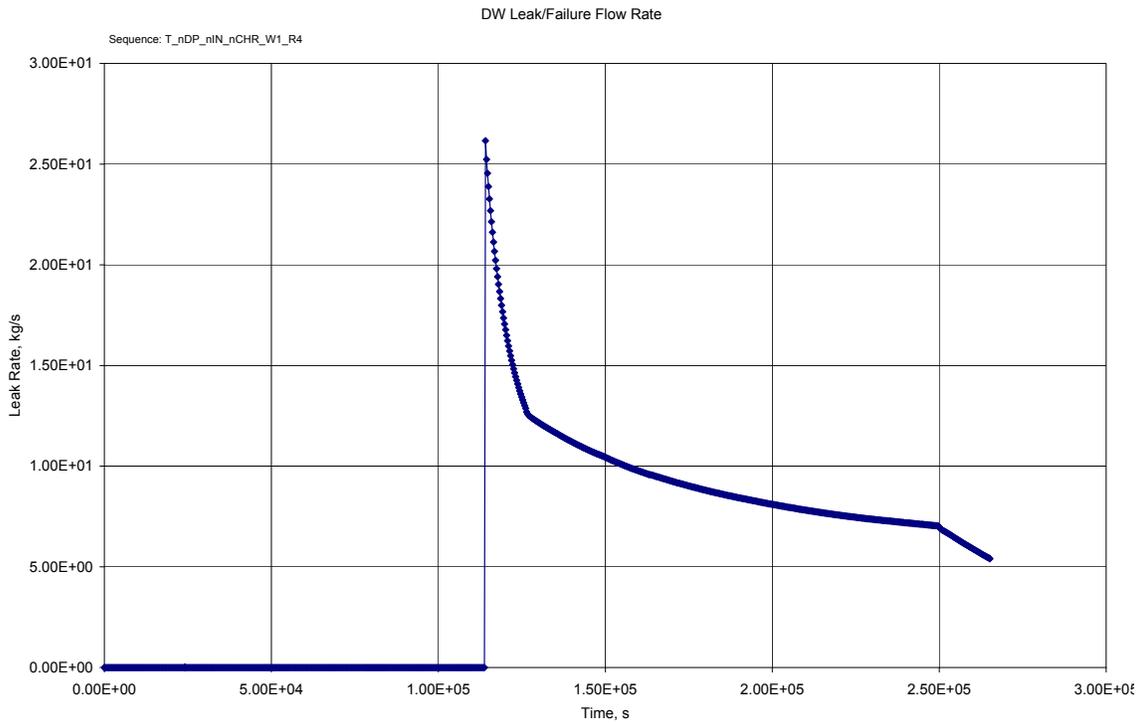


Figure 9A-15r. T_nDP_nIN_nCHR_W1_R4 Drywell Leak/Failure Flow Rate

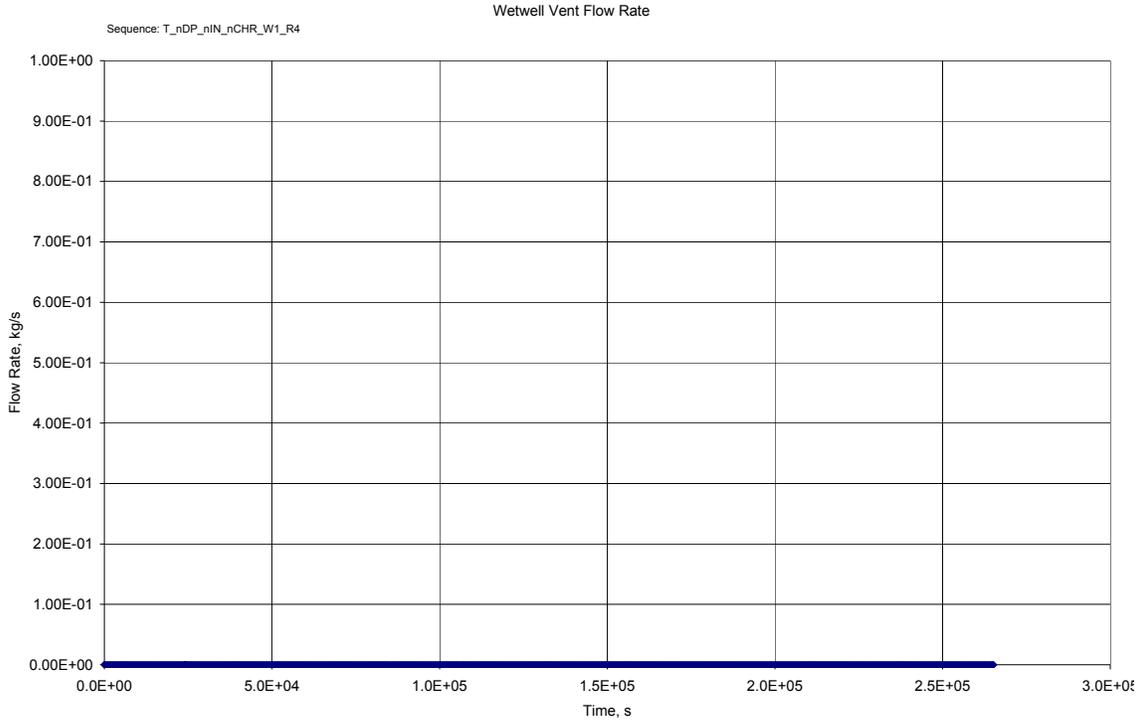


Figure 9A-15s. T_nDP_nIN_nCHR_W1_R4 Wetwell Vent Flow Rate

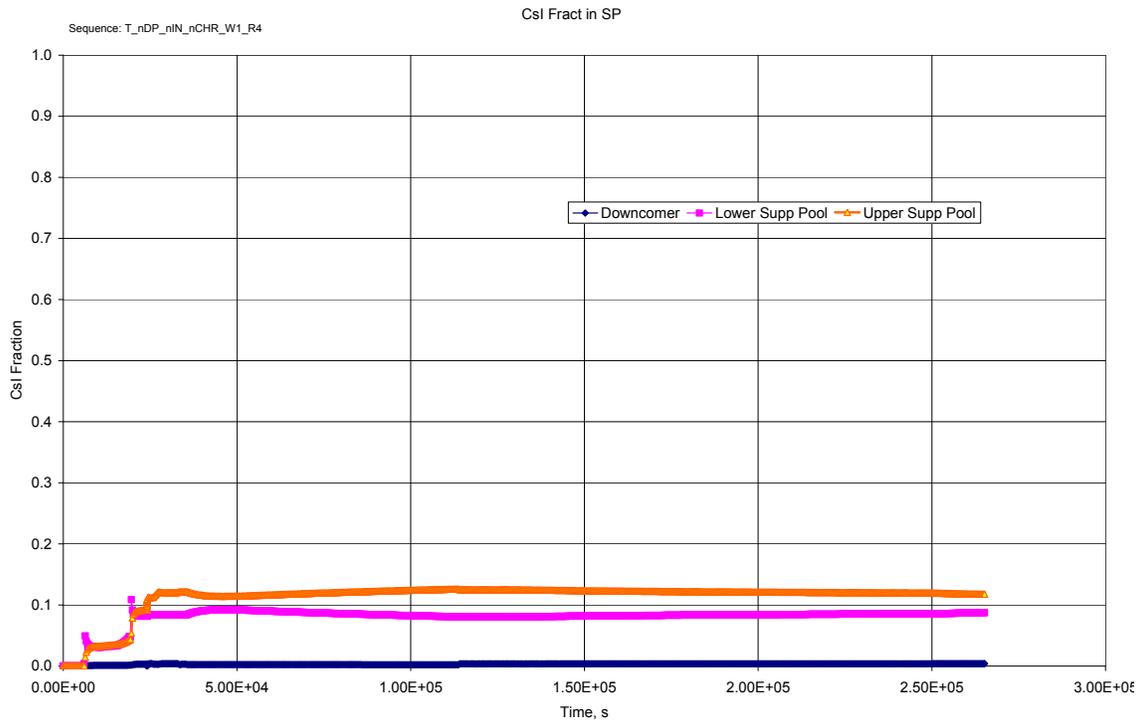


Figure 9A-15t. T_nDP_nIN_nCHR_W1_R4 CsI Fraction in Suppression Pool

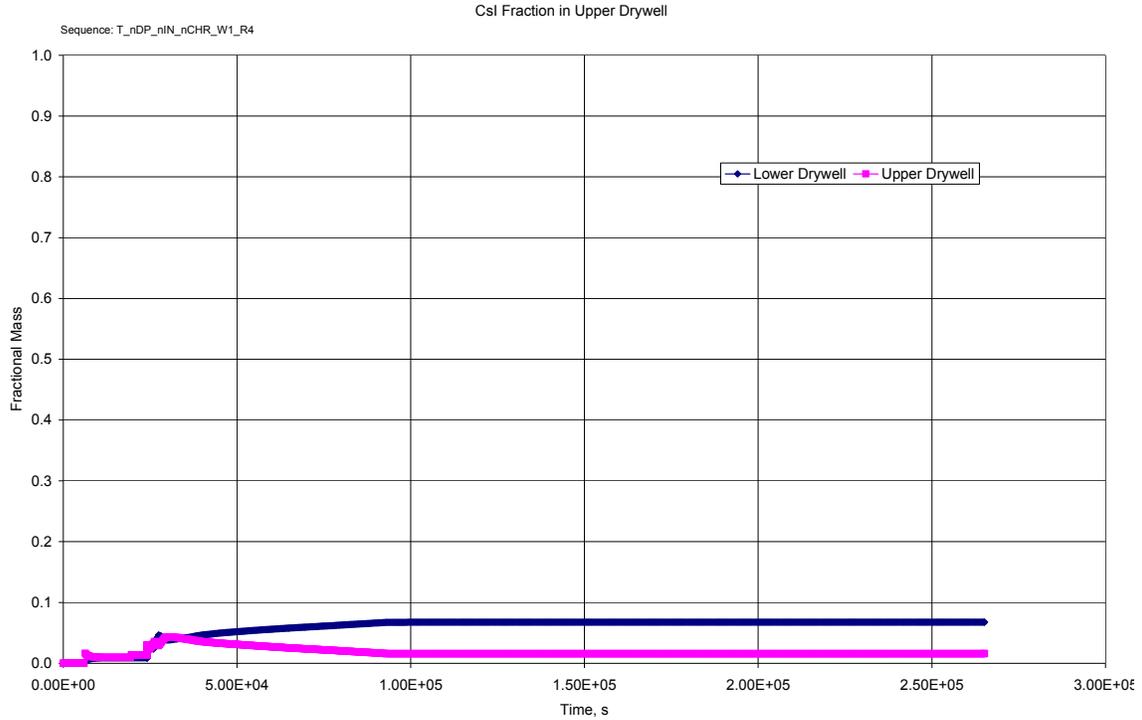


Figure 9A-15u. T_nDP_nIN_nCHR_W1_R4 CsI Fraction in Upper Drywell

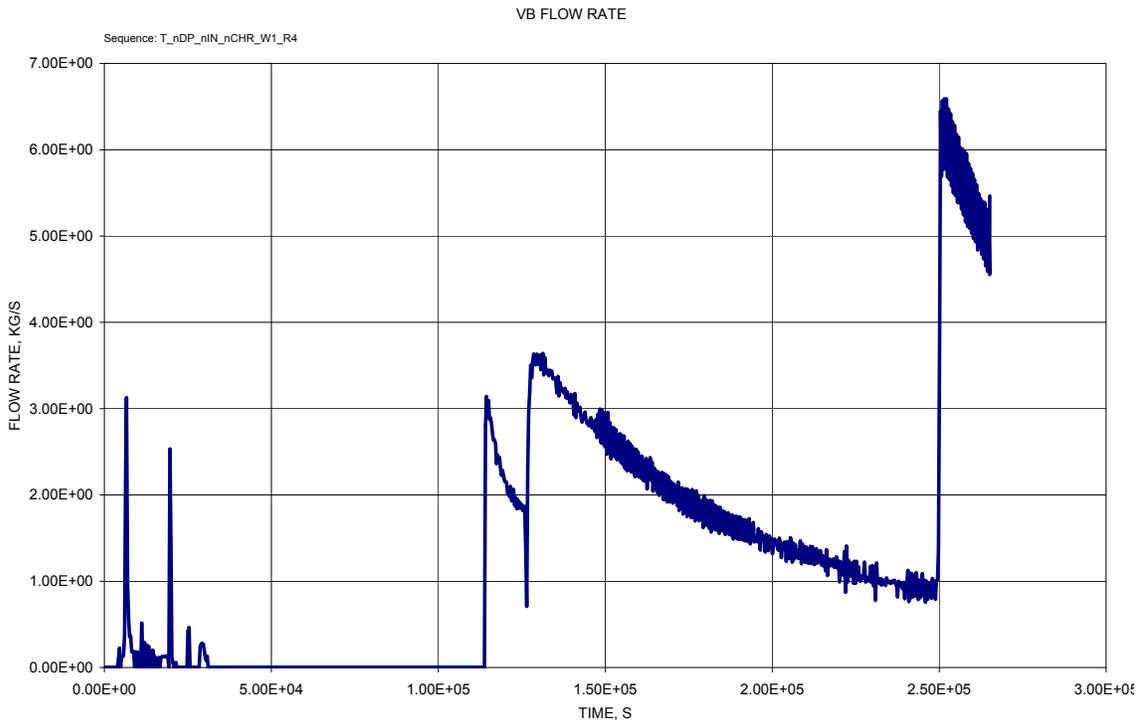


Figure 9A-15v. T_nDP_nIN_nCHR_W1_R4 Vacuum Breaker Flow Rate

9A.16 Containment Overpressure (W2) T_nDP_nIN_nCHR_W2_R4

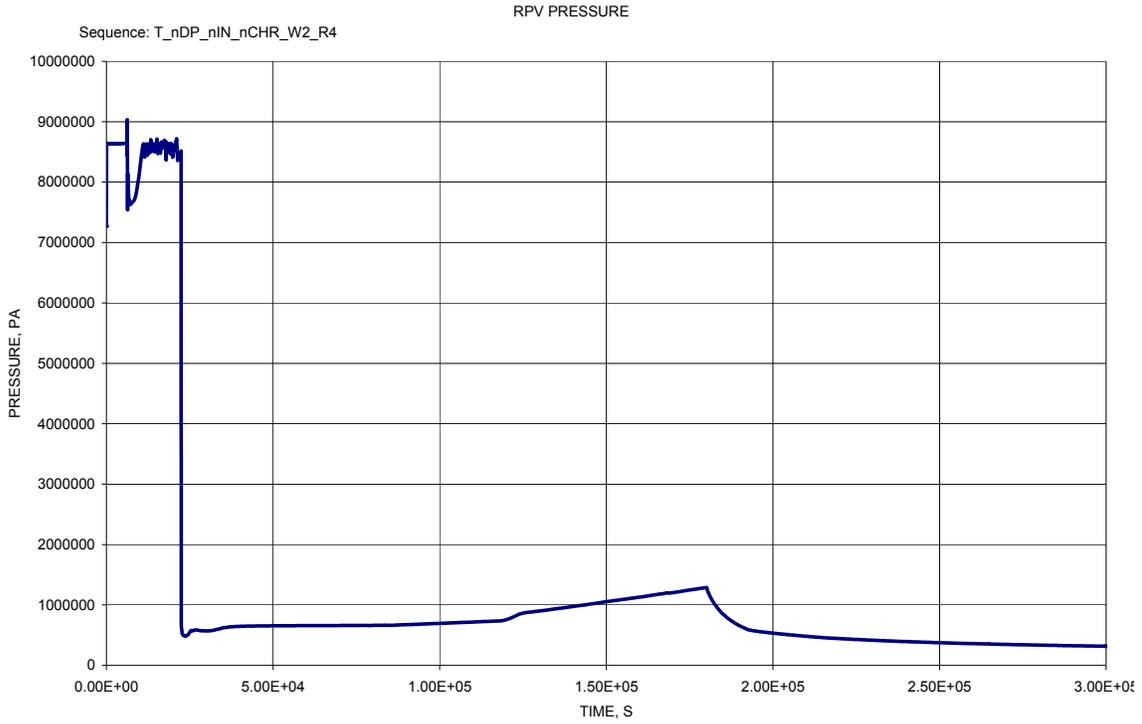


Figure 9A-16a. T_nDP_nIN_nCHR_W2_R4 RPV Pressure

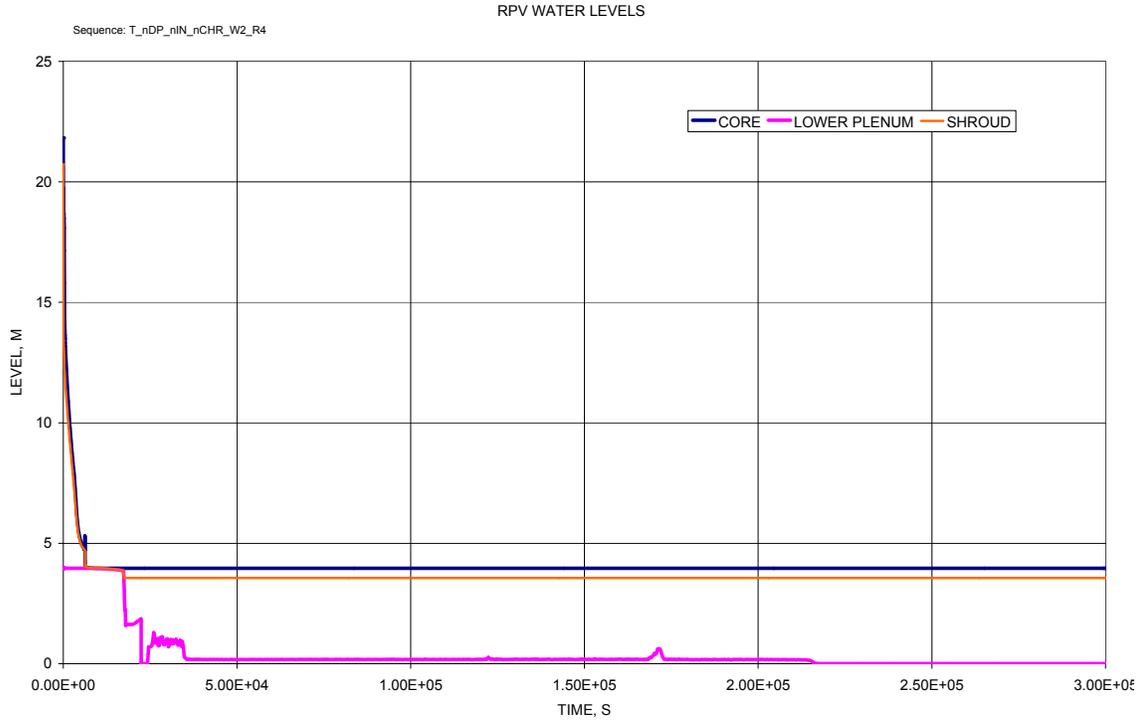


Figure 9A-16b. T_nDP_nIN_nCHR_W2_R4 RPV Water Levels

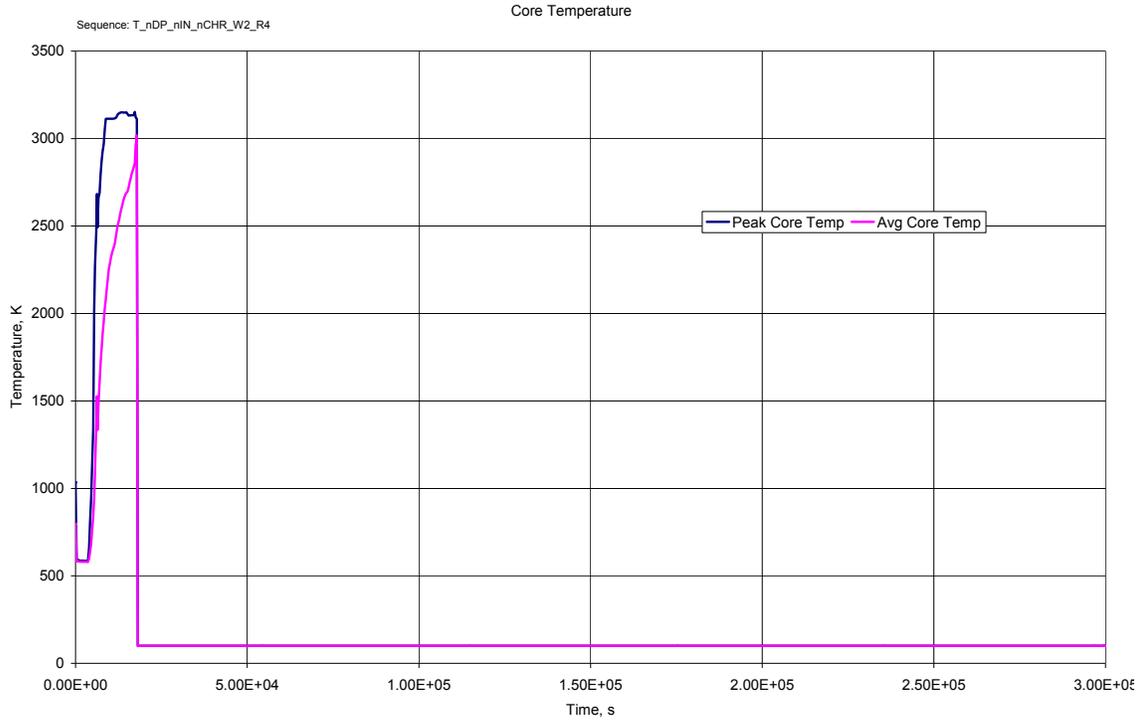


Figure 9A-16c. T_nDP_nIN_nCHR_W2_R4 Core Temperature

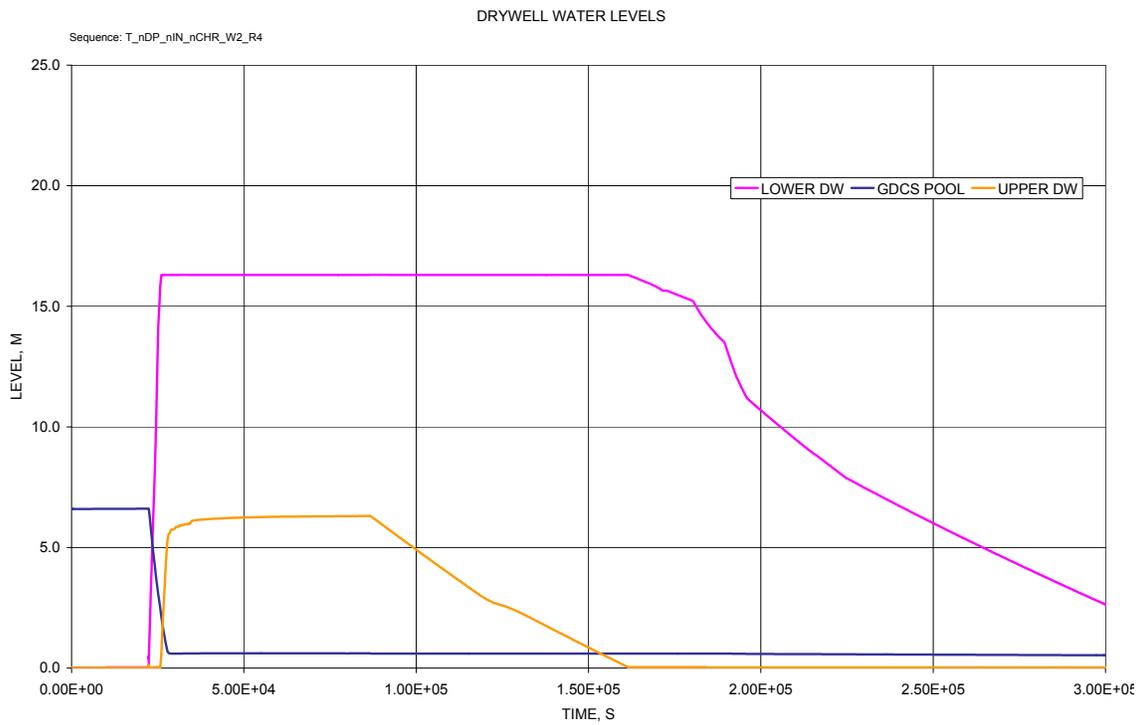


Figure 9A-16d. T_nDP_nIN_nCHR_W2_R4 Drywell Water Levels

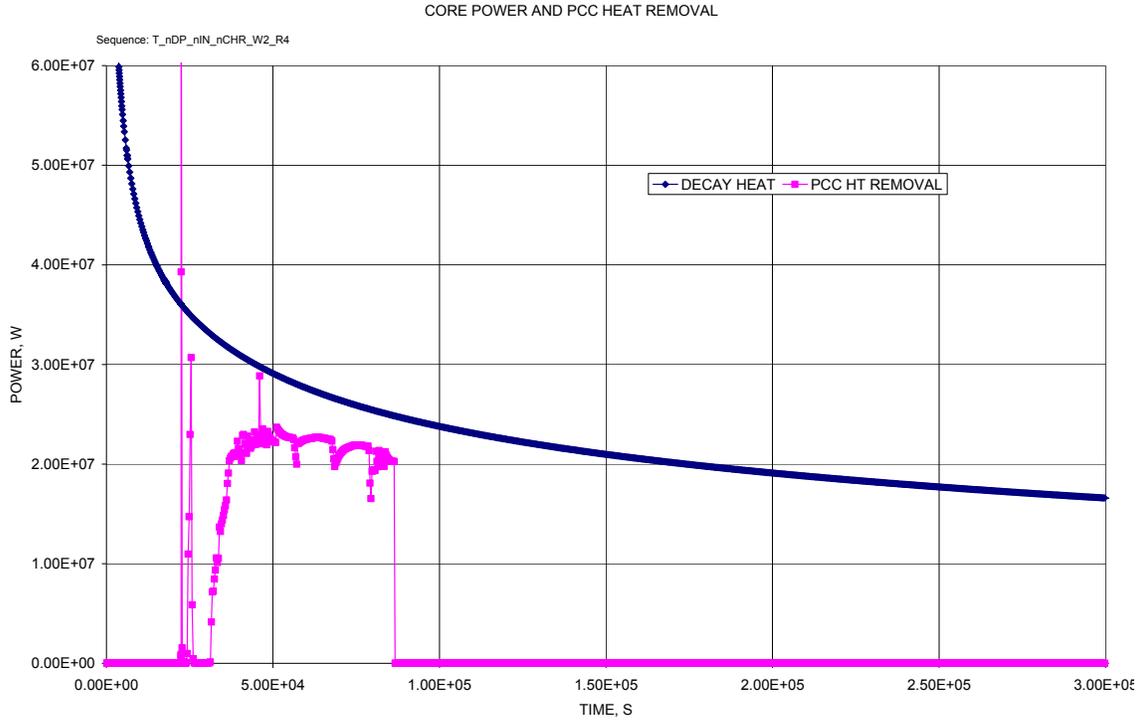


Figure 9A-16e. T_nDP_nIN_nCHR_W2_R4 Core Power and PCCS Heat Removal

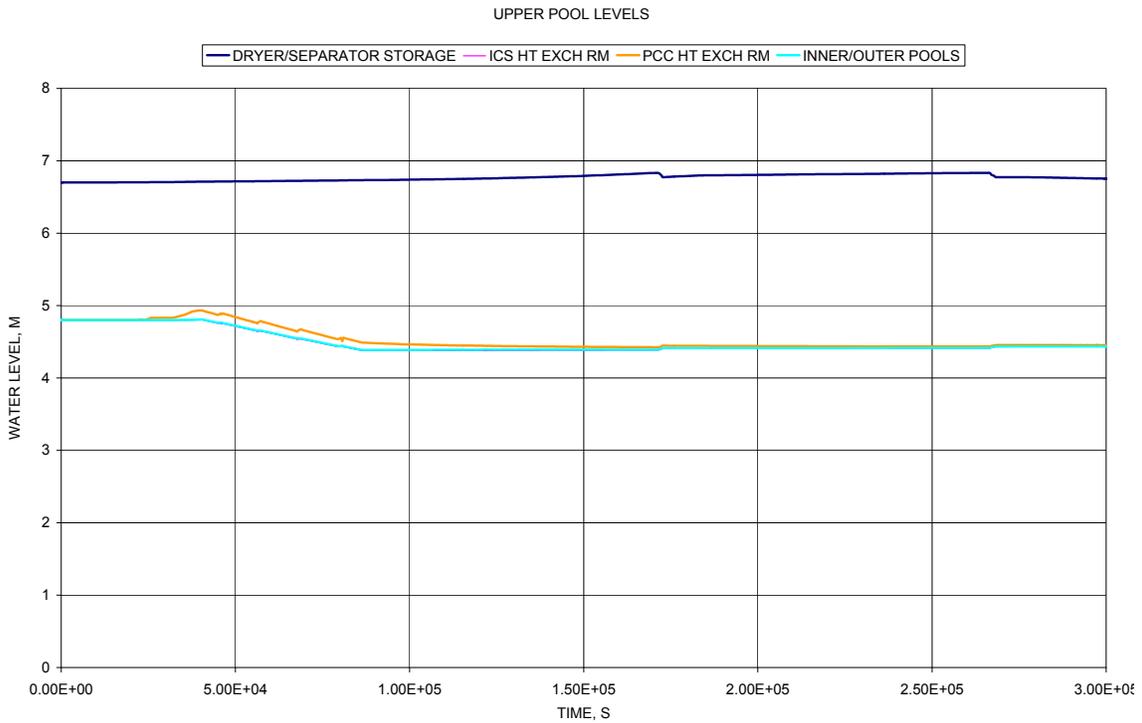


Figure 9A-16f. T_nDP_nIN_nCHR_W2_R4 Upper Pool Water Levels

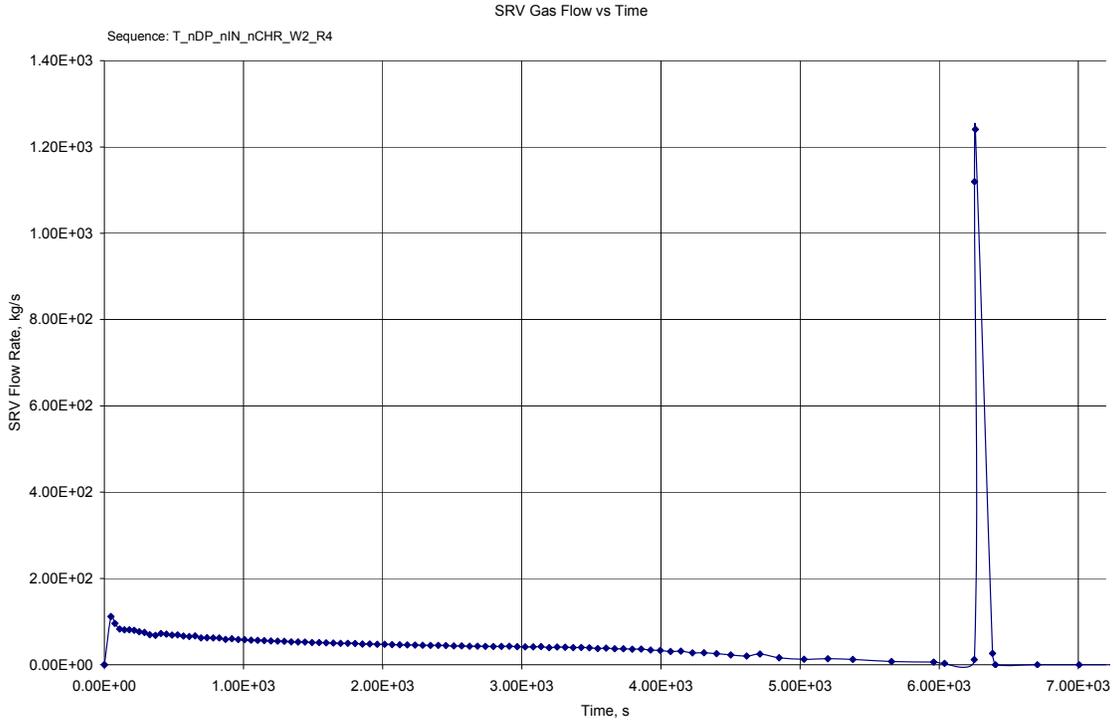


Figure 9A-16g. T_nDP_nIN_nCHR_W2_R4 SRV Gas Flow Rate

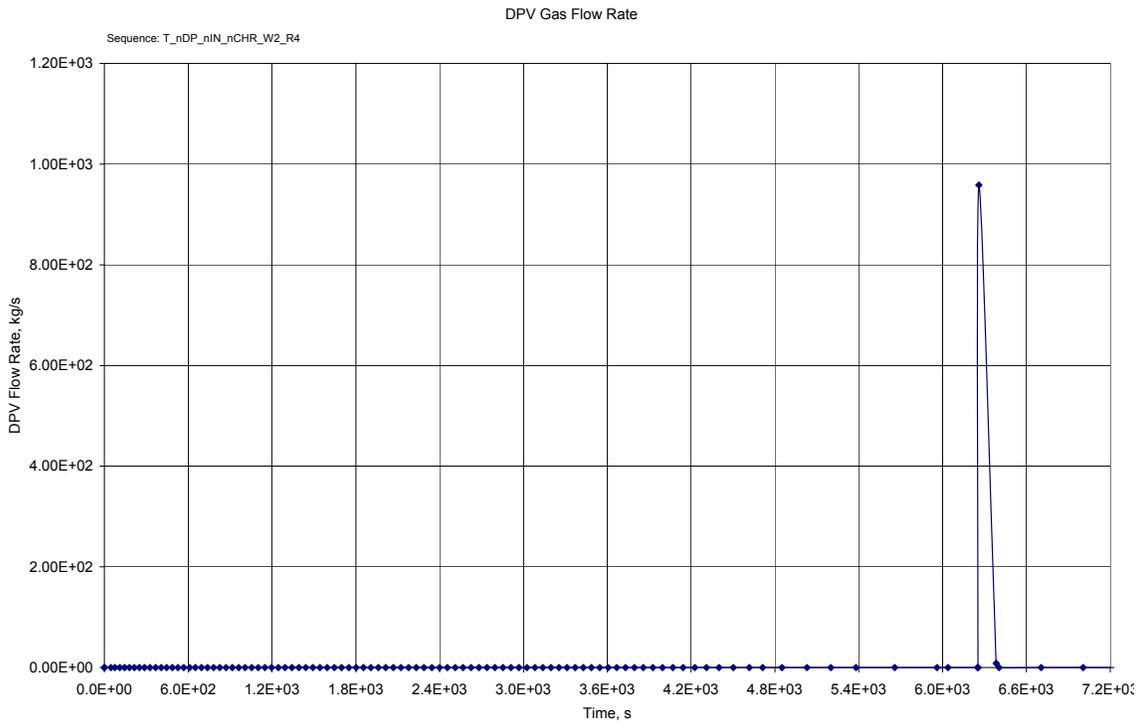


Figure 9A-16h. T_nDP_nIN_nCHR_W2_R4 DPV Gas Flow Rate

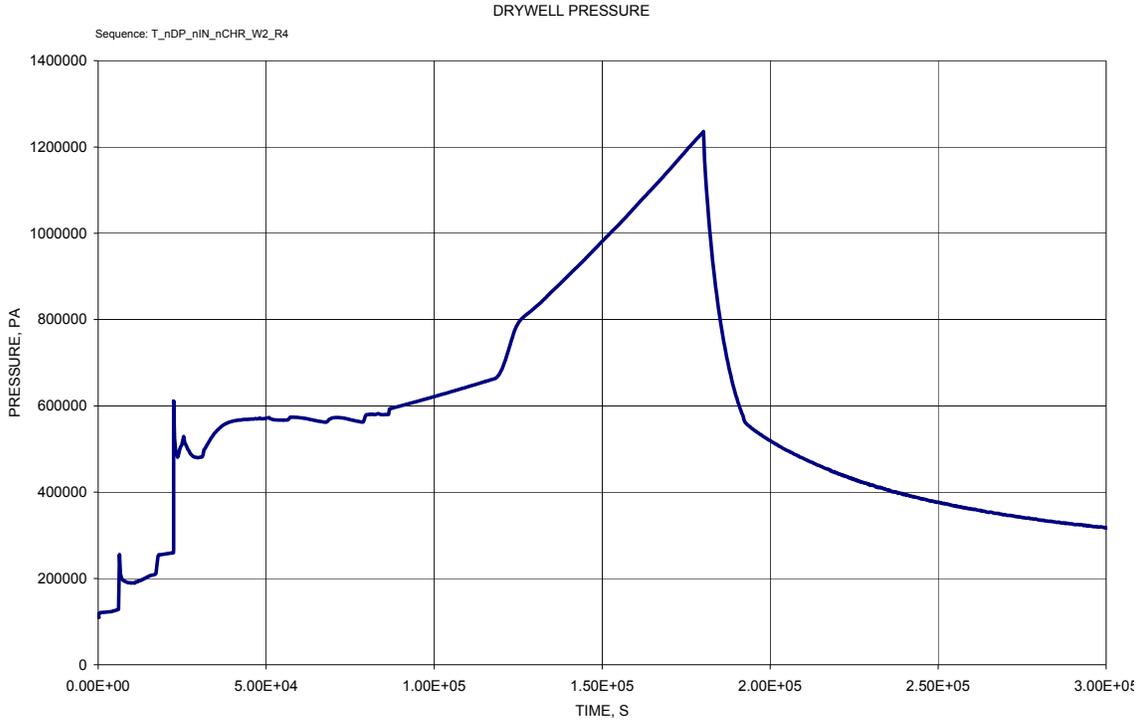


Figure 9A-16i. T_nDP_nIN_nCHR_W2_R4 Drywell Pressure

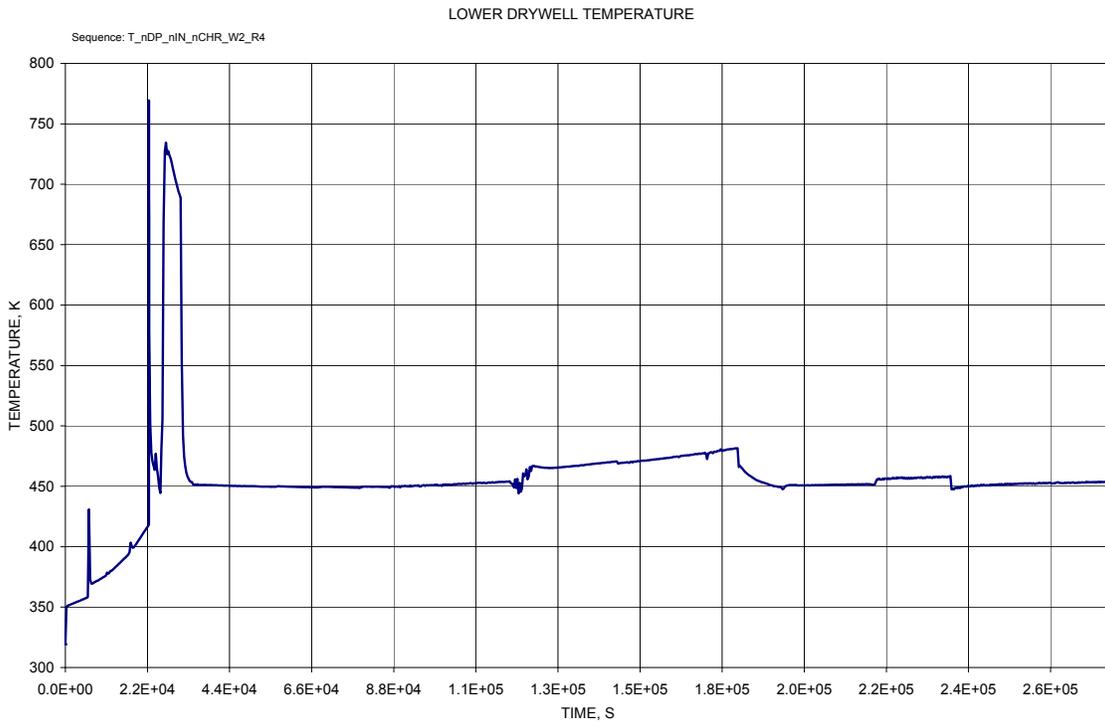


Figure 9A-16j. T_nDP_nIN_nCHR_W2_R4 Lower Drywell Temperature

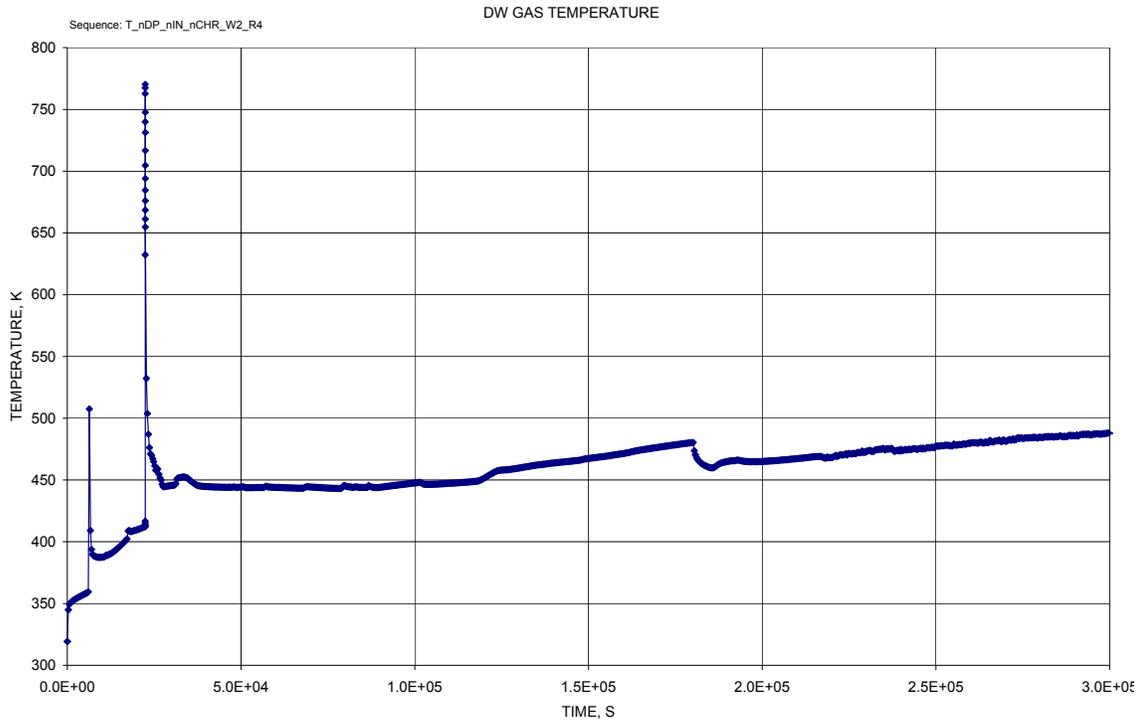


Figure 9A-16k. T_nDP_nIN_nCHR_W2_R4 Drywell Gas Temperature

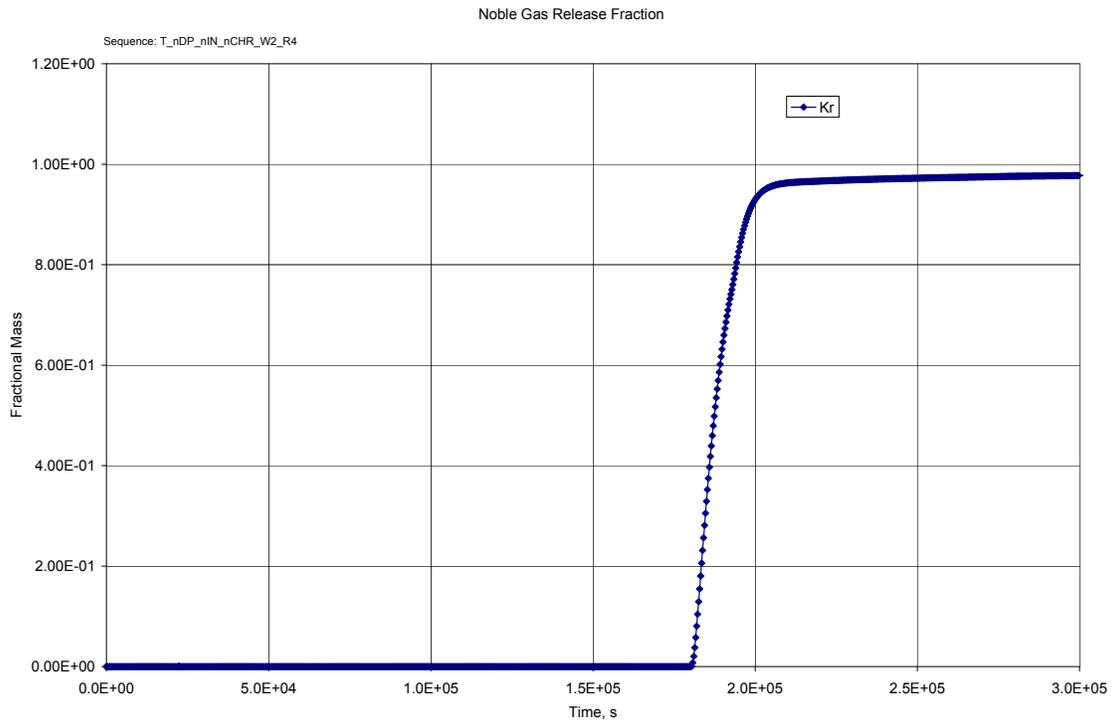


Figure 9A-16l. T_nDP_nIN_nCHR_W2_R4 Noble Gas Release Fraction

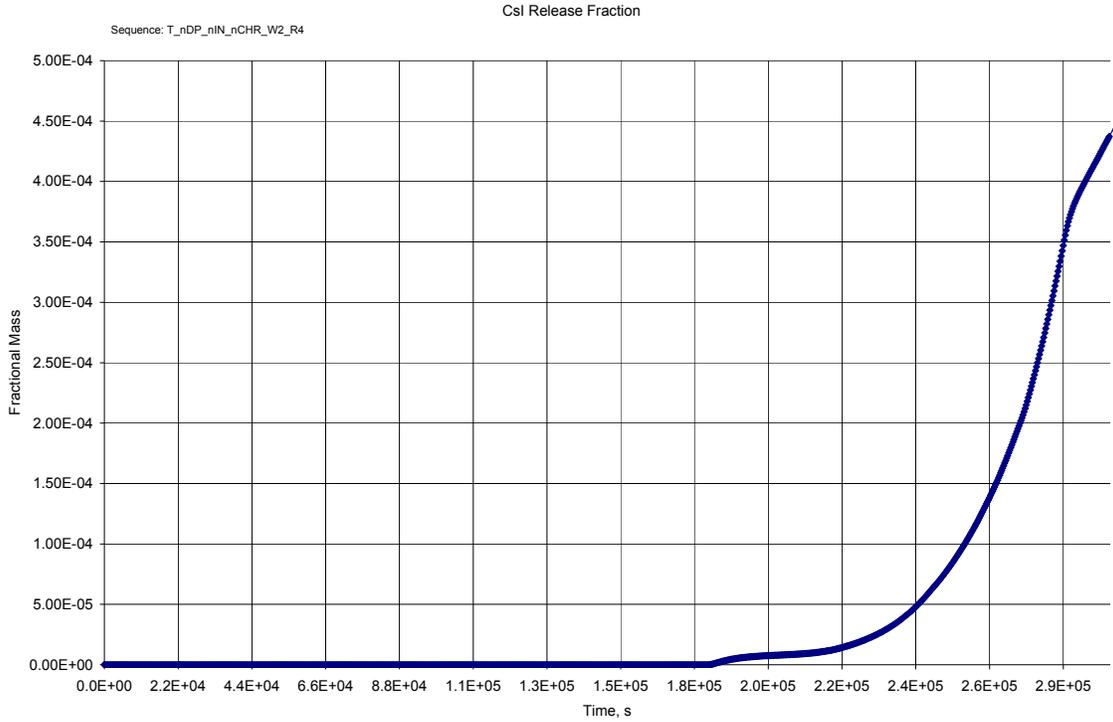


Figure 9A-16m. T_nDP_nIN_nCHR_W2_R4 CsI Release Fraction

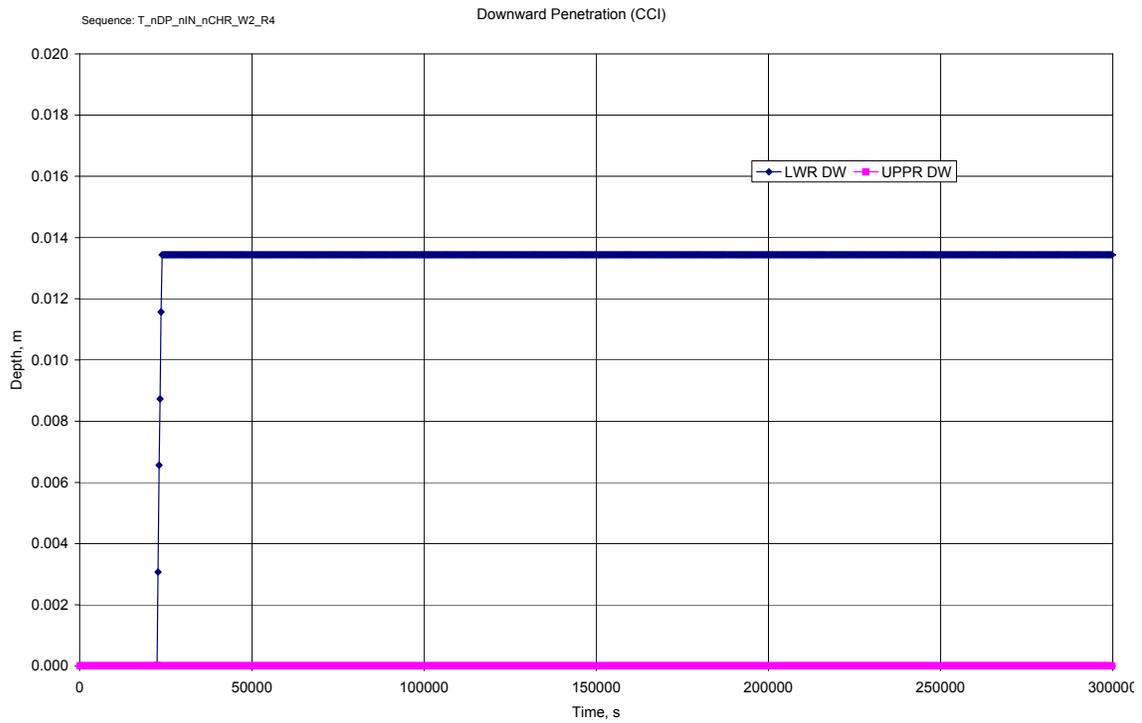


Figure 9A-16n. T_nDP_nIN_nCHR_W2_R4 Downward Penetration (CCI)

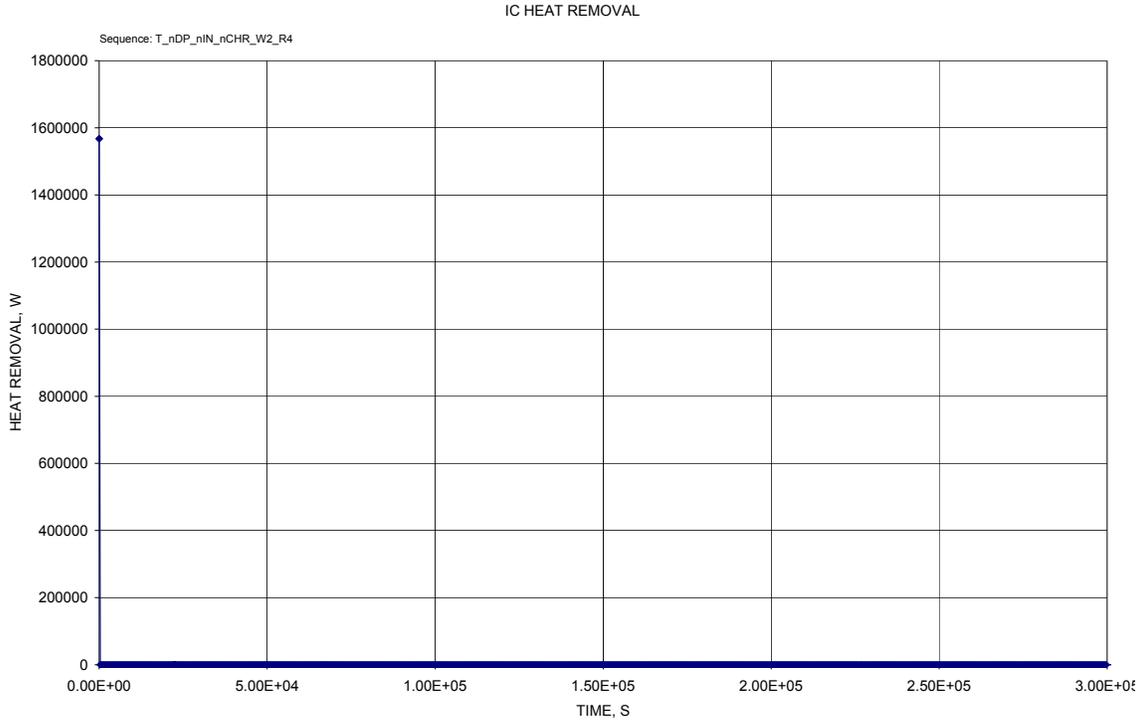


Figure 9A-16o. T_nDP_nIN_nCHR_W2_R4 ICS Heat Removal

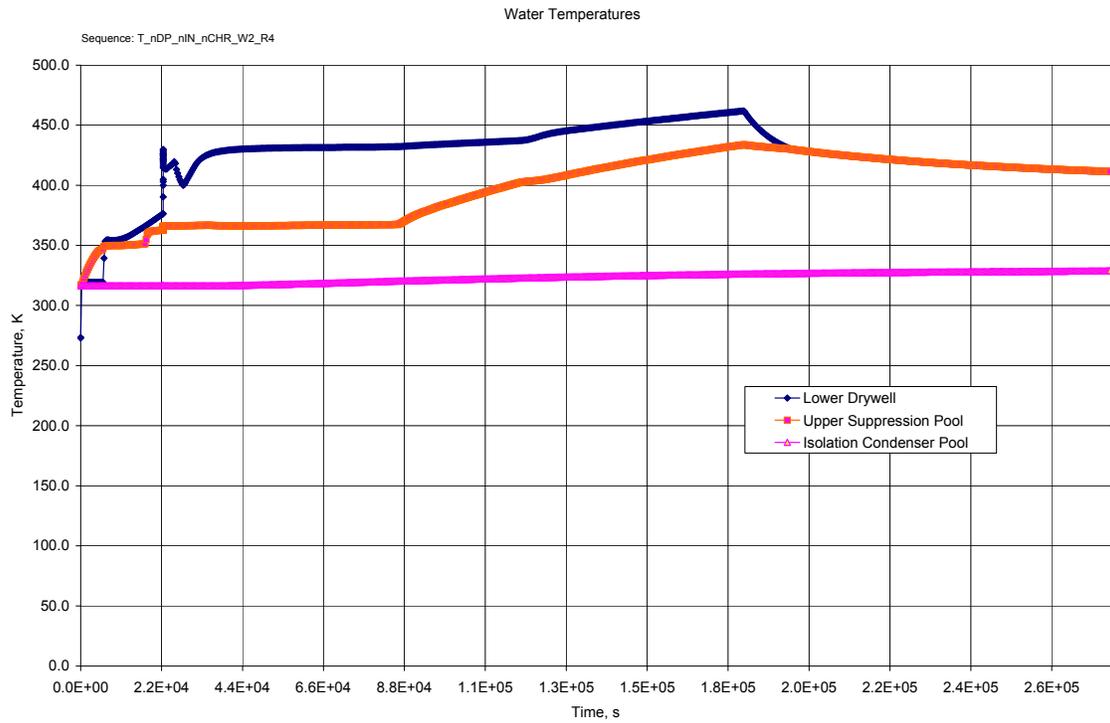


Figure 9A-16p. T_nDP_nIN_nCHR_W2_R4 Water Temperatures

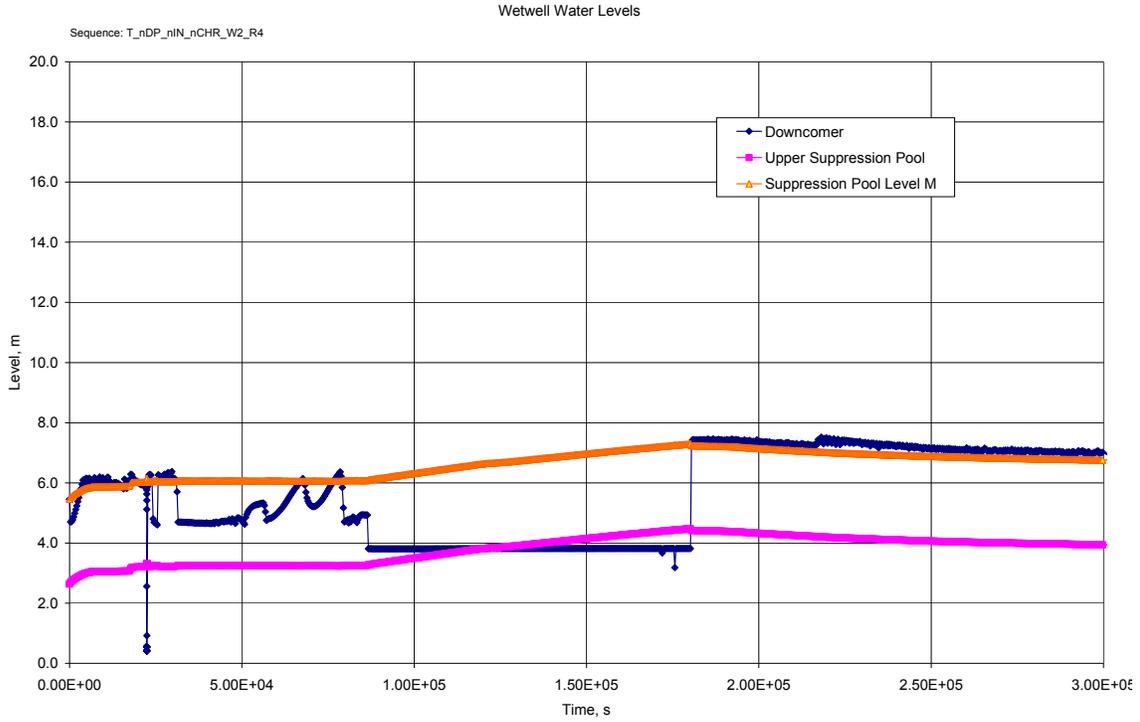


Figure 9A-16q. T_nDP_nIN_nCHR_W2_R4 Wetwell Water Levels

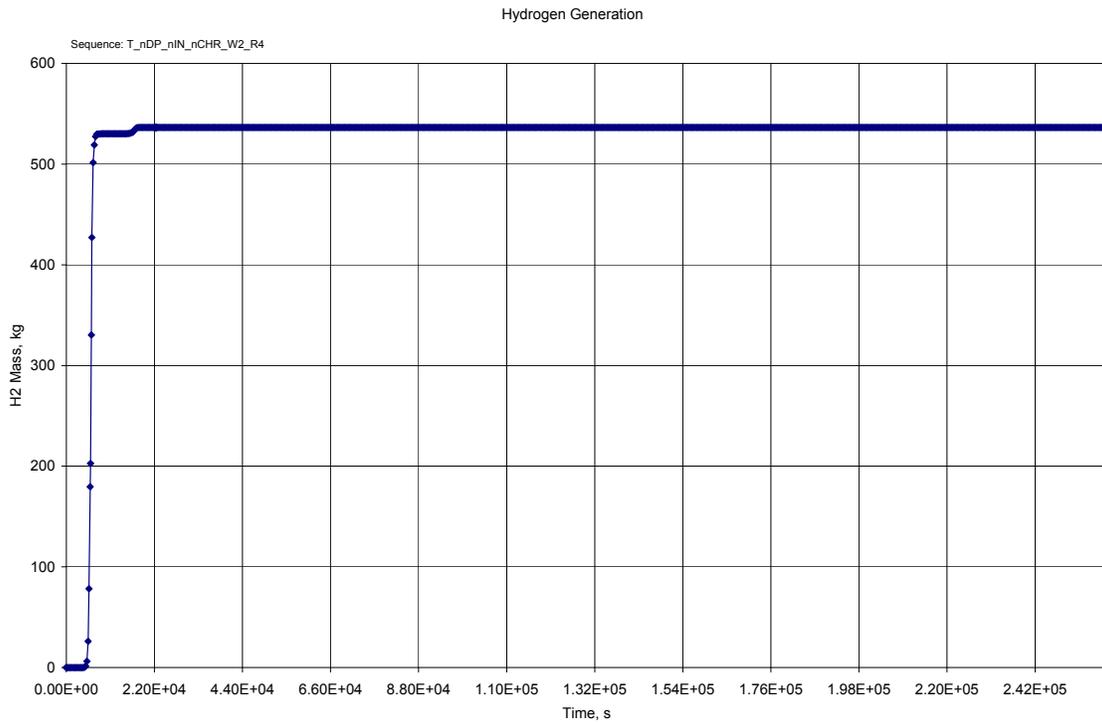


Figure 9A-16r. T_nDP_nIN_nCHR_W2_R4 Hydrogen Generation

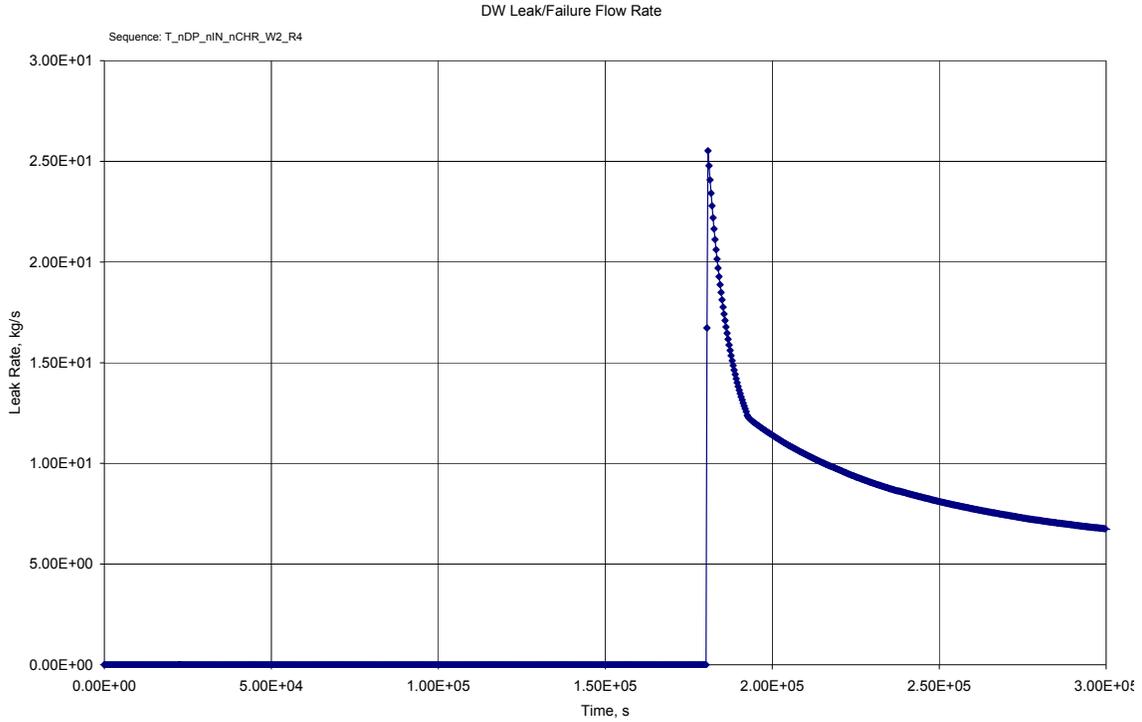


Figure 9A-16s. T_nDP_nIN_nCHR_W2_R4 Drywell Leak/Failure Flow Rate

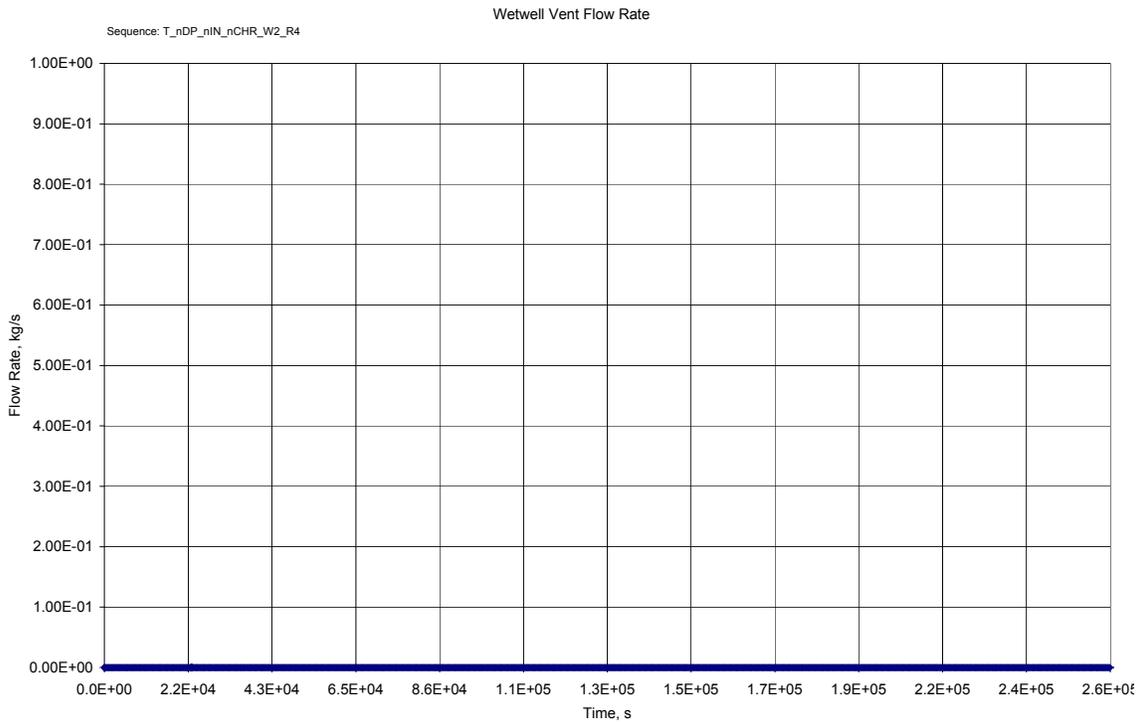


Figure 9A-16t. T_nDP_nIN_nCHR_W2_R4 Wetwell Vent Flow Rate

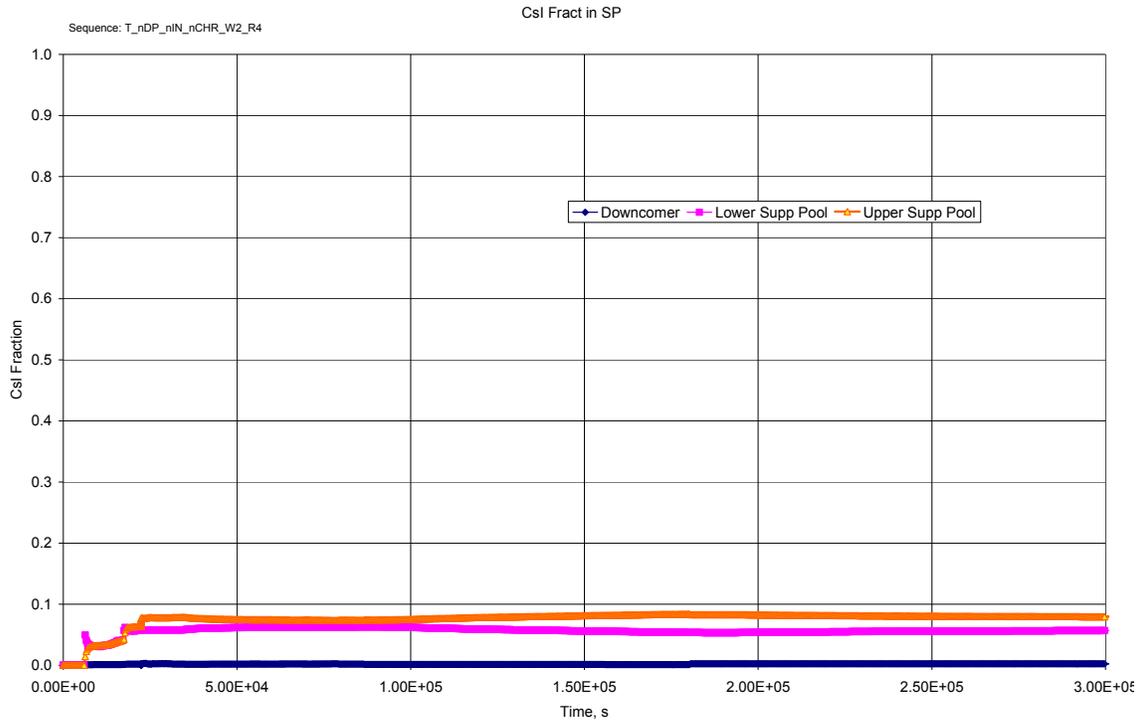


Figure 9A-16u. T_nDP_nIN_nCHR_W2_R4 CsI Fraction in Suppression Pool

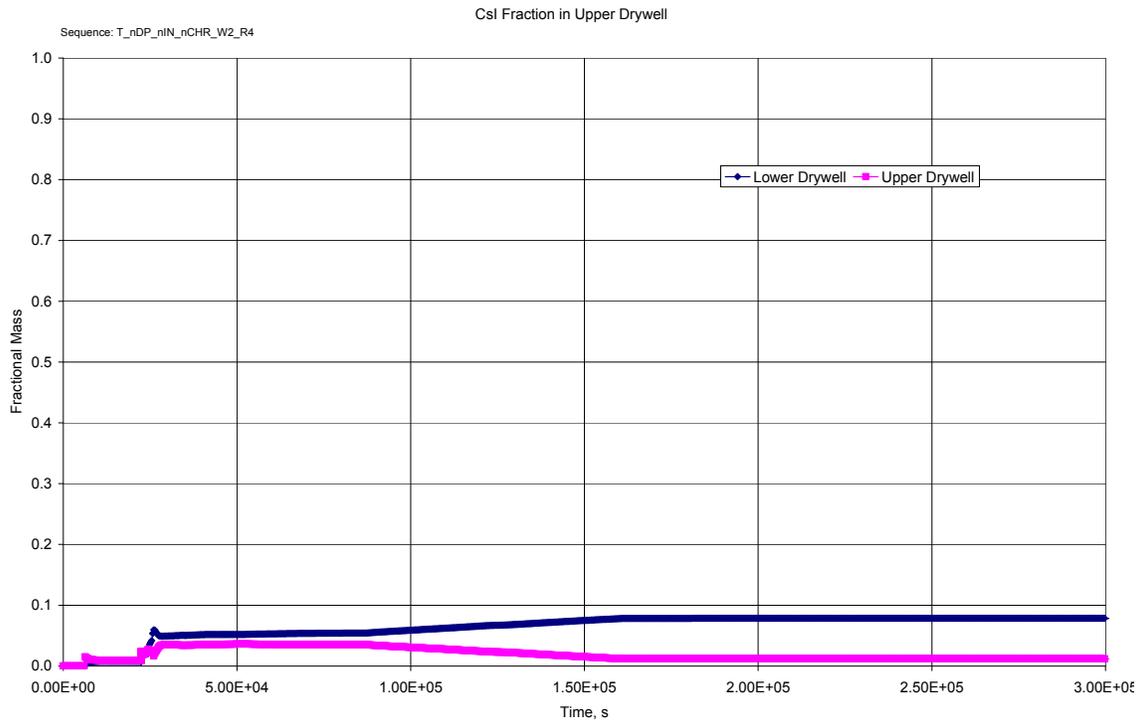


Figure 9A-16v. T_nDP_nIN_nCHR_W2_R4 CsI Fraction in Upper Drywell

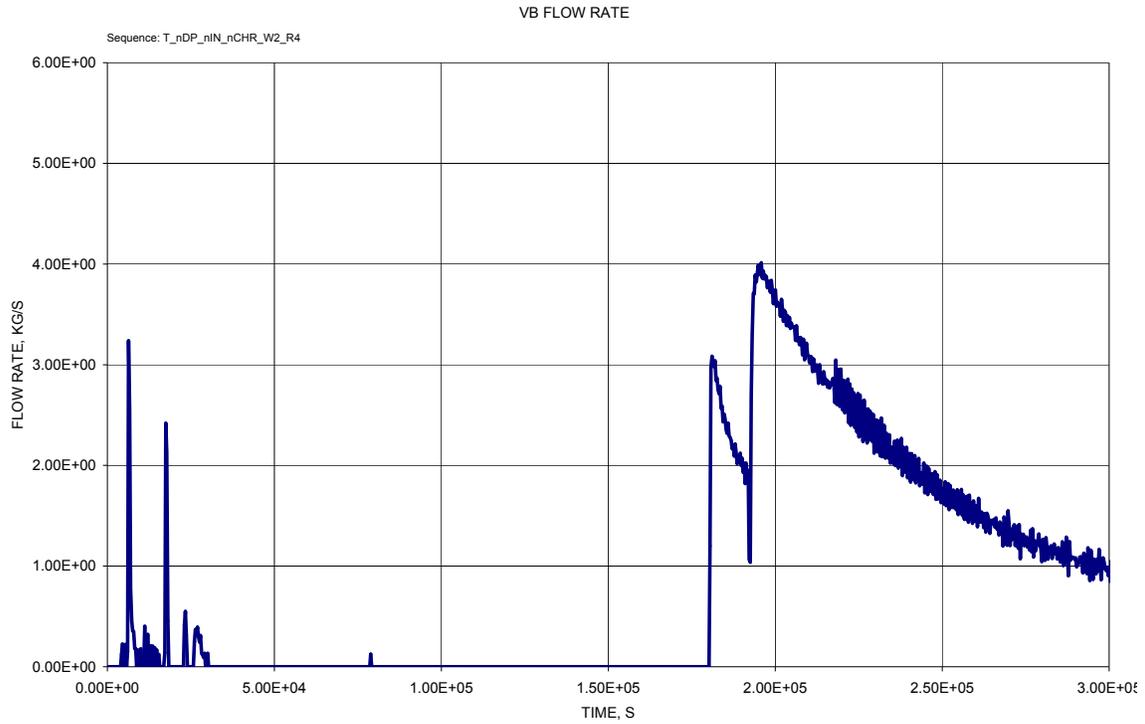


Figure 9A-16w. T_nDP_nIN_nCHR_W2_R4 Vacuum Breaker Flow Rate

9A.17 Technical Specifications Leakage T_AT_nIN_TSL2x_R6

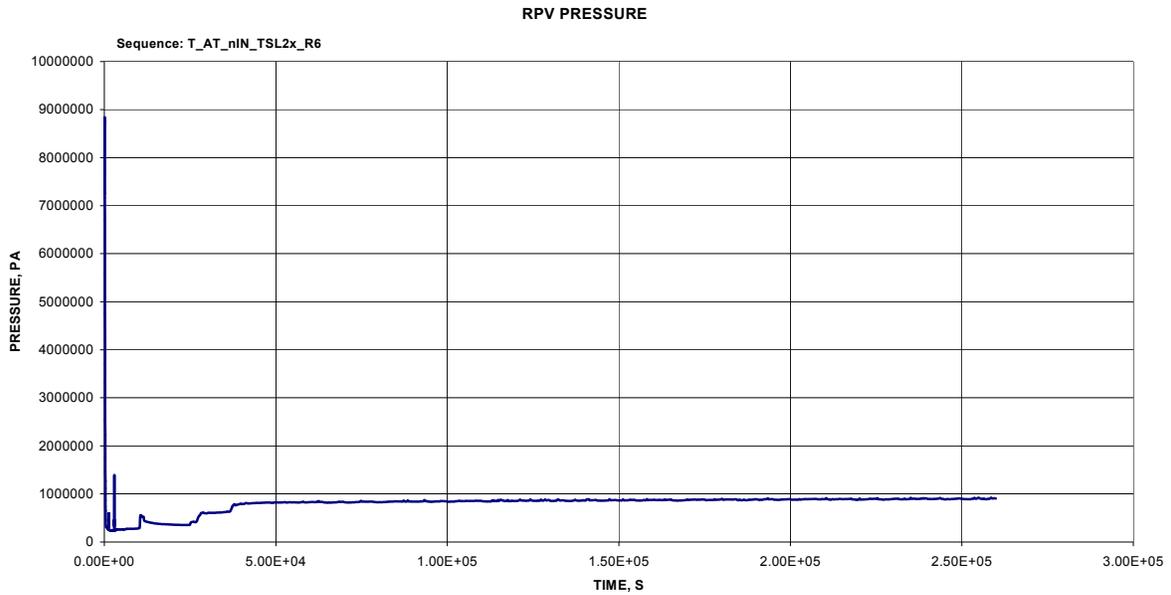


Figure 9A-17a. T_AT_nIN_TSL2x_R6 RPV Pressure

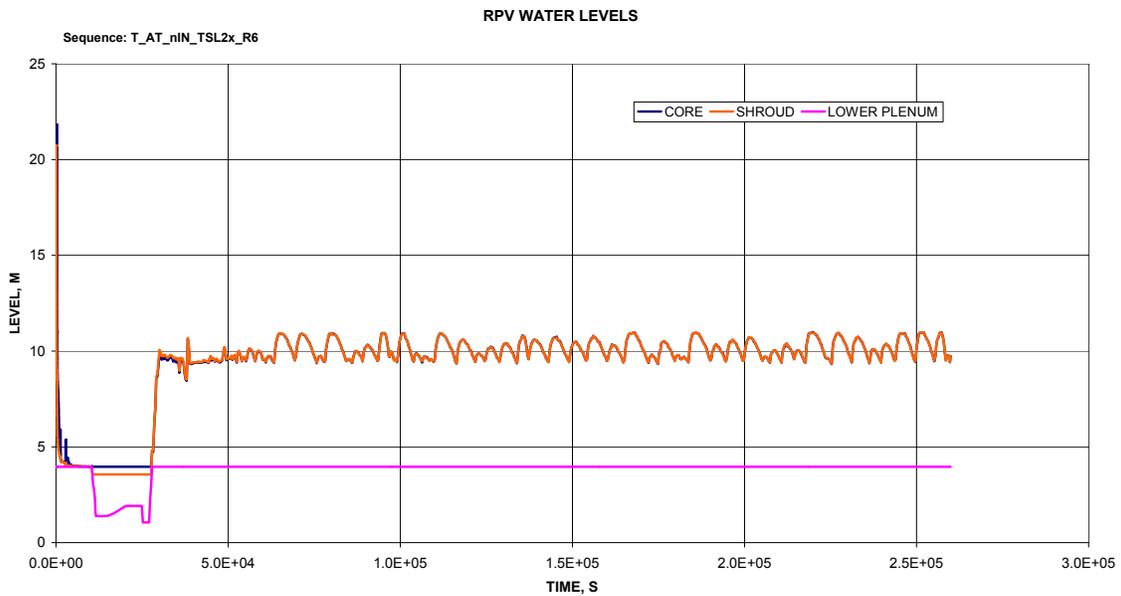


Figure 9A-17b. T_AT_nIN_TSL2x_R6 RPV Water Levels

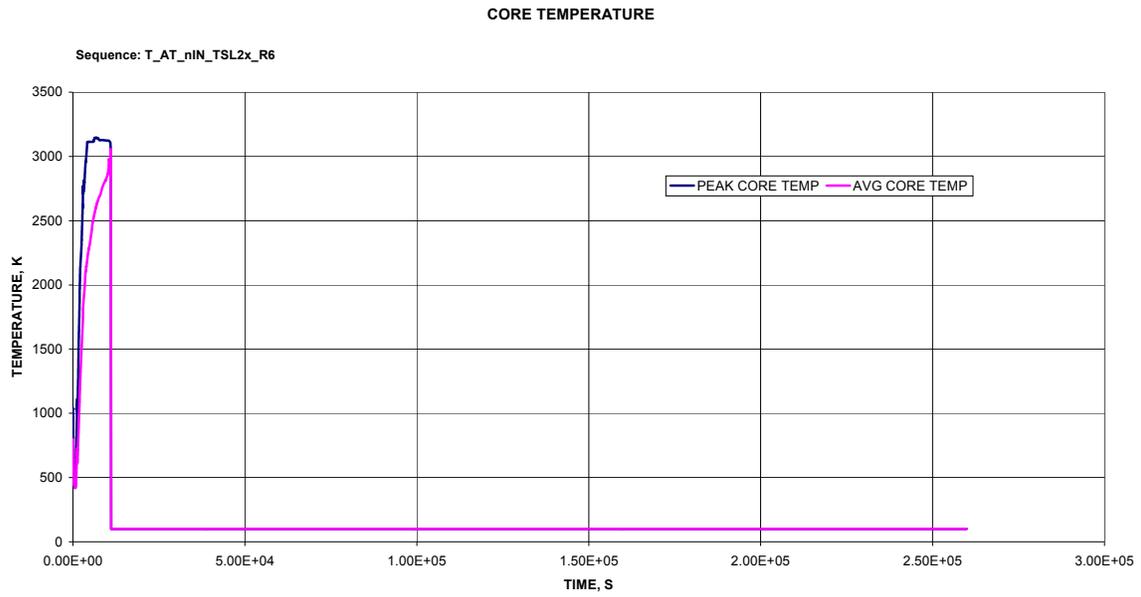


Figure 9A-17c. T_AT_nIN_TSL2x_R6 Core Temperature

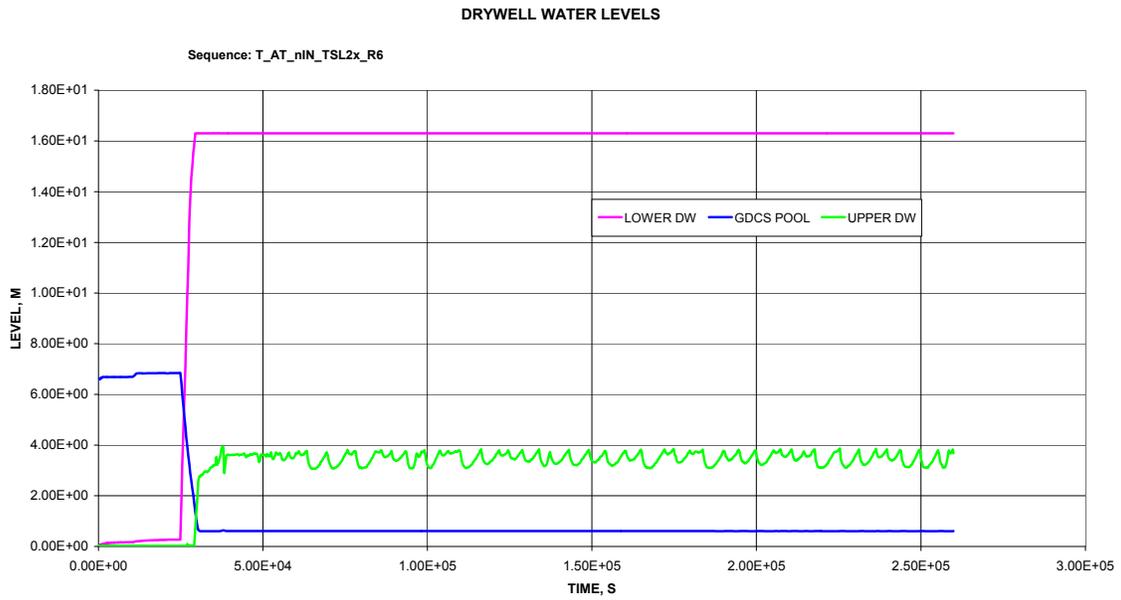


Figure 9A-17d. T_AT_nIN_TSL2x_R6 Drywell Water Levels

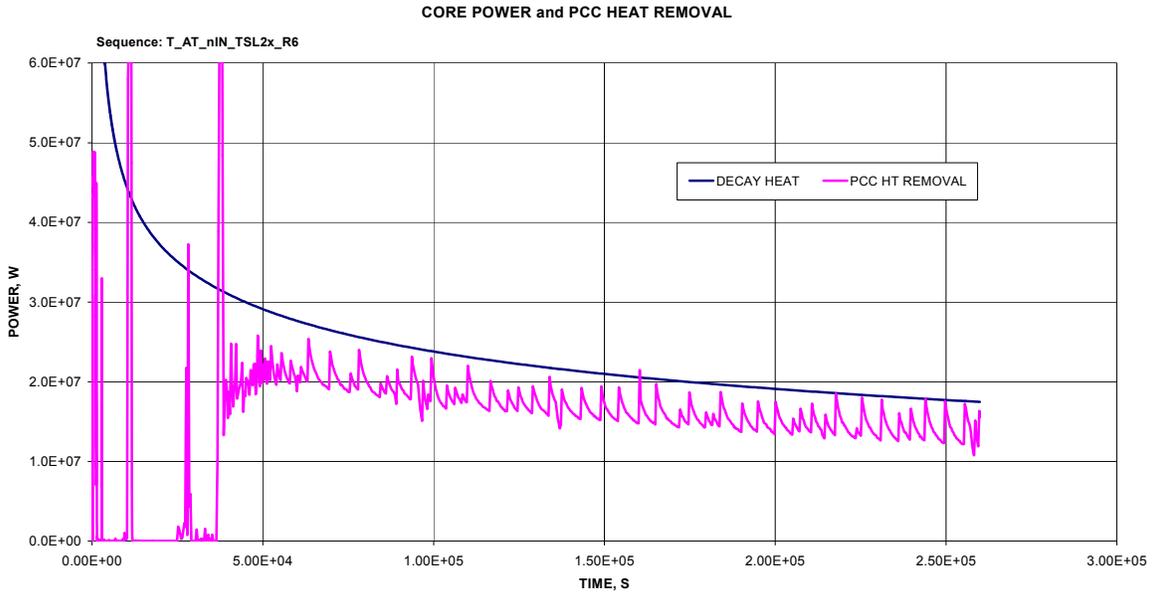


Figure 9A-17e. T_AT_nIN_TSL2x_R6 Core Power and PCCS Heat Removal

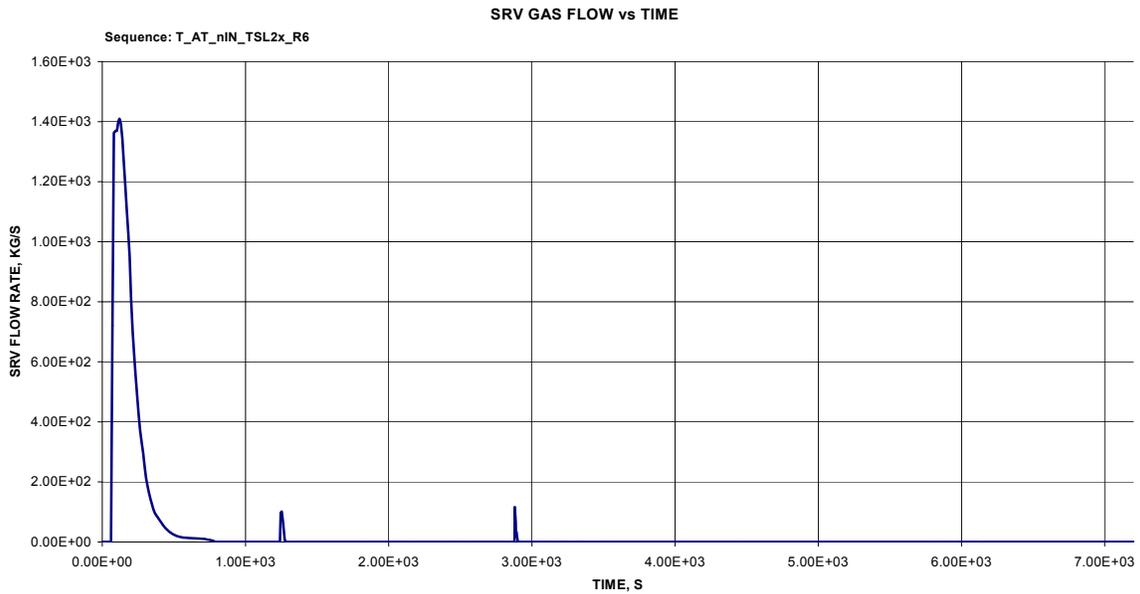


Figure 9A-17f. T_AT_nIN_TSL2x_R6 SRV Gas Flow Rate

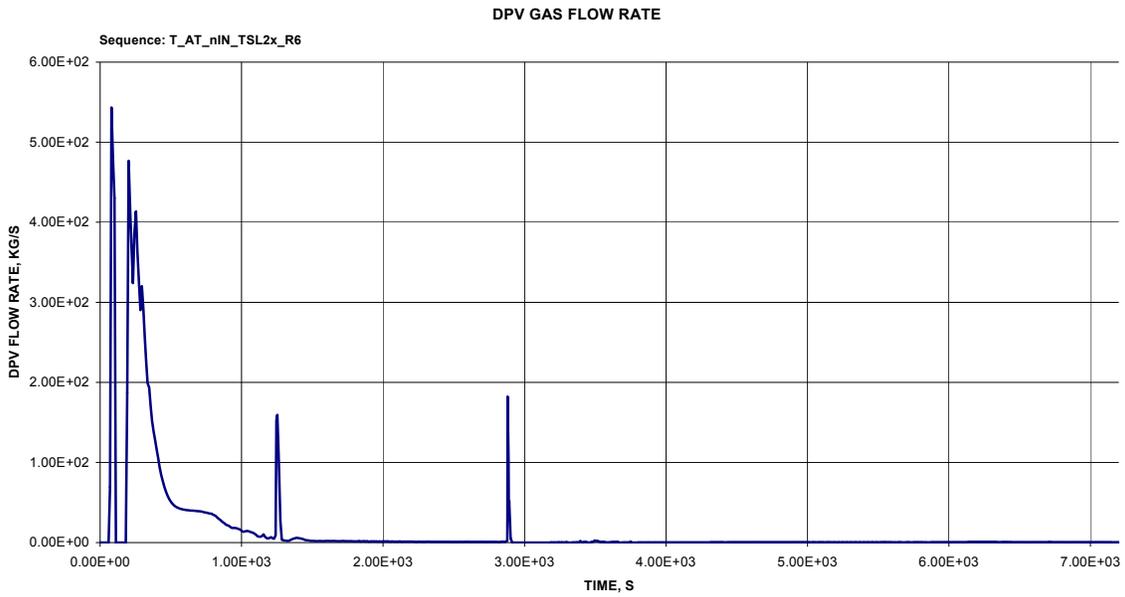


Figure 9A-17g. T_AT_nIN_TSL2x_R6 DPV Gas Flow Rate

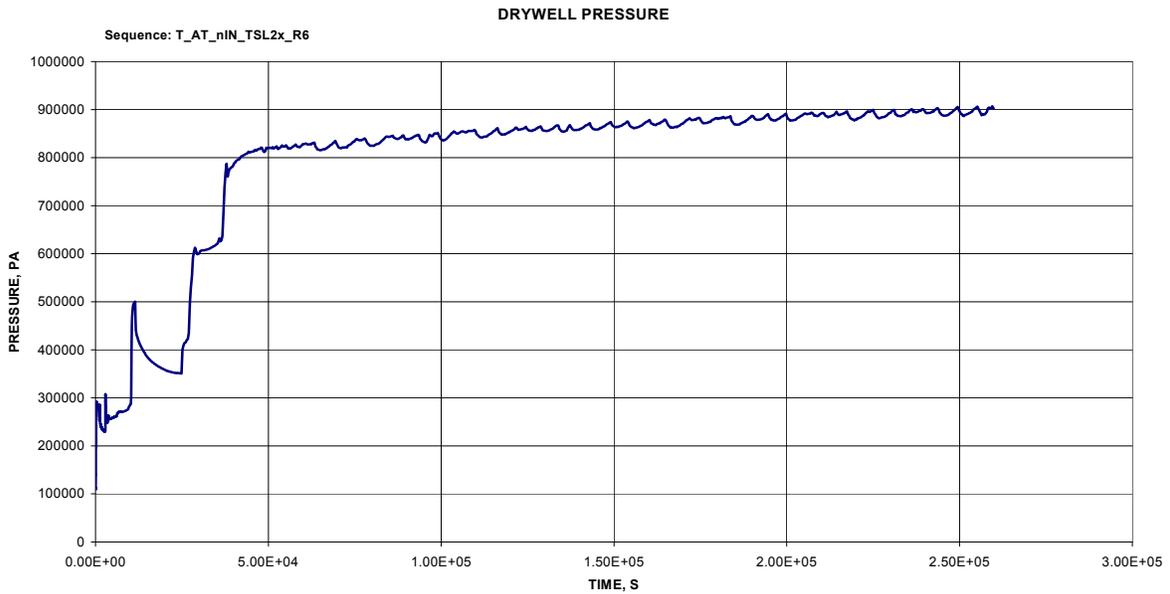


Figure 9A-17h. T_AT_nIN_TSL2x_R6 Drywell Pressure

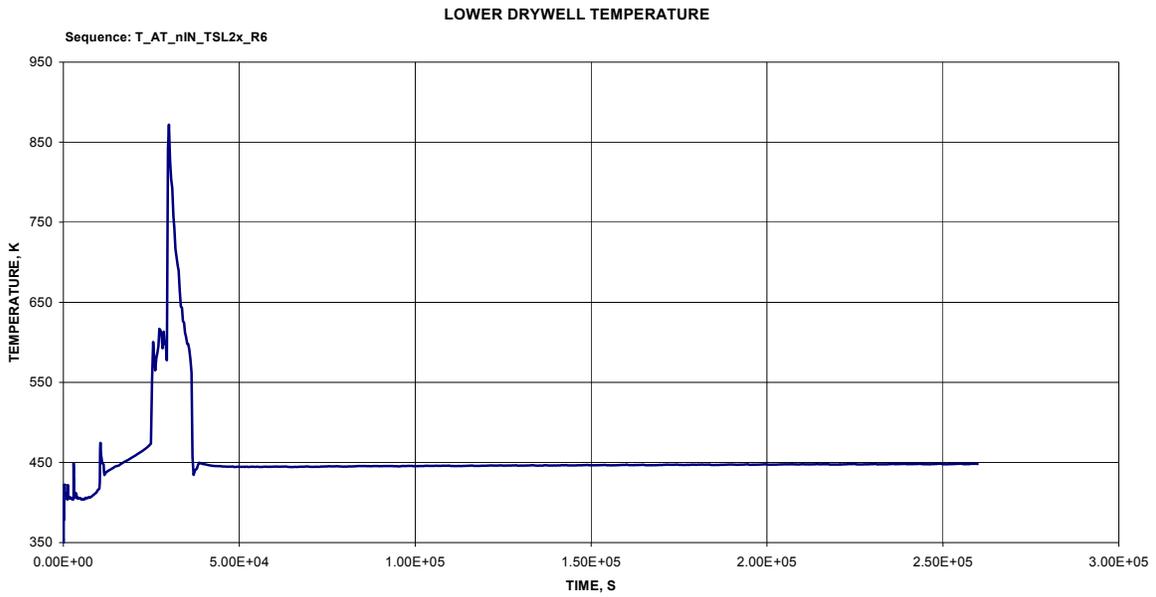


Figure 9A-17i. T_AT_nIN_TSL2x_R6 Lower Drywell Temperature

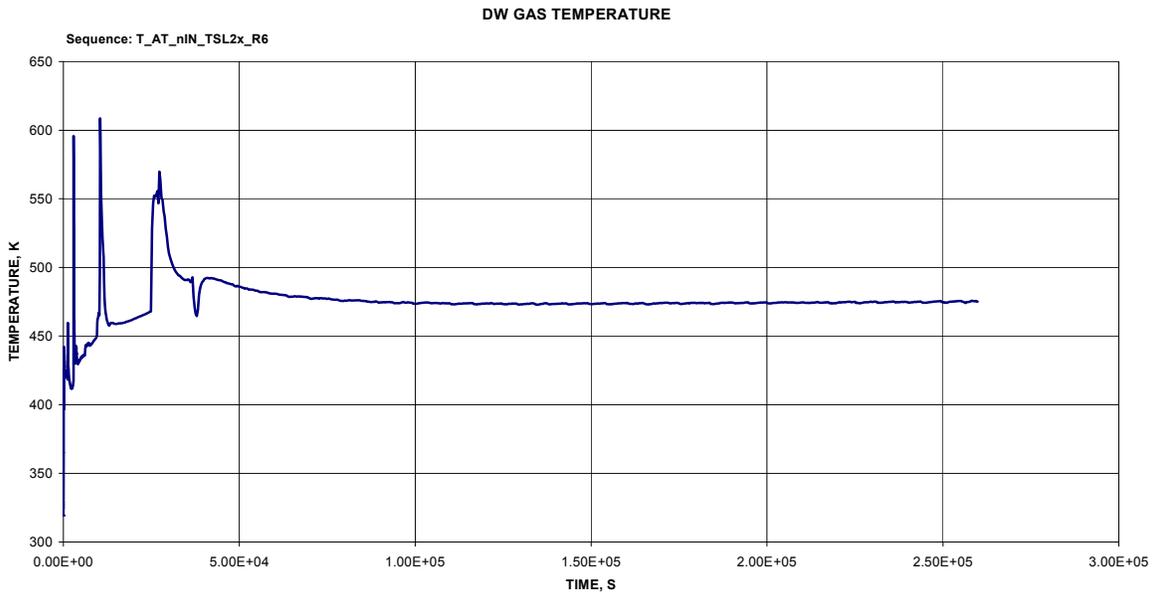


Figure 9A-17j. T_AT_nIN_TSL2x_R6 Drywell Gas Temperature

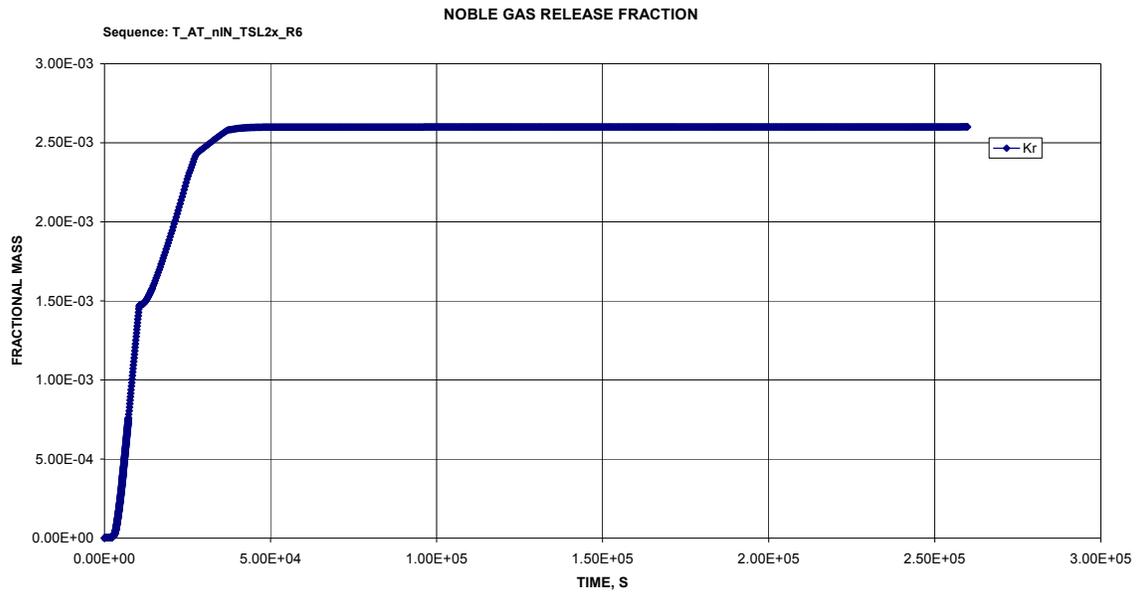


Figure 9A-17k. T_AT_nIN_TSL2x_R6 Noble Gas Release Fraction

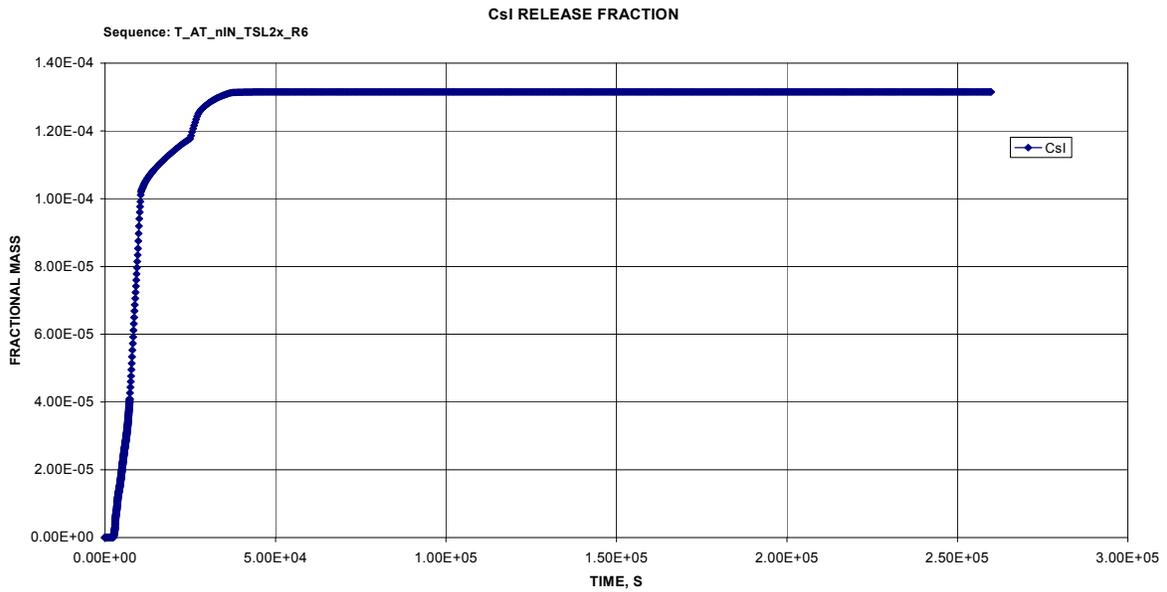


Figure 9A-17l. T_AT_nIN_TSL2x_R6 CsI Release Fraction

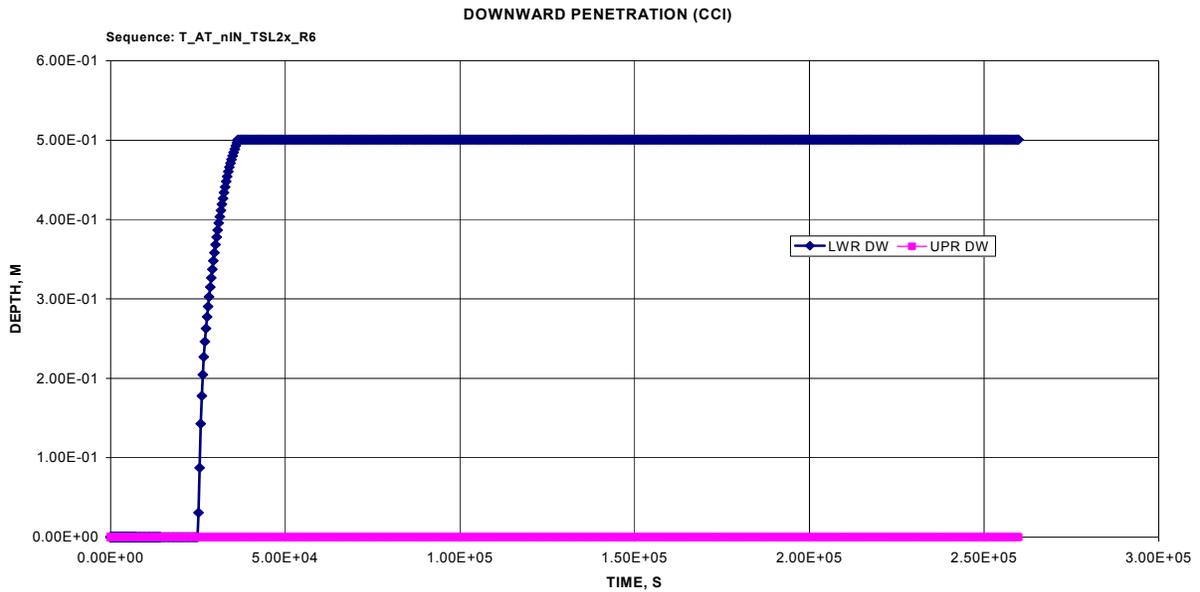


Figure 9A-17m. T_AT_nIN_TSL2x_R6 Downward Penetration (CCI)

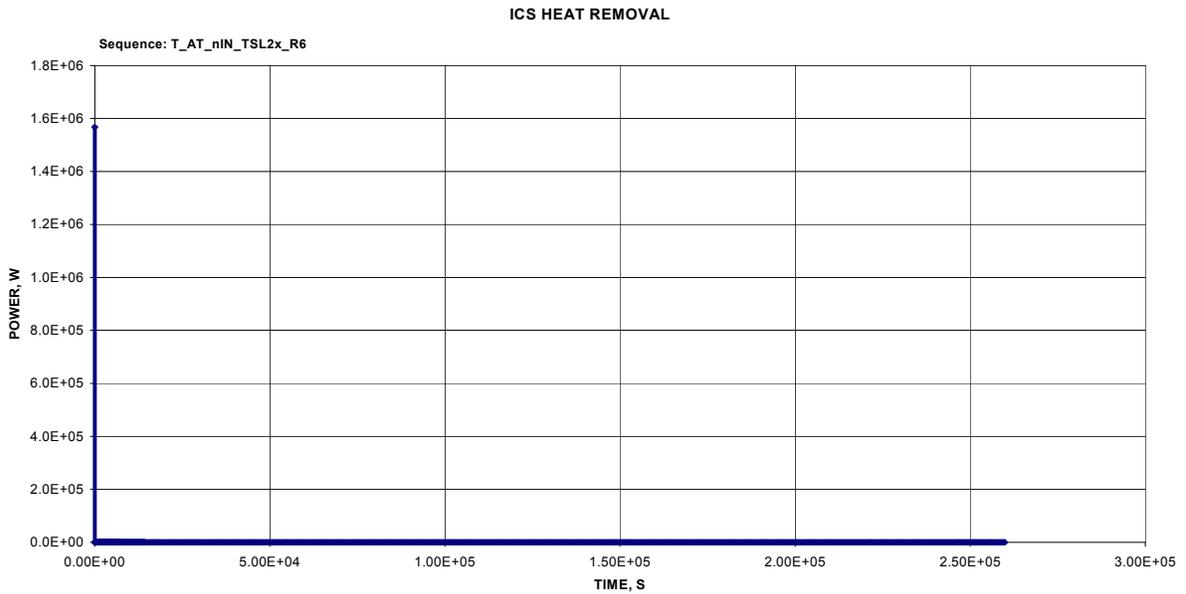


Figure 9A-17n. T_AT_nIN_TSL2x_R6 ICS Heat Removal

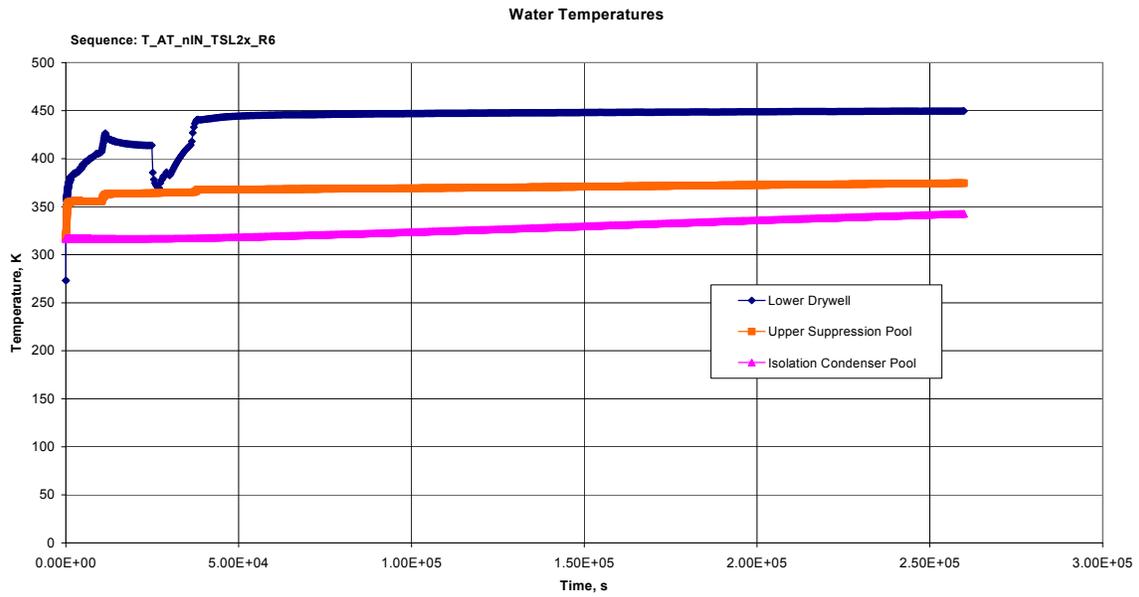


Figure 9A-17o. T_AT_nIN_TSL2x_R6 Water Temperatures

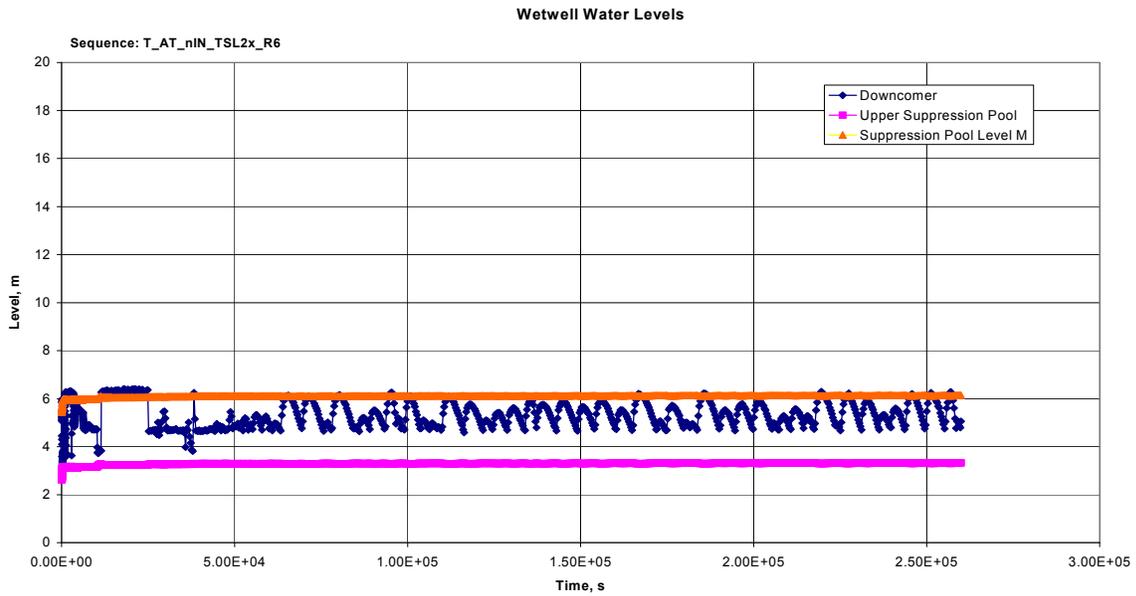


Figure 9A-17p. T_AT_nIN_TSL2x_R6 Wetwell Water Levels

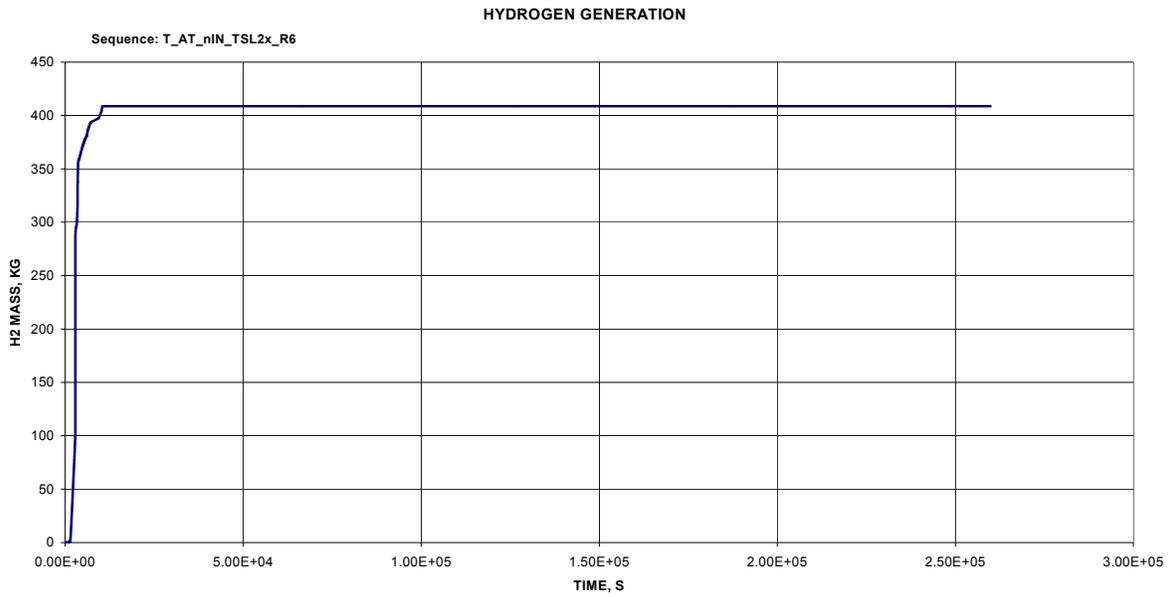


Figure 9A-17q. T_AT_nIN_TSL2x_R6 Hydrogen Generation

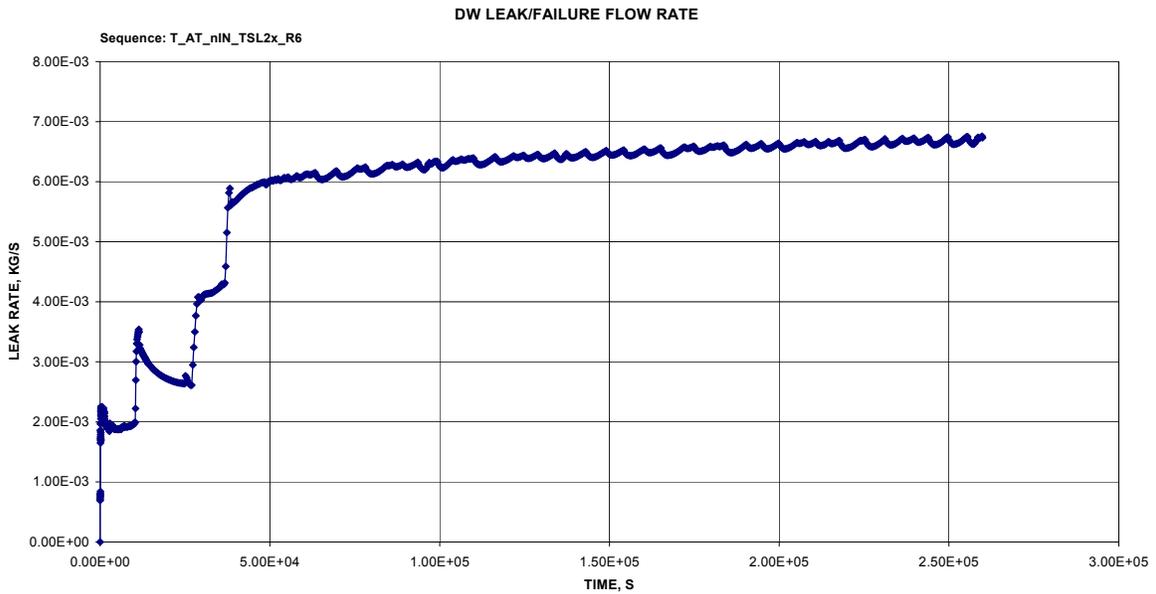


Figure 9A-17r. T_AT_nIN_TSL2x_R6 Drywell Leak/Failure Flow Rate

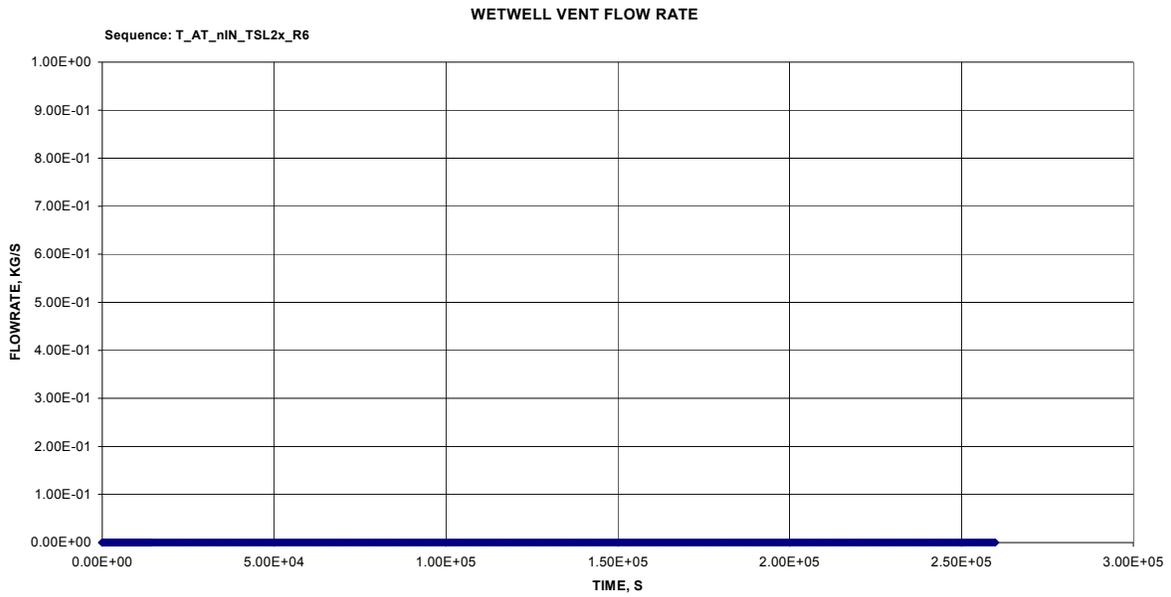


Figure 9A-17s. T_AT_nIN_TSL2x_R6 Wetwell Vent Flow Rate

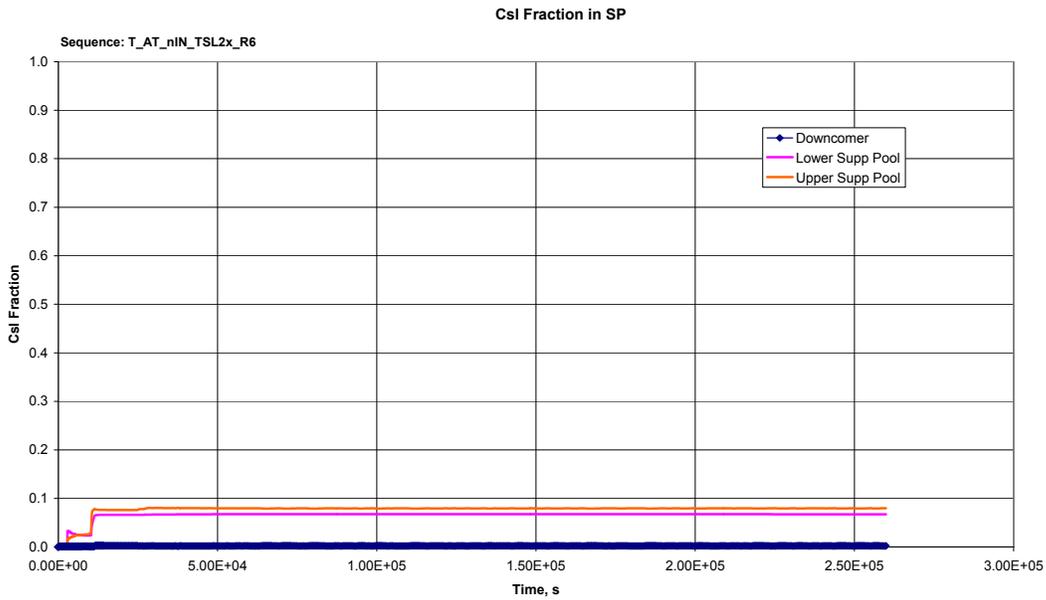


Figure 9A-17t. T_AT_nIN_TSL2x_R6 Csl Fraction in Suppression Pool

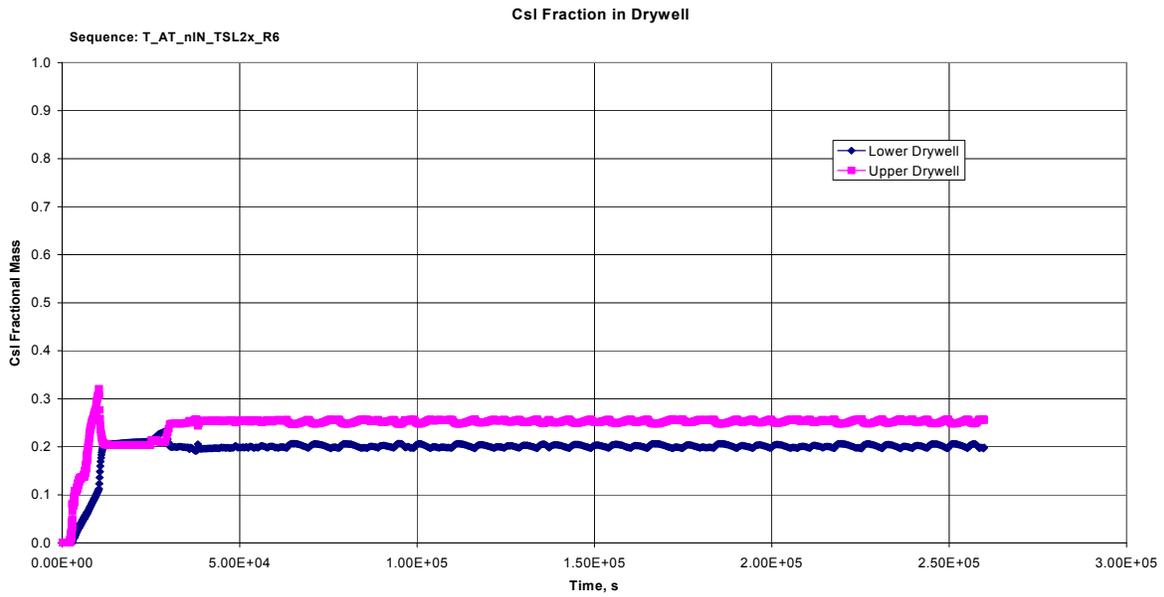


Figure 9A-17u. T_AT_nIN_TSL2x_R6 CsI Fraction in Upper Drywell

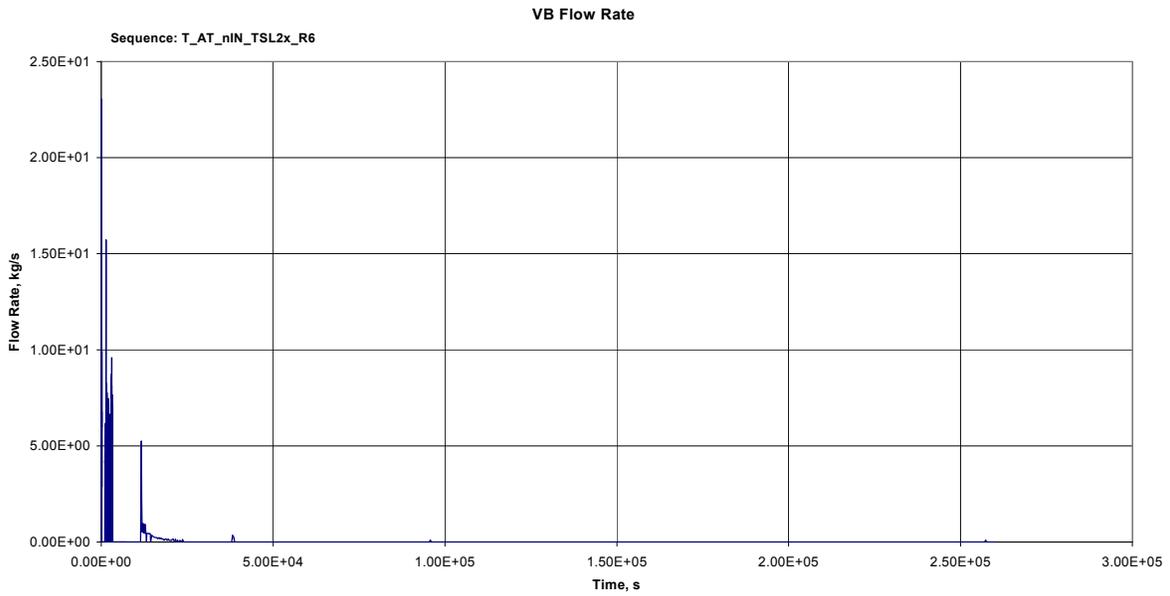


Figure 9A-17v. T_AT_nIN_TSL2x_R6 Vacuum Breaker Flow Rate

10 CONSEQUENCE ANALYSIS

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10 CONSEQUENCE ANALYSIS

10.1 INTRODUCTION

This section describes the offsite consequence evaluation (Level 3 analysis). Key inputs and assumptions are described. The calculated results are compared to consequence related goals to determine if the goals are satisfied.

The MACCS2 Version 1.13.1 computer code (Ref. 10-1) is used to determine the consequences of potential reactor accidents. The MACCS2 code evaluates offsite dose and consequences such as early fatality risk and latent cancer fatality risk for each source term (i.e., radionuclide release category) over a range of possible weather conditions and evacuation assumptions. The MACCS2 code model is described in Ref. 10-1.

The rationale for site related input selection is presented in Section 10.2. Other more generic input parameters for the MACCS2 analysis are based on "Sample Problem A" of Ref. 10-1. ESBWR specific reference data from the plant performance analysis in Section 8 and Section 9 are used as MACCS2 inputs as presented in Subsection 10.3. The calculated consequence results are compared to the goals in Subsection 10.4, Table 10.4-2. In Section 10.5, sensitivity study was summarized. Table 10.4-1 through 10.4-2 present the MACCS2 base case results. Figure 10.4-1 presents the exceedance probability as a function of population dose based on the full-power internal events model results.

10.2 ASSUMPTIONS

The evaluation of the offsite consequences of a reactor accident uses generic site parameters (e.g., weather, population, land use).

The subsections below describe the rationale for the selection of site meteorology, population, and evacuation parameters. The following tables present these inputs:

<u>Table</u>	<u>Inputs</u>
10.2-1	Population Density
10.2-2	Shielding and Exposure Parameters

10.2.1 Meteorology

For this study, a nuclear plant site meteorological condition comparable with ALWR URD (Ref. 10-2) meteorological reference data set is used. For base case study, weather category bin sampling approach of the meteorological data is used as was done in the URD. Population

For the ESBWR consequence evaluation, the SANDIA Siting Study population density data (Table 3-2 of Ref. 10-3) is used to develop a uniform population density corresponding to each spatial interval. The population distribution is developed for distances to 0.5, 1, 2, 3, 4, 5, 10, 20, 30, 40 and 50 miles from the site.

The three offsite consequence goals defined for the ESBWR are concerned with consequences within 10 miles of the site; a limited 0-10 mile population density is used. The maximum 0-10 mile population distribution value from the “all” sites column of Table 3-2 of Ref. 10-3 is used for the ESBWR consequence evaluation and is provided in Table 10.2-1. As can be seen from Table 10.2-1, the 0-5 mile population density is used in this analysis as a constant uniform density. Evacuation

Many evacuation related characteristics (local roads, population demographics, emergency services) are site specific. The evacuation parameters used in this study are assumptions in that no evacuation, relocation, and sheltering are assumed. The public is assumed to continue normal activity during the reactor accident in this limiting analysis.

Shielding and exposure values used for normal activity are the standard MACCS2 assumptions and are provided in Table 10.2-2.

Table 10.2-2 provides the following information for people engaged in normal activity:

- Cloudshine Shielding Factor – Fraction of cloudshine dose received from direct external exposure to the plume
- Inhalation Protection Factor – Fraction of inhalation dose received from cloud inhalation
- Breathing Rate – Breathing rate for people in normal activity
- Skin Protection Factor – Fraction of skin dose received from material deposited on skin

- Groundshine Shielding Factor – Fraction of groundshine dose received from material deposited on the ground

10.2.2 Risk Goals

The radiological consequences are measured by comparing risk goals to the quantified consequence results.

The information used to derive the risk goals is assumed and based on generic US society information on accident rates and human vulnerability to diseases.

Site specific and plant specific information, when available, can be used to update the goal measures.

10.2.3 Radiological Sources

The radiological release sources, presented in Section 9 of NEDO-33201, are used as the inputs to the consequence evaluation in this section. The isotopic distributions are derived from thermal-hydraulic analysis, presented in Section 9 of NEDO-33201, based on assumptions made on accident sequences propagations. The release frequencies of various categories of radiological sources (groups) are derived from Section 8 of NEDO-33201 and are based on assumptions made in level 2 PRA study.

10.2.4 Sensitivity Study

Section 10.4.2 presents consequence results based on two revised base case studies. No new sensitivity study is done in Rev 4, however, Section 10.5 discusses the application of previous done sensitivity studies and insights gained from the updated base cases.

**Table 10.2-1
Population Distribution**

Radial Interval	Maximum Population
	All Sites People per sq. km.(per sq. mi.)
0-8.1 km (0-5 mi)	305 (790)
8.1-16.1 km (5-10 mi)	270 (700)
16.1-32.2 km (10-20 mi)	282 (730)
32.2-48.3 km (20-30 mi)	772 (2000)
48.3-80.5 km (30-50 mi)	965 (2500)

Data taken from Ref. 10-3, Table 3-2.

The 0-5 mile population density (790 people per square mile) is used in the ESBWR analysis as a uniform density for all radial intervals in the 0-50 mile region.

Table 10.2-2
Shielding and Exposure Data

MACCS2 Parameter	Normal Activity Value
Cloudshine Shielding Factor	7.50E-01
Inhalation Protection Factor	4.10E-01
Breathing Rate (m ³ /sec)	2.66E-04
Skin Protection Factor	4.10E-01
Groundshine Shielding Factor	3.30E-01

All values are based on Ref. 10-1

10.3 MACCS2 RADIONUCLIDE RELEASE INPUT DATA

10.3.1 MACCS2 Radionuclide Release Input Data

ESBWR specific radionuclide release data is used in this analysis to model the dispersion of a plume of material released to the environment during a reactor accident.

The following tables present these inputs:

<u>Table</u>	<u>Inputs</u>
10.3-1	Building Data for Meteorological Modeling of Wake Effects
10.3-2	Core Inventory Parameters
10.3-3a	Reactor Accident Release Parameters 24 Hours After the Onset of Core Damage
10.3-3b	Reactor Accident Release Parameters 72 Hours After the Onset of Core Damage
10.3-3c	External and Shutdown Events Frequencies
10.3-4	Nuclide Release Categories

10.3.2 ESBWR Release Parameters

ESBWR specific parameters are used for wake effect data, core inventory, and reactor thermal power. The width and height of the building wake are used by MACCS2 to model the initial plume dimensions. These parameters for the ESBWR are provided in Table 10.3-1.

The representative equilibrium core inventory and reactor thermal power used in this analysis are ESBWR specific and are provided in Table 10.3-2. These parameters are used to determine the inventory of each nuclide in the core at accident initiation.

10.3.3 Input to MACCS2 from MAAP

The severe accident sequence analysis results provide input parameters to the MACCS2 code and are described here and are shown in Table 10.3-3a, Table 10.3-3b and Table 10.3-3c. The representative MAAP cases used as MACCS2 inputs are summarized in Section 9. Important input release characteristics include the nuclide release time, duration, and release fraction. The MAAP cases are used to develop source terms for each release category for the consequence analysis. Tables 10.3-3a and 10.3-3b describe the source terms, the release parameters and the corresponding radionuclide release categories used for the consequence analysis at 24 and 72 hours after the onset of core damage respectively. Table 10.3-3c presents the external and shutdown events frequencies.

For each source term, which represents a release category from Section 8, the following data are used (Table 10.3-3a and Table 10.3-3b):

- Source Term – Source term developed from the severe accident analysis that characterizes the release category. The source terms are summarized in Section 9.
- Release Category – Release category represented by the source term.

- MAAP Case – Severe accident sequence analysis results which are used to develop each source term. Section 9 provide a summary of the MAAP cases.
- Release Frequency – The frequency per year associated with the radionuclide release category. The release frequencies are calculated in Section 8.
- Time of Plume Release – Time from reactor trip (time of accident initiation) until the time of the modeled plume release to the atmosphere. This parameter is based on the severe accident analysis results discussed in Section 9 and is approximately the time when the CsI release from containment begins.
- Duration of Release - Duration of release of radionuclides from the plant is used to determine the dispersion of the release cloud. Each MAAP case for the ESBWR was performed for 72 hours after the onset of core damage. MACCS2 limits the duration of an individual plume to a maximum of 10 hours. Each release fraction is reviewed in determining the release duration, with special attention given to the nuclides with the greatest offsite consequence impacts (i.e., iodine and cesium).
- NG – Release fraction of Noble gases from containment to the environment.
- CsI – Release fraction of Iodine from containment to the environment.

Table 10.3-3c lists the release frequencies associated with the external and shutdown events models.

For this assessment no warning time is assumed due to no evacuation was credited. This would be the time between official notification of the public and the release of radioactivity from the plant.

For each source term, the release is assumed to occur at both the ground level and the elevated level. Two base cases are evaluated for the offsite consequence analyses in Subsection 10.4.2.

MAAP provides results for twelve (12) nuclide release fractions from containment to the atmosphere. These nuclide release fractions are related to the MACCS2 release groups as shown in Table 10.3-4.

**Table 10.3-1
Site and Reactor Data for Meteorological Modeling**

Parameter	Measurement, m (ft)
Reactor Building Length	49.0 (160)
Reactor Building Width	49.0 (160)
Reactor Building Height	48.0 (157)
Fuel Building Length	49.0 (160)
Fuel Building Height	24.0 (78)
Fuel Building Width	21.0 (69)

**Table 10.3-2
ESBWR Representative Core Inventory**

	Isotope	Activity (Ci)	Activity (MBq)		Isotope	Activity (Ci)	Activity (MBq)
1	Co-58	6.32E+05	2.34E+10	31	Te-131m	1.76E+07	6.52E+11
2	Co-60	6.11E+05	2.26E+10	32	Te-132	1.75E+08	6.48E+12
3	Kr-85	1.53E+06	5.65E+10	33	I-131	1.23E+08	4.55E+12
4	Kr-85m	3.38E+07	1.25E+12	34	I-132	1.79E+08	6.62E+12
5	Kr-87	6.54E+07	2.42E+12	35	I-133	2.53E+08	9.36E+12
6	Kr-88	9.22E+07	3.41E+12	36	I-134	2.78E+08	1.03E+13
7	Rb-86	2.92E+05	1.08E+10	37	I-135	2.38E+08	8.79E+12
8	Sr-89	1.23E+08	4.56E+12	38	Xe-133	2.51E+08	9.30E+12
9	Sr-90	1.21E+07	4.48E+11	39	Xe-135	8.35E+07	3.09E+12
10	Sr-91	1.55E+08	5.72E+12	40	Cs-134	2.45E+07	9.08E+11
11	Sr-92	1.66E+08	6.15E+12	41	Cs-136	8.54E+06	3.16E+11
12	Y-90	1.29E+07	4.76E+11	42	Cs-137	1.59E+07	5.89E+11
13	Y-91	1.58E+08	5.84E+12	43	Ba-139	2.28E+08	8.43E+12
14	Y-92	1.67E+08	6.18E+12	44	Ba-140	2.19E+08	8.11E+12
15	Y-93	1.92E+08	7.09E+12	45	La-140	2.26E+08	8.35E+12
16	Zr-95	2.23E+08	8.24E+12	46	La-141	2.08E+08	7.69E+12
17	Zr-97	2.29E+08	8.48E+12	47	La-142	2.01E+08	7.45E+12
18	Nb-95	2.24E+08	8.27E+12	48	Ce-141	2.08E+08	7.70E+12
19	Mo-99	2.35E+08	8.70E+12	49	Ce-143	1.94E+08	7.18E+12
20	Tc-99m	2.08E+08	7.71E+12	50	Ce-144	1.69E+08	6.25E+12
21	Ru-103	1.86E+08	6.88E+12	51	Pr-143	1.90E+08	7.02E+12
22	Ru-105	1.24E+08	4.60E+12	52	Nd-147	8.30E+07	3.07E+12
23	Ru-106	6.46E+07	2.39E+12	53	Np-239	2.40E+09	8.87E+13
24	Rh-105	1.13E+08	4.18E+12	54	Pu-238	4.16E+05	1.54E+10
25	Sb-127	1.28E+07	4.75E+11	55	Pu-239	4.97E+04	1.84E+09
26	Sb-129	3.92E+07	1.45E+12	56	Pu-240	6.46E+04	2.39E+09
27	Te-127	1.30E+07	4.82E+11	57	Pu-241	1.88E+07	6.95E+11
28	Te-127m	1.70E+06	6.29E+10	58	Am-241	2.11E+04	7.82E+08
29	Te-129	3.84E+07	1.42E+12	59	Cm-242	4.97E+06	1.84E+11
30	Te-129m	5.70E+06	2.11E+11	60	Cm-244	2.41E+05	8.90E+09

Note: To be consistent with the methodology used to derive the core inventory data, a 2% uncertainty of the core thermal power level is included in dose calculation, which resulted in a core thermal power level of 4590 MWt..

Table 10.3-3a
Event Release Parameter
24 Hours After the Onset of Core Damage

Source Term (1), (2)	Release Category	MAAP CASE	Relative Fraction ⁽⁵⁾	Total Release Frequency (per year)	Time of Plume Release (hr)	Duration of Release (hr) ⁽³⁾	NG ⁽⁴⁾ Release Fraction	CsI ⁽⁴⁾ Release Fraction
1	BOC	BOCs_d_nIN_R1	1.000	8.501E-11	0.7	10	9.7E-01	7.0E-01
2		BOCdr_nIN_R1	1.000		0.6	10	2.4E-01	1.1E-01
3	BYP	T_nIN_BYP_R1	1.000	5.572E-11	0.7	10	9.5E-01	2.1E-01
4		T_nDP_nIN_BYP_R1	1.000		1.3	10	5.3E-01	3.3E-02
5	CCID	T_nIN_nD_CCID_R4	1.000	1.477E-12	23.4	10	7.5E-01	1.3E-03
6		T_nDP_nIN_nD_CCID_R4	1.000		15.6	10	9.1E-01	6.8E-02
7	CCIW	T_nIN_CCIW_R4	1.000	2.926E-12	23.1	10	2.5E-01	1.6E-06
8		T_nDP_nIN_CCIW_R4	1.000		17.5	10	6.4E-01	1.5E-04
9	EVE	T_nIN_nD_EVE_R1	1.000	1.144E-09	7.4	10	8.3E-01	2.8E-02
10	FR	T-AT_nIN_nCHR_FR_R4	1.000	7.678E-11	25.4	10	0.0	0.0
11	OPVB	T_nDP_nIN_VB_R4	1.000	1.973E-12	13.0	10	4.5E-01	6.7E-05
12		T_nIN_VB_R4	1.000		8.4	10	7.8E-01	3.3E-03
13	OPW1	T_nDP_nIN_nCHR_W1_R4	1.000	1.960E-12	31.7	10	0.0	0.0
14	OPW2	T_nDP_nIN_nCHR_W2_R4	1.000	5.644E-11	50.1	10	0.0	0.0
15 ⁽⁶⁾	TSL	T_AT_nIN_TSL2x_R1	1.000	1.506E-08	0.5	10	2.7E-03	1.6E-04

Notes to Table 10.3-3a

- (1) See Subsection 10.3.3 for definition of parameters in this table.
- (2) For this analysis, release height is the elevated level and the buoyant energy rise is included.
- (3) The release parameters are based on the 24 hours after the onset of core damage value. Each MAAP case for the ESBWR was performed for 72 hours after the onset of core damage. MACCS2 limits the duration of an individual plume to a maximum of 10 hours. To achieve more limiting consequence results, maximum code allowed plume duration was applied for all the source terms.
- (4) Noble Gases (NG) and Cesium Iodine (CsI) release fractions are the cumulative release fractions at 24 hours after the onset of core damage.
- (5) Relative Fraction is the relative contribution of each of the representative sequences to their release category. See discussion in 10.5.
- (6) Source term 15 MAAP results were revised in Section 9 Revision 6. The existing release fractions are slightly higher than Section 9 Revision 6 results. Since the existing release fractions are bounding, MACCS2 evaluation was not revised.

Table 10.3-3b
Event Release Parameter
72 Hours After the Onset of Core Damage

Source Term (1), (2)	Release Category	MAAP CASE	Relative Fraction ⁽⁵⁾	Total Release Frequency (per year)	Time of Plume Release (hr)	Duration of Release (hr) ⁽³⁾	NG ⁽⁴⁾ Release Fraction	Csl ⁽⁴⁾ Release Fraction
1	BOC	BOCsd_nIN_R1	1.000	8.501E-11	0.7	10	9.8E-01	7.0E-01
2		BOCdr_nIN_R1	1.000		0.6	10	2.6E-01	1.3E-01
3	BYP	T_nIN_BYP_R1	1.000	5.572E-11	0.7	10	9.7E-01	3.0E-01
4		T_nDP_nIN_BYP_R1	1.000		1.3	10	6.8E-01	3.5E-02
5	CCID	T_nIN_nD_CCID_R4	1.000	1.477E-12	23.4	10	9.0E-01	1.73E-01
6		T_nDP_nIN_nD_CCID_R4	1.000		15.6	10	9.4E-01	3.4E-01
7	CCIW	T_nIN_CCIW_R4	1.000	2.926E-12	23.1	10	8.8E-01	2.5E-05
8		T_nDP_nIN_CCIW_R4	1.000		17.5	10	8.2E-01	1.3E-02
9	EVE	T_nIN_nD_EVE_R1	1.000	1.144E-09	7.4	10	8.3E-01	1.5E-01
10	FR	T-AT_nIN_nCHR_FR_R4	1.000	7.678E-11	25.4	10	1.0E+00	7.3E-03
11	OPVB	T_nDP_nIN_VB_R4	1.000	1.973E-12	13.0	10	9.7E-01	4.8E-03
12		T_nIN_VB_R4	1.000		8.4	10	9.9E-01	8.1E-03
13	OPW1	T_nDP_nIN_nCHR_W1_R4	1.000	1.960E-12	31.7	10	9.9E-01	8.4E-04
14	OPW2	T_nDP_nIN_nCHR_W2_R4	1.000	5.644E-11	50.1	10	9.7E-01	1.4E-04
15 ⁽⁶⁾	TSL	T_AT_nIN_TSL2x_R1	1.000	1.506E-08	0.5	10	2.7E-03	1.6E-04

Notes to Table 10.3-3b

- (1) See Subsection 10.3.3 for definition of parameters in this table.
- (2) For this bounding analysis, release height is ground level and release sensible heat is same as ambient.
- (3) Each MAAP case for the ESBWR was performed for 72 hours after the onset of core damage. MACCS2 limits the duration of an individual plume to a maximum of 10 hours. To achieve more limiting consequence results, maximum code allowed plume duration was applied for all the source terms.
- (4) Noble Gases (NG) and Cesium Iodine (CsI) release fractions are the cumulative release fractions at 72 hours after the onset of core damage.
- (5) Relative Fraction is the relative contribution of each of the representative sequences to their release category. See discussion in 10.5.
- (6) Source term 15 MAAP results were revised in Section 9 Revision 6. The existing release fractions are slightly higher than Section 9 Revision 6 results. Since the existing release fractions are bounding, MACCS2 evaluation was not revised.

Table 10.3-3c
External and Shutdown Events Frequencies

Source Term	Release Category	MAAP CASE	At Power Fire Release Frequency (per year)	At Power High Wind Release Frequency (per year)	At Power Flood Release Frequency (per year)	Shutdown Release Frequency (per year)	Shutdown Fire Release Frequency (per year)	Shutdown High Wind Release Frequency (per year)	Shutdown Flood Frequency (per year)
1	BOC	BOCs _d _nIN_R1	4.82E-12	2.08E-11	5.28E-13	NA	NA	NA	NA
2		BOC _{dr} _nIN_R1	4.82E-12	2.08E-11	5.28E-13	NA	NA	NA	NA
3	BYP	T_nIN_BYP_R1	1.20E-09	9.82E-10	2.89E-09	1.70E-08	9.56E-09	3.95E-8	5.21E-09
4		T_nDP_nIN_BYP_R1	1.20E-09	9.82E-10	2.89E-09	1.70E-08	9.56E-09	3.95E-8	5.21E-09
5	CCID	T_nIN_nD_CCID_R4	9.53E-11	1.16E-12	7.57E-13	NA	NA	NA	NA
6		T_nDP_nIN_nD_CCID_R4	9.53E-11	1.16E-12	7.57E-13	NA	NA	NA	NA
7	CCIW	T_nIN_CCIW_R4	2.18E-12	2.05E-12	1.44E-12	NA	NA	NA	NA
8		T_nDP_nIN_CCIW_R4	2.18E-12	2.05E-12	1.44E-12	NA	NA	NA	NA
9	EVE	T_nIN_nD_EVE_R1	NA	NA	NA	NA	NA	NA	NA
10	FR	T-AT_nIN_nCHR_FR_R4	6.17E-11	2.58E-10	1.08E-09	NA	NA	NA	NA
11	OPVB	T_nDP_nIN_VB_R4	1.54E-12	1.74E-14	2.01E-12	NA	NA	NA	NA
12		T_nIN_VB_R4	1.54E-12	1.74E-14	2.01E-12	NA	NA	NA	NA
13	OPW1	T_nDP_nIN_nCHR_W1_R4	3.48E-12	1.33E-15	6.71E-13	NA	NA	NA	NA
14	OPW2	T_nDP_nIN_nCHR_W2_R4	2.25E-10	2.10E-12	1.30E-10	NA	NA	NA	NA
15	TSL	T_AT_nIN_TSL2x_R1	1.09E-08	7.38E-09	2.80E-09	NA	NA	NA	NA

**Table 10.3-4
MACCS2 Release Groups vs. ESBWR Release Groups**

MACCS2 Release Groups	MAAP Release Groups	MAAP Output Parameter
1-Xe/Kr	Noble gases	FREL (1)
2-I	CsI	FREL (2)
3-Cs	CsOH	FREL (6)
4-Te	TeO ₂ ⁽¹⁾ (Sb ⁽¹⁾ & Te ₂ ⁽²⁾ fractions are included)	FREL (3), FREL (10) and FREL (11)
5-Sr	SrO	FREL (4)
6-Ru	MoO ₂ (Mo is in Ru MACCS category)	FREL (5)
7-La	La ₂ O ₃	FREL (8)
8-Ce	CeO ₂ (included UO ₂ ⁽²⁾ in this category)	FREL (9) and FREL (12)
9-Ba	BaO	FREL (7)

- ⁽¹⁾ The larger release fraction of TeO₂ and Sb is used as input into MACCS2.
⁽²⁾ Te₂ and UO₂ release fractions are negligible.

10.4 COMPARISON OF RESULTS TO GOALS

10.4.1 Goals

Three major offsite consequence-related goals are established in the GE ESBWR Licensing Review Bases based on the NRC Safety Goal Policy Statement. These goals are:

(1) **Individual Risk Goal**

The risk of prompt fatalities that might result from reactor accidents to an average individual in the "vicinity" of a nuclear power plant should not exceed one tenth of one percent (0.1%) of the sum of "prompt fatality risks" resulting from other accidents to which members of the U.S. Population are generally exposed.

As noted in the Safety Goal Policy statement, "vicinity" is defined as the area within 1.61 km (1 mile) of the plant site boundary. "Prompt Fatality Risks" are defined as those risks to which the average individual residing in the vicinity of the plant is exposed to as a result of normal daily activities. Such risks are the sum of risks that result in fatalities from such activities as driving, household chores, occupational activities, etc.

For this evaluation, the sum of prompt fatality risks is taken as the U.S. accidental death risk value of 39.1 deaths per 100,000 people per year based upon Ref.10-4.

(2) **Societal Risk Goal**

The risk of cancer fatalities that might result from nuclear power plant operation to the population in the area "near" a nuclear power plant should not exceed one tenth of one percent (0.1%) of the sum of the "cancer fatality risks" resulting from all other causes to which members of the U.S. Population are generally exposed.

As noted in the Safety Goal Policy Statement, "near" is defined as within 16.1 km (10 miles) of the plant. The "cancer fatality risk" is taken as 169 deaths per 100,000 people per year based upon 1983 statistics in Ref. 10-5.

(3) **Radiation Dose Goal**

The probability of exceeding a whole body dose of 0.25 Sv at a distance of 805 m (one-half mile) from the reactor shall be less than one in a million per reactor year.

The calculated ESBWR consequence results are compared to these goals in the following subsection.

10.4.2 Results

The mean results from the two base case offsite consequence analyses for each source term are shown in Table 10.4-1a and Table 10.4-1b.

Base case 1, as shown in Table 10.4-1a, provides the results of 24 hours after the onset of core damage, with ground release, limiting plume duration timing and the sensitivity meteorological data used in previous sensitivity studies, which resulted in more bounding results.

Base case 2, as shown in Table 10.4-1b, provides the results of 72 hours after the onset of core damage, with elevated release including buoyant energy rise, limiting plume duration timing and the sensitivity meteorological data used in previous sensitivity studies, which resulted in more bounding results.

The 24 hour mission time after the onset of core damage is the typical time used for probabilistic risk analysis. The 72 hour mission time is a reference time used for passive ESBWR design evaluation.

These results are multiplied by the annual release frequency for each source term and then summed to obtain the risk weighted mean consequence results. These results are compared to the consequence goals identified in Subsection 10.4.1 and summarized in Table 10.4-2.

The individual risk and societal risk goals are maintained as shown in Table 10.4-2 and all the risk measures are lower than the risk goals.

A plot of whole body dose at a distance of 805 m (one-half mile) against cumulative probability based on the full-power internal events model results is shown in Figure 10.4-1. The safety goal of probability of exceedance of whole body dose of 0.25 Sv at one-half mile is $1.0E-6$. As also can be seen, the whole body dose at 805 m (one-half mile) over the entire dose spectrum from 0.1 Sv to >100 Sv is below the goal of $1E-6$.

Based upon these results, the ESBWR meets the established consequence related goals.

Table 10.4-1a
MACCS2 Results by Source Term
24 Hour After Onset of Core Damage

Source Term ⁽¹⁰⁾	Individual Risk (0-1 mile) ⁽¹⁾	Weighted Individual Risk (per year) ⁽²⁾	Weighted Individual Risk Contribution (%) ⁽³⁾	Societal Risk (0-10 miles) ⁽⁴⁾	Weighted Societal Risk (per year) ⁽⁵⁾	Weighted Societal Risk Contribution (%) ⁽⁶⁾	Probability of Dose > .2 Sv (0-0.5 mile) ⁽⁷⁾	Weighted Prob of Exceedance (per year) ⁽⁸⁾	Weighted Dose Contribution (%) ⁽⁹⁾
1	1.16E-01	9.86E-12	6.09%	1.87E-02	1.59E-12	8.07%	1.00E+00	8.50E-11	4.18%
2	1.12E-01	9.52E-12	5.88%	1.12E-02	9.52E-13	4.83%	1.00E+00	8.50E-11	4.18%
3	1.15E-01	6.41E-12	3.96%	1.99E-02	1.11E-12	5.63%	1.00E+00	5.57E-11	2.74%
4	1.15E-01	6.41E-12	3.96%	6.39E-02	3.56E-12	18.08%	1.00E+00	5.57E-11	2.74%
5	4.61E-02	6.81E-14	0.04%	1.66E-03	2.45E-15	0.01%	9.91E-01	1.46E-12	0.07%
6	1.02E-01	1.51E-13	0.09%	6.00E-03	8.86E-15	0.04%	1.00E+00	1.48E-12	0.07%
7	0.00E+00	0.00E+00	0.00%	5.15E-05	1.51E-16	0.00%	0.00E+00	0.00E+00	0.00%
8	0.00E+00	0.00E+00	0.00%	1.01E-04	2.96E-16	0.00%	5.21E-02	1.52E-13	0.01%
9	1.13E-01	1.29E-10	79.88%	9.53E-03	1.09E-11	55.35%	1.00E+00	1.14E-09	56.32%
10	0.00E+00	0.00E+00	0.00%	0.00E+00	0.00E+00	0.00%	0.00E+00	0.00E+00	0.00%
11	0.00E+00	0.00E+00	0.00%	5.12E-05	1.01E-16	0.00%	0.00E+00	0.00E+00	0.00%
12	7.21E-02	1.42E-13	0.09%	2.74E-03	5.41E-15	0.03%	9.87E-01	1.95E-12	0.10%
13	0.00E+00	0.00E+00	0.00%	0.00E+00	0.00E+00	0.00%	0.00E+00	0.00E+00	0.00%
14	0.00E+00	0.00E+00	0.00%	0.00E+00	0.00E+00	0.00%	0.00E+00	0.00E+00	0.00%
15	0.00E+00	0.00E+00	0.00%	1.04E-04	1.57E-12	7.95%	3.99E-02	6.01E-10	29.58%
Total	--	1.62E-10	100.00%	--	1.97E-11	100.00%	--	2.03E-09	100.00%

Notes to Table 10.4-1a

- (1) The individual risk is calculated as the total number of early fatalities within one mile divided by the total one mile population
- (2) The weighted individual risk is the individual risk per year and is calculated as the product of the release category release frequency and the release category individual risk.
- (3) The weighted individual risk contribution is the percentage of a release category's weighted individual risk to the total weighted individual risk.
- (4) The societal risk is calculated as the total number of latent fatalities within ten miles divided by the total ten mile population.
- (5) The weighted societal risk is the societal risk per year and is calculated as the product of the release category release frequency and the release category societal risk.
- (6) The weighted societal risk contribution is the percentage of a release category's weighted societal risk to the total weighted societal risk.
- (7) The probability of dose greater than 0.2 Sv is obtained from the MACCS2 output file and is provided in the form of CCDF tables.
- (8) The weighted probability of exceedance is the probability of exceeding a dose greater than 0.2 Sv per year and is calculated as the product of the release category release frequency and the release category MACCS2 probability of dose greater than 0.2 Sv.
- (9) The weighted dose contribution is the percentage of a release category's weighted societal risk to the total weighted societal risk
- (10) The source term definition is the same as defined in Table 10.3-3a.

Table 10.4-1b
MACCS2 Results by Source Term
72 Hour After Onset of Core Damage

Source Term (10)	Individual Risk (0-1 mile) (1)	Weighted Individual Risk (per year) (2)	Weighted Individual Risk Contribution (%) (3)	Societal Risk (0-10 miles) (4)	Weighted Societal Risk (per year) (5)	Weighted Societal Risk Contribution (%) (6)	Probability of Dose > .2 Sv (0-0.5 mile) (7)	Weighted Prob of Exceedance (per year) (8)	Weighted Dose Contribution (%) (9)
1	1.16E-01	9.86E-12	6.19%	1.57E-02	1.33E-12	5.22%	1.00E+00	8.50E-11	4.44%
2	9.48E-02	8.06E-12	5.06%	1.33E-02	1.13E-12	4.43%	1.00E+00	8.50E-11	4.44%
3	1.12E-01	6.24E-12	3.92%	1.94E-02	1.08E-12	4.23%	1.00E+00	5.57E-11	2.91%
4	1.03E-01	5.74E-12	3.60%	7.32E-02	4.08E-12	15.97%	1.00E+00	5.57E-11	2.91%
5	1.05E-01	1.55E-13	0.10%	1.28E-02	1.89E-14	0.07%	1.00E+00	1.48E-12	0.08%
6	9.93E-02	1.47E-13	0.09%	1.19E-02	1.76E-14	0.07%	1.00E+00	1.48E-12	0.08%
7	3.26E-02	9.54E-14	0.06%	2.82E-03	8.25E-15	0.03%	2.43E-01	7.11E-13	0.04%
8	1.13E-02	3.31E-14	0.02%	2.33E-03	6.82E-15	0.03%	1.00E+00	2.93E-12	0.15%
9	1.07E-01	1.22E-10	76.81%	1.36E-02	1.56E-11	60.90%	1.00E+00	1.14E-09	59.70%
10	8.21E-02	6.30E-12	3.96%	7.71E-03	5.92E-13	2.32%	9.97E-01	7.65E-11	3.99%
11	5.57E-02	1.10E-13	0.07%	5.27E-03	1.04E-14	0.04%	1.00E+00	1.97E-12	0.10%
12	1.05E-01	2.07E-13	0.13%	1.14E-02	2.25E-14	0.09%	9.94E-01	1.96E-12	0.10%
13	7.11E-05	1.39E-16	0.00%	1.01E-03	1.98E-15	0.01%	1.00E+00	1.96E-12	0.10%
14	7.47E-06	4.22E-16	0.00%	5.09E-04	2.87E-14	0.11%	6.10E-01	3.44E-11	1.80%
15	0.00E+00	0.00E+00	0.00%	1.10E-04	1.66E-12	6.48%	2.44E-02	3.67E-10	19.17%
Total	--	1.59E-10	100.00%	--	2.55E-11	100.00%	--	1.92E-09	100.00%

Notes to Table 10.4-1b

- (1) The individual risk is calculated as the total number of early fatalities within one mile divided by the total one mile population
- (2) The weighted individual risk is the individual risk per year and is calculated as the product of the release category release frequency and the release category individual risk.
- (3) The weighted individual risk contribution is the percentage of a release category's weighted individual risk to the total weighted individual risk.
- (4) The societal risk is calculated as the total number of latent fatalities within ten miles divided by the total ten mile population.
- (5) The weighted societal risk is the societal risk per year and is calculated as the product of the release category release frequency and the release category societal risk.
- (6) The weighted societal risk contribution is the percentage of a release category's weighted societal risk to the total weighted societal risk.
- (7) The probability of dose greater than 0.2 Sv is obtained from the MACCS2 output file and is provided in the form of CCDF tables.
- (8) The weighted probability of exceedance is the probability of exceeding a dose greater than 0.2 Sv per year and is calculated as the product of the release category release frequency and the release category MACCS2 probability of dose greater than 0.2 Sv.
- (9) The weighted dose contribution is the percentage of a release category's weighted societal risk to the total weighted societal risk
- (10) The source term definition is the same as defined in Table 10.3-3a.
- (11)

**Table 10.4-2
Baseline Consequence Goals and Results**

Operating States and Release Conditions		Risk Goals, Criteria and Results			
		Individual Risk (0 – 1 Mile) 3.9×10^{-7} (0.1%)	Societal Risk (0 – 10 Mile) 1.7×10^{-6} (0.1%)	Radiation Dose Probability at 0.25 Sv ⁽³⁾ (0 – 0.5 Mile) 10^{-6}	Meet Goals
At Power Internal	BC1 ⁽¹⁾	1.62E-10	1.97E-11	2.03E-09	Yes
	BC2 ⁽²⁾	1.59E-10	2.55E-11	1.92E-09	Yes
Shutdown Internal	BC1 ⁽¹⁾	3.91E-09	1.42E-09	3.40E-08	Yes
	BC2 ⁽²⁾	3.66E-09	1.57E-09	3.40E-08	Yes
At Power Fire	BC1 ⁽¹⁾	2.91E-10	1.03E-10	3.04E-09	Yes
	BC2 ⁽²⁾	2.84E-10	1.15E-10	3.07E-09	Yes
Shutdown Fire	BC1 ⁽¹⁾	2.20E-09	8.01E-10	1.91E-08	Yes
	BC2 ⁽²⁾	2.06E-09	8.85E-10	1.91E-08	Yes
At Power High Wind	BC1 ⁽¹⁾	2.31E-10	8.37E-11	2.30E-09	Yes
	BC2 ⁽²⁾	2.37E-10	9.44E-11	2.45E-09	Yes
Shutdown High Wind	BC1 ⁽¹⁾	9.09E-9	3.31E-9	7.90E-8	Yes
	BC2 ⁽²⁾	8.49E-9	3.66E-9	7.90E-8	Yes
At Power Flood	BC1 ⁽¹⁾	6.65E-10	2.43E-10	5.90E-09	Yes
	BC2 ⁽²⁾	7.11E-10	2.76E-10	7.01E-09	Yes
Shutdown Flood	BC1 ⁽¹⁾	1.20E-09	4.37E-10	1.04E-08	Yes
	BC2 ⁽²⁾	1.12E-09	4.82E-10	1.04E-08	Yes

- (1) Base case 1. 24 Hours After Onset of Core Damage (Ground Release)
- (2) Base case 12. 72 Hours After Onset of Core Damage (Elevated Release)
- (3) The radiation dose probability at 0.2 Sv is listed, which is more bounding.

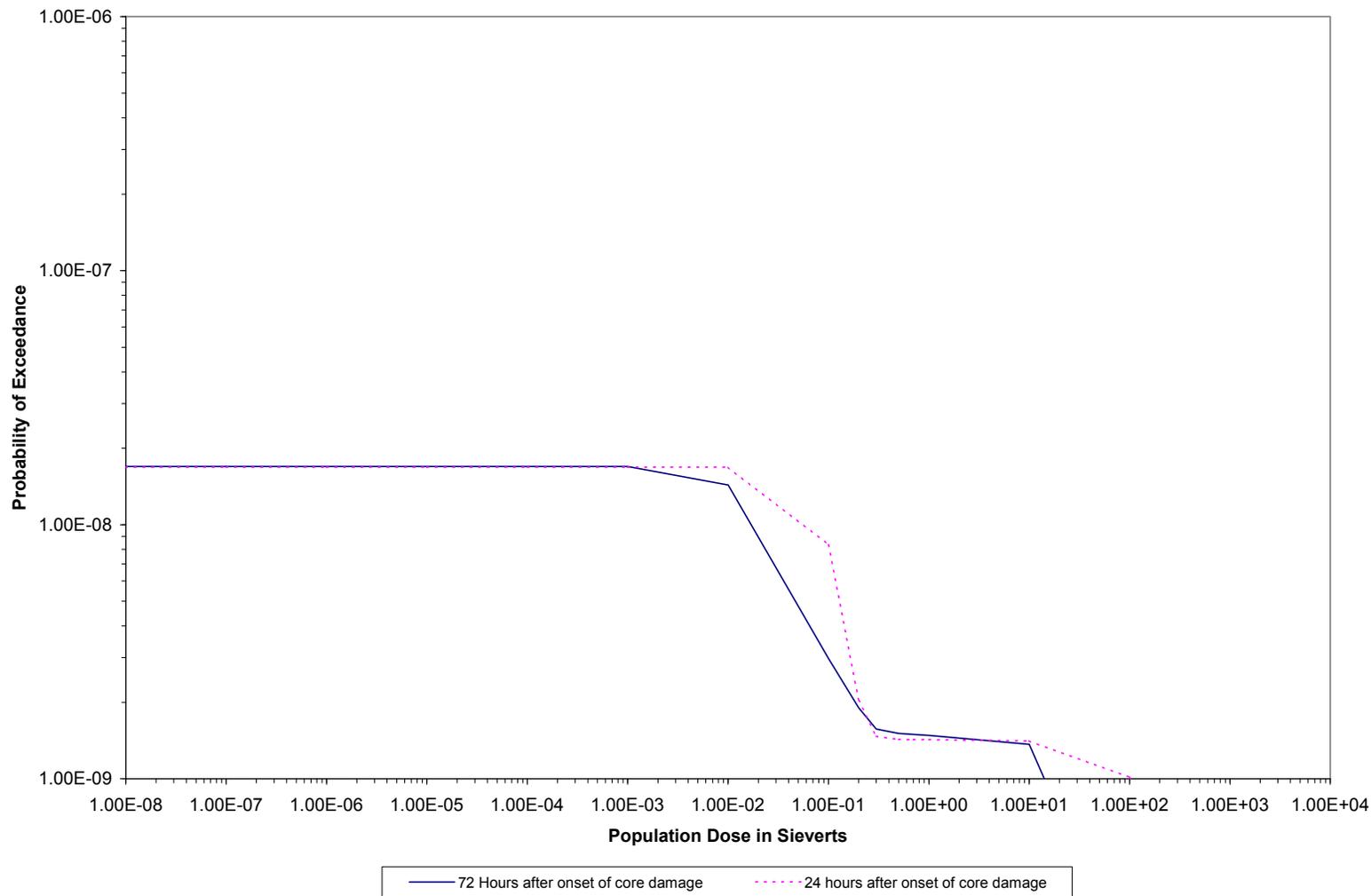


Figure 10.4-1. Whole Body Dose at 805 m (0.5 Mile) vs. Probability of Exceedance

10.5 SENSITIVITY STUDY AND INSIGHTS

Based on insights gained from the previous revision of NEDO-33201, the two base cases in Section 10.4 were revised in Rev 4 of NEDO-33201.

As shown in Table 10.3-3a and Table 10.3-3b, release category BOC, BYP, CCID, CCIW and OPVB each has two representative sequences. Offsite consequences were weighted by the release frequency of each of the source terms as well as by the fraction of each of the release sequences to each of the release categories. As shown in Section 9, the combined fraction of some of the two release sequences (class I and III) to their release categories should be equal to or less than 100%, since some of these release categories also has other class, such as class II contributions. However, for more limiting offsite consequence results, a 100% weighting fraction was applied to both base case 1 and base case 2 for each of the two sequences for each of these release categories.

This maximum release sequence weighting factor approach is limiting since it offsets the uncertainty of the representative sequences selection. Based on the offsite consequence sensitivity results in previous revisions, the offsite consequence risk results are more sensitive to these sequence weighting factors than the selection of the sequences themselves.

The 100% weighting distribution also offsets the uncertainty of the release sequence percentage distribution within each of the corresponding release categories. It doubles some of the offsite consequence results by applying 100% distribution for some of the release sequences.

In previous revisions, the source terms in which the release flattened out after a short time (for example, less than 10 hours) are characterized by a release duration corresponding to the time the release starts to the time the release flattened out. In this revision and as shown in Table 10.3-3a and Table 10.3-3b, for limiting results, maximum code allowed plume duration time of 10 hours is used for all the source terms, even for the ones previously showed less than 10 hours duration. This applies to both base case 1 and base case 2. Study has shown that the offsite consequence results are more limiting with maximum plume duration assumed.

Base case 2 was also revised from a 72-hour ground release to a 72-hour elevated release case with buoyant energy of 1E6 watts. This revision accounted for some of the insights gained from the sensitivity studies in previous revisions.

Though the two different meteorological data sets in the sensitivity study in the previous revision did not contribute to significant offsite consequence differences, the sensitivity meteorological data set is used in this revision since it resulted in more bounding results.

Sensitivity studies in previous revisions also showed that various parameters and conditions assumed did not result in significant offsite consequence results differences. For instance, sensitivity studies showed that release distributions post 72 hours did not significantly impact the offsite consequences, even without crediting various potential post 72-hour mitigative actions.

As for the sensitivity of the applicability of the at power release categories to the shutdown states, the shutdown PRA analysis assumed all core damage sequences contribute directly to large release frequency, i.e., all core damage events contribute to a bypass release. The internal event containment bypass sequences, described in Section 9 of NEDO-33201, are used to represent the shutdown events in the consequence analysis. The bypass release category of the

internal events assumed that the failure of the Containment Isolation System function leads to a direct release path to the environment, bypassing the containment.

The at power model accounted for reactor modes 1 through 4, the shutdown model covered modes 5 and 6. The representative BYP release category (two sequences) used for the at power model assumed the containment was bypassed. The shutdown model assumed the containment was open for the entire shutdown. Since the BYP release category cases used in the at power internal events model bypassed the containment altogether, the same cases can be reasonably applied to shutdown sequences that assumed the containment was open. This approach did not credit source term decay for the shutdown cases.

It has been recognized that certain isotopes, might exhibit behavior that is operational state dependent, especially the behaviors of ruthenium oxides, such as RuO, RuO₂, RuO₃ or RuO₄, could be environment, temperature and pressure dependent. The details of the Ru oxidation process and products, such as air ingress, decomposition, deposition and volatilization, however, can be illustrated more directly and more insightfully by studying the sensitivity of Ru release fraction on the offsite risk measures.

Previous sensitivity was done to increase the Ru content by a factor of 10 for one of the shutdown fire offsite consequence sensitivities. The result showed that no significant increase in offsite consequences due to increase of Ru content. For instance, the Weighted Individual Risk associated with the elevated Ru fraction was 0.76% of the goal vs. 0.74% before the Ru increase. And the Weighted Societal Risk associated with the elevated Ru fraction was 0.09% of the goal vs. 0.08% before the Ru increase.

Table 10.5-1

Sensitivity Case Results Summary (DELETED)

Table 10.5-2A

Sensitivity Case Ground vs.. Elevated Release at 0-50 Miles (24 HRS) (DELETED)

Table 10.5-2B

Sensitivity Case Ground vs. Elevated Release at 0-50 Miles (72 HRS) (DELETED)

Table 10.5-3A

Sensitivity Case Ground vs. Elevated Release at 0-10 Miles (24 HRS) (DELETED)

Table 10.5-3B

Sensitivity Case Ground vs. Elevated Release at 0-10 Miles (72 HRS) (DELETED)

Table 10.5-4

Sensitivity Case Ground Release With Hourly Met Data Sampling (72 HRS) (DELETED)

Table 10.5-5A

Sensitivity Case Ground Release With Sensitivity Met Data (24 HRS) (DELETED)

Table 10.5-5B

Sensitivity Case Ground Release With Sensitivity Met Data (72 HRS) (DELETED)

Table 10.5-6A

Sensitivity Case Elevated Release With Sensitivity Met Data (24 HRS) (DELETED)

Table 10.5-6B

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Table 10.5-7A

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Table 10.5-7B

Sensitivity Case Elevated Release Sensitivity Met Data & Plume (72 hrs) (DELETED)

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11 UNCERTAINTY AND SENSITIVITY ANALYSIS

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11 UNCERTAINTY AND SENSITIVITY ANALYSIS

11.1 INTRODUCTION

Various sensitivity analyses were conducted on the ESBWR Level 1 (L1) and Level 2 (L2) PRA at power, fire, flood, high wind and shutdown models. Uncertainty analyses have been performed on the L1 and L2 baseline internal events PRA models. The intent of these analyses was to evaluate the impacts to the PRA models and to provide risk insights.

Sensitivities and uncertainties included in Section 11 were identified from the following sources:

- Previously conducted in NEDO-33201 Section 11,
- Through the NRC Request for Additional Information (RAIs) process,
- Support for key assumptions, and
- Identified by system/PRA engineer.

Appendix 11A documents MAAP thermal-hydraulic sensitivities that were performed to address current issues and develop further knowledge related to the function and operation of the ESBWR passive systems.

Appendix 11B documents the top 100 cutsets for a variety of sensitivity studies.

11.2 METHODOLOGY

The methodology for conducting the sensitivity and uncertainty analysis was conducted in three phases, (1) selection/identification, (2) implementation/analyses and (3) results/benchmarking. The first step was to evaluate the importance of the sensitivity itself. In some cases, sensitivities were identified, but upon further evaluation were discarded due to inherent model conservatism or were delayed pending more detailed engineering.

Once the sensitivity had been identified, the models and supporting files were generated to facilitate the analysis. In general, the base PRA models were used to conduct the sensitivities with some changes. The base PRA models used for the sensitivity analysis reflect the specific revisions of the PRA model and are discussed in Section 7.0, with some exceptions as noted in the individual sensitivities. Manipulation of existing data, revised engineering calculations or re-quantification of the model was used to obtain the results reflecting the specific sensitivity.

Finally, the results obtained from the sensitivities were benchmarked against the appropriate model results in order to gain insight. The units of measure for benchmarking the sensitivities included:

- Core Damage Frequency (CDF), Large Release Frequency (LRF) and importance measures from L1, L2 and shutdown PRA models,
- Difference calculated as the normalized difference between the results from the sensitivity and the baseline model,

$$Difference = \frac{(Sensitivity - Baseline)}{Baseline}$$

- NRC Risk goals as discussed in NEDO-33201 Section 18.2.2, and
- “Significant” definitions as discussed in NEDO-33201 Section 17.1.2.

Based on this benchmark, risk important insights or findings were obtained and are summarized in Section 11.6.

11.3 SENSITIVITY ANALYSES

Sensitivities were performed on the L1 and L2 PRA at power, fire, flood and shutdown models. The sensitivities included in Section 11.3 include the following:

- Level 1 Sensitivities
- Level 2 Sensitivities
- Focused Level 1 Sensitivities
- Focused Level 2 Sensitivities
- Shutdown Sensitivities
- Transportation and Nearby Facilities Sensitivities
- Fire Sensitivities
- Source Terms Sensitivities

11.3.1 LEVEL 1 Sensitivities

A series of sensitivities were conducted on the L1 PRA model. The focus of these sensitivities was to develop a better understanding and to provide insights as it relates to CDF generated through model analysis. Based on uncertainties associated with design data, component selection, configuration and success criteria, the insights developed from the sensitivities have the potential to guide ongoing design and operational activities in the consideration of overall risk impact.

The following sections provide a more detailed discussion of the sensitivities conducted on the L1 PRA model. Sensitivities were grouped according to scope and methodology. The L1 sensitivities conducted included:

- Human Reliability
- Common Cause Failure
- Squib Valve Reliability
- Test and Maintenance Unavailability
- Standby Liquid Control System Success Criteria
- Component Type Code Data
- SRV Common Cause Factors
- SPC & LPCI Success Criteria
- Turbine Bypass Valve Success Criteria
- LOCA Frequency
- LOCA – IC Frequency
- CRD Injection post Containment Failure

- Accumulators
- Vacuum Breakers
- System Importance
- Demand for Passive Systems

The sensitivity results contained in the following subsections represent results from sensitivities conducted on both current and past revisions of the L1 PRA model. A detailed discussion of the model development and quantification process along with a detailed results analysis for each revision of the PRA model can be found in NEDO-33201 Section 7.

11.3.1.1 Human Reliability

A human reliability sensitivity was performed to better understand the impact of operator interactions to the model and to gain insight into the importance of these actions on CDF and the L1 PRA model (Rev. 2). As part of the evaluation of human reliability, sensitivities were conducted on pre-initiator and post-initiator operator actions under conditions in which all the human error basic events result in either success or failure.

For the purpose of this human reliability sensitivity, no model or database changes were required. To simulate the success or failure of these human error basic events, additional flag files were generated and used during model quantification to provide the required manipulation of the operator actions. Flag files were generated for pre-initiator and post-initiator actions. In addition, flag files were generated that set both pre-initiator and post-initiator operator actions to TRUE and FALSE (one flag for each setting).

The human reliability sensitivity model was run using the base PRA model at a truncation of 1E-15 with the additional flag files and noted changes. Results for failure of all operator actions showed a significant impact to CDF over the base PRA model of over one order of magnitude as shown in Table 11.3-2. Similarly, the success of all operation actions, evaluated at a truncation of 1E-15, increases reliability as shown by a decrease in CDF of about an order of magnitude over the base model.

From the TRUE flag files, risk achievement worth (RAW) values can be calculated. The FALSE flag file results were used to simulate the success of all human error basic events within the system and to calculate the Fussell-Vesely (F-V) values. Using these RAW and F-V values, an indication of the risk significance of the human reliability sensitivities was determined based on criteria from Section 11.2. Table 11.3-2 contains the RAW and F-V results generated as part of the human reliability sensitivity. These results indicate that the pre-initiators have a more significant impact on the RAW value primarily due to the large number of potential latent failure and higher reliability for each of these operator actions. Similarly, the pre-initiator, post-initiator and ALL_T (all operator actions set to TRUE) sensitivities were found to be risk significant based in F-V values exceeding a value of 0.01. The distribution of latent failures (pre-initiators) and failure to respond (post-initiator) contribute about evenly, with a F-V value of 0.42 for pre-initiators and 0.57 for post-initiators.

A more detailed summary of the human reliability results is shown in Table 11.3-3. Along with the noted changes (CDF, RAW and F-V), other significant changes occurred in the sensitivity results including changes to the distribution of initiator CDF, distribution of accident classes and

distribution of drywell water level classes. In addition, the top accident sequences from the human reliability sensitivity showed some variation when compared to the top sequences in the base model.

Changes in the human error events, particularly pre-initiators, have the potential to impact the overall L1 PRA model CDF. This case shows that the base model is somewhat sensitive to changes in human error events. However, the model results are still well below the NRC stated goals for CDF even with all human error events set to TRUE.

11.3.1.2 Common Cause Failure

Common cause component failures (CCF) are predominant in the top cutsets for the L1 base PRA model (Rev. 2). To better understand the impact of these common cause failures, a model sensitivity was performed to evaluate the impact to CDF and the base model if no common cause failures are considered. To simulate the elimination of the common cause failures, a flag file was generated that sets all common cause failure events to FALSE (.F.).

For the purpose of the common cause failure sensitivity, no model or database changes were required. The CCF sensitivity model was run using the base model at a truncation of 1E-15 with the additional CCF flag file. Results showed a three order of magnitude decrease in CDF and are shown in Table 11.3-4.

A more detailed summary of the common cause failure results is shown in Table 11.3-5. In addition to the significant changes in CDF as a result of changes in the system common cause failures, other significant changes occurred in the CDF results obtained from the individual systems including initiator CDF, distribution of accident classes and distribution of drywell water level classes. The top accident sequences from the common cause failure sensitivity showed no commonality to the top sequences represented by the base model. The common cause failure sensitivity results were dominated by sequences involving vessel rupture in combination with a single Gravity Driven Cooling System (GDCCS) line check valve failure to open for injection (RVR014). This sequence accounts for about 75% of the CDF at a truncation of 1E-15. In contrast, this sequence does not appear in the base model results.

Changes in the common cause factors have the potential to impact the overall CDF and the L1 PRA model. It is important to note that while the elimination of a number of these common cause factors may lower the CDF, it is unlikely that these types of changes would be reflected in the L1 PRA model.

11.3.1.3 Squib Valves Reliability

In the current model, squib valve failure rates are based on generic data. For this reason, a series of sensitivities on the reliability of the squib valves in the L1 and L2 PRA models (Rev. 2) were performed to better understand the importance of this component and to provide insight into the CDF and LRF contribution of these valves. Squib valve (SQV) sensitivities performed included the following:

- Increase of all SQV failure rates by a factor of 10 (L1 and L2),
- Increase of all SQV failure rates by a factor of 5 (L1),

- Increase of the failure rates of the SQV functioning as part of the Automatic Depressurization System (ADS) system by a factor of 10 (L1),
- Increase of the failure rates of the SQV functioning as part of the Standby Liquid Control System (SLCS) system by a factor of 10 (L1),
- Increase of the failure rates of the SQV functioning as part of the GDCS injection system by a factor of 10 (L1), and
- Increase of the failure rates of the SQV functioning as part of the GDCS equalization system by a factor of 10 (L1).

For the purpose of the SQV reliability sensitivity, no fault tree or flag file changes were required. The appropriate single and common cause failure basic events contained in the database files were identified and modified to reflect the increased value.

The SQV sensitivity models were run using the base PRA model at a truncation of 1E-15 with the noted changes to SQV failure rates. Results generated show some small impacts to CDF over the base PRA model and are provided in Table 11.3-6. According to the function-based study of the squib valves, the valves functioning as part of the ADS and GDCS injection systems showed the highest change in CDF over the L1 PRA model with an increase of less than an order of magnitude in CDF. A more detailed summary of the squib valve results obtained from the sensitivity is shown in Table 11.3-7. In addition to the significant changes in overall CDF due to the SQV reliability, the distribution of initiators, distribution of accident classes and distribution of drywell water level classes shifted as well. The top accident sequences from the squib valve sensitivities also showed differences from the top sequences in the L1 base PRA model.

With the current revision (Rev. 4), an additional SQV sensitivity study has been performed with the current baseline model files with all the SQV failure rates increased by a factor of 10.

The SQV sensitivity model was run using the base PRA model at a truncation of 1E-14 with the noted changes to SQV failure rates. The SQV sensitivity results show some impacts to CDF over the base PRA model and are provided in Table 11.3-6A. A more detailed summary of the squib valve results obtained from the sensitivity is shown in Table 11.3-7A. In addition to the significant changes in overall CDF due to the SQV reliability, the distribution of initiators, distribution of accident classes shifted as well. The top accident sequences from the squib valve sensitivities also showed differences from the top sequences in the L1 base PRA model.

Several of the passive safety systems for the ESBWR utilize squib valves. As such, the PRA model is somewhat sensitive to changes in the failure data associated with the valves (especially ADS and GDCS function). Though sensitive to varying SQV data, the results of the sensitivity show that even with higher failure rates, CDF values are still well below the NRC stated goals.

11.3.1.4 Test and Maintenance Unavailability

Current model values used for system/train unavailability due to test and maintenance (T&M) are generic and not representative of plant-specific operations. Model sensitivities were performed to evaluate the impact of these activities on the CDF and the L1 PRA model (Rev. 2). As part of the evaluation of T&M unavailability, sensitivities were conducted to simulate the failure of all T&M activities and also to both increase and decrease the frequency of these activities by a factor of 10.

For the T&M sensitivity, a test and maintenance flag file was used to set the basic events identified by the string "-TM-" to FALSE (.F.). For the other sensitivities, the database file was modified to either increase or decrease the T&M basic events by a factor of 10.

The T&M sensitivities were run using the base model at a truncation of $1E-15$ with the additional flag file and noted database changes when applicable. Results for the sensitivity with a 10-fold increase in T&M activities showed a small increase in the CDF over the base L1 PRA model. Both the sensitivities decreasing the T&M frequency activities, one by a factor of 10 and the other to 0, showed negligible impact to CDF. The CDF results for the T&M sensitivity are shown in Table 11.3-8.

A more detailed summary of the T&M unavailability results obtained from the sensitivity analysis is shown in Table 11.3-9. In addition to the significant changes to CDF as a result of the increased frequency of T&M activities, other significant changes occurred in the evaluating the CDF results obtained from the individual systems including initiator CDF, distribution of accident classes and distribution of drywell water level classes. In addition, the top accident sequences from the T&M unavailability x10 sensitivity showed differences in the top sequences represented by the L1 base PRA model. Additional sequences, SL-S017, T-IORV027, T-IORV013, and TGEN-069, not found in the top twenty sequences of the L1 PRA model or the other T&M sensitivities were present in the 10xT&M case.

The L1 PRA model showed a small impact from the factor of 10 increase in T&M unavailability. A more detailed effort to accurately model T&M will be completed once procedures are developed for specific system operation and maintenance for the ESBWR. Currently, conservative estimates for T&M produce results that are several orders of magnitude below the stated NRC goals for CDF.

11.3.1.5 Standby Liquid Control Sensitivity

The success criterion for the SLCS requires two trains functioning to maintain shutdown without core damage. A sensitivity on the PRA model was conducted to evaluate the impact to the base L1 PRA model (Rev. 2) from changing the success criteria requirements to a single train of SLCS.

The base fault tree model was modified to require the operation of a single SLCS train. No other model or file changes were required for the SLCS sensitivity. The SLCS sensitivity was run using the base model at a truncation of $1E-15$ with the noted changes to the fault tree. Results for the SLCS sensitivity showed only a small decrease in the CDF when only one train of SLCS is required. Results of the CDF for the SLCS sensitivity are provided in Table 11.3-4.

Additional details of the SLCS sensitivity are provided in Table 11.3-10. In addition to the decrease in the overall CDF as a result of requiring only one train the second SLCS train, the initiator distribution, distribution of accident classes and distribution of drywell water level classes shifted as well. The top accident sequences from the SLCS sensitivity showed differences in the top sequences represent by the L1 base PRA model. Most notable is the distribution CDF change of one of the top sequences, AT-T-GEN023, which was reduced from about 11% to less than 1%. The single failure limitation on the whole system has a significant risk impact.

Changes in the SLCS success criteria have the potential to impact the overall CDF and the L1 PRA model. This SLCS insight should be considered in future modifications and changes to the SLCS success criteria.

11.3.1.6 Component Type Code Data

In certain cases, component type code data used in the L1 PRA model (Rev. 2) was estimated based on available knowledge and source information. Model sensitivities were conducted to evaluate the potential impacts to CDF for changes to these estimated component type codes. Six component type codes were identified for this sensitivity and included:

- MTS CO - Manual Transfer Switch Spuriously Opens
- NMO CC - Nitrogen Motor Operated Valve Fails to Open
- NMO OC - Nitrogen Motor Operated Valve Transfers Closed
- NMO OO - Nitrogen Motor Operated Valve Fails to Close
- NPO CC - Pneumatic Operated Valve Fails to Open
- NPO OC - Pneumatic Operated Valve Transfers Closed

These type codes were increased by a factor of 10 over the original values in the base model. Common cause basic events were increased by a factor of 10 as well.

In order to perform the type code sensitivity, the database file was modified with the increases. No change to the model or other changes to the database were required.

Each of the type code data sensitivity model was run using the base model and modified database file at a truncation of 1E-14. The results showed little to no impact to the CDF and are shown in Table 11.3-11.

Should component type codes change in the future, the insights related to the component type code data sensitivity should be re-evaluated.

11.3.1.7 SRV Common Cause Group

Common cause component failures are predominant in the top cutsets for the L1 base PRA model (Rev. 2). These failures were evaluated for all components in Subsection 11.3.1.2. However, a sensitivity was performed to evaluate the impact of these common cause failures on CDF as they apply to the safety relief valve (SRVs) function specifically. Under the current PRA model, the function of the SRVs is divided into two separate functions, namely (1) automatic depressurization, and (2) safety relief only. The common cause factors for SRVs sensitivity was performed under the premise that all 18 SRVs would all be covered under a single common cause category for failure to open in safety relief mode.

The base L1 PRA model was changed to capture all the values under the same common cause category; common cause failure data was revised to reflect the common grouping of the two functions of the SRVs.

The common cause factors SRV sensitivity model was run using the base model at a truncation of 1E-15 with the noted modifications to the fault tree and database file. Truncation results for

the common cause factors SRVs sensitivity showed no change in the CDF with the application of a single common cause category for the SRVs. The CDF results are provided in Table 11.3-4.

Additional details of the common cause factors SRV sensitivity are provided in Table 11.3-10. The only changes from the SRV common cause sensitivity showed a slight change to the distribution of accident classes and distribution of drywell water level classes. This change would have little impact to the overall CDF and the L1 PRA model.

11.3.1.8 SPC & LPCI Success Criteria

Current success criteria for either FAPCS function, suppression pool cooling (SPC) and low pressure injection system (LPCI), requires a single train operating. A model sensitivity was conducted to evaluate the impact to the base L1 PRA model (Rev. 2) with the change in success criteria requiring both trains to function for SPC or LPCI.

The base fault tree model was modified to require both SPC and LPCI trains to function for SPC or LPCI. No other model or file changes were required for the SPC/LPCI sensitivity.

The SPC/LPCI sensitivity was run using the modified model files at a truncation of 1E-15. Truncation results for the SPC/LPCI sensitivity showed a negligible increase in the CDF over the L1 PRA model with the requirement of both trains operating. Results of the CDF for the SPC/LPCI sensitivity with truncation level are provided in Table 11.3-4.

Additional details of the SPC/LPCI sensitivity are provided in Table 11.3-10. Compared to the base model, the results showed a slight change to the distribution of accident classes and distribution of drywell water level classes. Needing two trains instead of one does not impact the results as significantly due to the system reliance on operators. This case reinforces the fact that operator errors, not equipment failures dominate the results for SPC/LPCI.

11.3.1.9 Turbine Bypass Valves Success Criteria

Current success criteria for the turbine bypass valves require 4 of 12 valves to function for successful passive containment cooling system (PCCS) operation. A model sensitivity was conducted to evaluate the impact to the base L1 PRA model (Rev. 2) CDF supporting a change in success criteria requiring 6 of 12 turbine bypass valves.

The base fault tree model was modified to require the 6 of 12 turbine bypass valves. No other model or file changes were required for the turbine bypass sensitivity.

The turbine bypass sensitivity was run using the base model at a truncation of 1E-15 with the noted changes to the fault tree. Truncation results for the turbine bypass sensitivity showed negligible change in the CDF with the requirement of 6 of 12 turbine bypass valves. Results of the CDF for the turbine bypass sensitivity with truncation level are provided in Table 11.3-4.

Additional details of the turbine bypass sensitivity are provided in Table 11.3-10. Compared to the base model, the results showed a slight change to the distribution of accident classes and distribution of drywell water level classes. Changes to the turbine bypass success criteria would have minimal impact to the overall CDF and the L1 PRA model.

11.3.1.10 LOCA Frequency

The loss of coolant accident (LOCA) frequencies in the current model were developed based on assumptions related to the number and location of lines. From these assumptions, LOCA initiator frequencies were generated and used in the base L1 PRA model (Rev. 2). A LOCA frequency sensitivity was performed to increase the LOCA initiator values by a factor of 2 and evaluate the uncertainty associated with these changes to the model.

The base fault tree model and database file were modified increasing the frequency of all the LOCA initiators by a factor of 2. In the process of making the LOCA initiator frequency increases, an error was found in the base model that overestimated the frequency for the initiator %BOC-IC. To properly evaluate CDF impacts associated with the LOCA frequencies, this error was corrected and a modified LOCA base model was generated for purpose of comparison.

The LOCA frequency sensitivity was run using the modified base model at a truncation of 1E-15 with the noted changes in initiator frequencies. Results for the LOCA frequency sensitivity showed only a small increase in the CDF compared to the modified LOCA base model. Results of the CDF for the LOCA frequency sensitivity are provided in Table 11.3-4.

Additional details of the LOCA frequency sensitivity are provided in Table 11.3-12. Increases on the order of a factor of 2 were shown in the initiator distribution for both the break outside of containment (BOC) and LOCA classes. Other changes included differences in the distribution of accident classes and drywell water level classes. Top sequences for the LOCA frequency sensitivity showed increases in the contribution from LOCA sequences. Medium LOCA sequences not found in the modified base LOCA model top sequences were present in the LOCA frequency sensitivity top sequences.

The most significant insight is the increase in “high” drywell water level core damage sequences from 5% of CDF in the base model to almost 9% in the LOCA sensitivity. These sequences are not mitigated in the L2 analysis, and contribute directly to LRF via ex-vessel explosion (EVE).

Uncertainties associated with the design of process piping have the potential to impact the overall CDF and LRF. As piping details are finalized, LOCA frequencies should be reviewed to ensure they adequately reflect the plant design.

11.3.1.11 LOCA –Inside Containment Structure (ICS) Frequency

In conjunction with the uncertainties associated with the number and placement of process piping, additional uncertainty can be associated with the proportioning of process piping either inside or outside of the containment structure. The L1 PRA model (Rev. 2) assumes that 10% of the ICS piping is associated with break outside of containment (BOC) LOCAs. To better understand the impact of this assumption on the L1 PRA model, a LOCA-ICS frequency sensitivity was performed to increase the percentage of lines located outside of containment from 10% to 50%.

The base fault tree model and database file were modified increasing the frequency of the BOC LOCA initiators to reflect the higher percentage of lines outside of containment. In the process of making the increase in the LOCA initiator frequency, an error was found in the base model that overestimated the frequency for the initiator %BOC-IC. To properly evaluate CDF impacts

associated with the LOCA frequencies, this error was corrected and a modified LOCA base model was generated for purpose of comparison.

The LOCA-ICS sensitivity was run using the modified base model at a truncation of 1E-15 with the noted change to the %BOC-IC frequency. Results for the LOCA-ICS sensitivity showed no change in the CDF with the increased initiator frequency. Results of the CDF for the LOCA-ICS sensitivity with truncation level are provided in Table 11.3-4.

Additional details of the LOCA-ICS frequency sensitivity are provided in Table 11.3-12. No changes were shown in the initiator distribution for either the BOC and LOCA classes. No other differences in the distribution of initiators, accident classes, drywell water level classes or top sequences were shown.

While the model showed negligible sensitivity to the LOCA-ICS uncertainties, the LOCA-ICS frequencies should be reviewed as more detailed design and engineering data emerge to ensure they adequately reflect the design.

11.3.1.12 CRD Injection

The current model assumes that injection using the control rod drive (CRD) pumps is successful regardless of containment integrity. To better understand the impact of this assumption, a sensitivity was conducted to consider the failure of CRD injection post containment failure and to evaluate the impact to the base L1 PRA model (Rev. 2).

In order to perform the CRD injection sensitivity, a flag file was generated to fail CRD injection in the sequences where containment failure also occurs. No model or database file changes were required.

The CRD injection sensitivity was run using the base model at a truncation of 1E-15 with the additional flag file. Results for the CRD injection sensitivity showed no change in the CDF; results for the CRD injection sensitivity with truncation level are provided in Table 11.3-4.

Additional details of the CRD injection sensitivity are provided in Table 11.3-10. These results showed minimal changes to the distribution of initiators, accident classes, distribution of drywell water level classes or sequence contribution. Changes to the CRD injection have negligible impact to the overall CDF and the L1 PRA model.

11.3.1.13 Accumulator

The current L1 PRA model (Rev. 2) credits accumulators to support the long-term operation of pneumatically operated components. To better understand the impact of these accumulators on CDF and the PRA model, a sensitivity was conducted to fail the accumulators, leaving only the pneumatic supply system itself for operation.

In the accumulator sensitivity, a flag file was used to set the basic events for the accumulator tanks to TRUE (.T.). No other model or file changes were required for the accumulator sensitivity.

The accumulator sensitivity was run using the base model at a truncation of 1E-13 with addition of the accumulator flag file. Results for the accumulator sensitivity showed a significant change to CDF with an increase of more than two orders of magnitude over the base model. Results of the CDF for the accumulator sensitivity are provided in Table 11.3-4.

Results generated from the accumulator sensitivity show dominant sequences involve the loss of decay heat removal at high pressure where the isolation condensers are initially available. These dominant sequences include T-GEN004, T-SW002, and T-FDW003, which contribute about 58%, 38% and 4%, respectively to the overall CDF of the accumulator sensitivity. Additional details of the accumulator sensitivity are provided in Table 11.3-13.

The accumulator sensitivity shows that accumulator support for pneumatically operated components contributes significantly to the L1 PRA model. Based on the insights from the accumulator sensitivity, future consideration should be given to providing alarm/indication for accumulator pressure and operator response to low pressure.

11.3.1.14 Vacuum Breakers

The current ESBWR design utilizes prototype primary vacuum breakers and generic back-up valves to prevent leakage. A sensitivity was performed to better understand the impact of potential uncertainty in the vacuum breaker reliability. This study was also evaluated for the L2 PRA model as discussed in Section 11.3.2.4. The vacuum breaker failure rate of 1E-4 per demand is based on an update of the generic value of 1.25E-5 per demand due to a 24-month test interval instead of the generic 3 months (increased by a factor of 8). The maximum number of anticipated vacuum breaker cycles is 23, which would lead to a maximum failure probability of $1E-4 + (22 * 1.25E-5) = 3.75E-4$.

In the previous vacuum breaker sensitivity (Rev. 2), the failure rates of the vacuum breakers were increased by a factor of 10 in the database file to account for uncertainty in general reliability and anticipated number of cycles. No other model or file changes were required for the vacuum breaker sensitivity.

The vacuum breaker sensitivity was run using the base model at a truncation of 1E-15 with the increased failure rate. Results for the vacuum breaker sensitivity show that the CDF rises slightly to 1.34E-8/year. Results of the CDF for the vacuum breaker sensitivity are provided in Table 11.3-4.

Additional details of the vacuum breaker sensitivity are provided in Table 11.3-10. Some changes were shown in distribution of initiators, accident classes, drywell water level classes and top sequences for the vacuum breakers.

With the current baseline model (Rev. 4), the vacuum breaker sensitivity studies have been repeated. The vacuum breaker sensitivity results show some small impacts to CDF over the base PRA model and are provided in Table 11.3-6A. A more detailed summary of the vacuum breaker results obtained from the sensitivity is shown in Table 11.3-7A.

The vacuum breaker sensitivity shows that increased failure rates contribute to a small increase in the CDF and some changes to the L1 PRA model. Based on these results, the increase in CDF due to uncertainties associated with the primary vacuum breaker design and anticipated number of cycles is within reason.

11.3.1.15 System Importance

The objective of the system importance sensitivity is to evaluate impact of individual systems on the L1 PRA model and CDF. A total of 40 individual systems/functions were identified and evaluated as part of the system importance sensitivity. In order to capture the impact of the

individual systems, a flag file was generated for each system using the basic event tops specific to that system. The TRUE flag file was used to simulate the failure of all single and common cause failures of the components within the system. From the TRUE flag files, risk achievement worth (RAW) values can be calculated. The FALSE flag file was used to simulate the success of all single and common cause failures of the components within the system and was used to calculate the Fussell-Vesely (F-V) values. Using the RAW and F-V values calculated from the system importance sensitivity, an importance ranking of each system and its function can be obtained.

For the purpose of the system importance sensitivity, no model or database changes were required.

The individual system models were run using the base model at a truncation of $1E-14$ /year with the additional flag files. Due to the large amount of computing time required, a truncation level of $1E-14$ /year was considered adequate to obtain the results and provide insight necessary to allow for system rankings. Results for the system importance sensitivity are shown in Table 11.3-14.

In evaluating the CDF results obtained from the individual systems importance with the L1 PRA model, values for RAW and F-V were calculated and are provided in Table 11.3-14. The criteria described in Section 11.2 were applied to the RAW and F-V results to determine system importance rankings. Based on the RAW values, 26 of the 40 systems/functions evaluated were found to be risk significant based on exceeding a RAW value of 5. A truncation level of $1E-13$ /year or $1E-12$ /year was used in determining RAW values for certain systems including C71, E50, T10 and T15, higher truncations resulted in the generation of a number of cutsets for these systems that exceed the limitations of the quantification tools. Based on the F-V values, 20 of the 40 systems/ functions evaluated were found to be risk significant based on exceeding a F-V value of 0.01. The ranking of system importance based on RAW values is contained in Table 11.3-15 and rankings based on F-V values are contained in Table 11.3-16.

11.3.1.16 Demand for Passive Components

In an effort to obtain a better understanding of the impacts of passive safety systems on the L1 PRA model, a sensitivity was performed to evaluate the sum of CDF for both success and failure demands for certain passive components. Components identified for this sensitivity included the depressurization valves (DPVs) and PCCS systems.

In the passive components sensitivity, sequences were identified and sorted based on the success or failure of each of the individual components. In addition, sequences where more than one component failed were also identified and sorted accordingly.

The passive components sensitivity was run using the base model (Rev. 2) at a truncation of $1E-15$ and the sorting tool was applied to the results. The CDF for the sequences was then calculated as shown in Table 11.3-17 along with additional details for the core damage sequences where isolation condenser system (ICS), PCCS or pool makeup occurs.

The sensitivity results show the dominant core damage sequences involving the failure of ICS are categorized as Class i or Class iii. These failures occur when high pressure makeup has failed and either one of the two occurs (1) failure of depressurization, or (2) low pressure

injection is unavailable. The failure of PCCS or makeup to the pools is not a significant contributor to CDF.

11.3.2 LEVEL 2 Sensitivities

A series of sensitivities were conducted on the L2 PRA model. The focus of these sensitivities was to develop a better understanding and to provide insights as it relates to CDF and L2 release categories generated through model analysis. Based on uncertainties associated with design data, component selection, configuration and success criteria, the insights developed from the sensitivities have the potential to guide ongoing design and operational activities in the consideration of overall risk impact.

The following sections provide a more detailed discussion of the sensitivities conducted on the L2 PRA model. Sensitivities were grouped according to scope and methodology. The L2 sensitivities conducted included:

- Containment Isolation System Node Placement,
- Physically Unreasonable Phenomenology,
- Vacuum Breaker Data, and
- Squib Valve Data.

The current L2 PRA model generates results for various release categories defined in Subsection 8.2.1.4 and is shown in Table 8.2-2. A detailed discussion of the model development and quantification process along with a detailed results analysis can be found in NEDO-33201 Section 8 and Appendix 8A. As part of the sensitivity process, the L2 PRA model will provide the benchmark by which the sensitivities will be compared. A summary of the data generated from the L2 PRA model is provided in Tables 11.3-18 (Rev. 2), 11.3-18A (Rev. 4), 11.3-19 (Rev. 2) and 11.3-19A (Rev. 4).

The L2 PRA generally utilizes the metric “non-TSL” (nTSL) release as the equivalent of CDF in the L1 model. The nTSL frequency represents all sequences that do not result in Technical Specification Leakage (TSL), which is the success state of the L2 PRA. For this revision, nTSL is assumed to be equivalent to LRF.

11.3.2.1 CIS Node

A L2 PRA model sensitivity was performed to study the effect of moving the containment isolation system (CIS) node to the first position in the event trees and the impact to LRF. The current L2 PRA model is based on event trees with CIS in a nodal position of 3 or 4. For the purpose of the CIS node sensitivity, the event trees were modified with the CIS node placed immediately following the initiator. This was limited to only the low and medium event trees where CIS was credited.

To facilitate the CIS node sensitivity, the L2 PRA model (Rev. 2) was re-quantified using the modified event trees at a truncation of 1E-15. Results for the CIS node sensitivity showed no impact to LRF as demonstrated by no change in nTSL frequency over the PRA L2 base model. Results of the nTSL and CDF for the CIS node sensitivity are provided in Table 11.3-18 and Table 11.3-19. The placement of the CIS node earlier in the event trees was shown to have little impact on the nTSL frequencies.

11.3.2.2 Physically Unreasonable Phenomenology

A current L2 PRA model contains containment failure modes that are considered “physically unreasonable” (PU). A sensitivity was performed to better understand the impact to nTSL and source terms pertaining to the omission of these PU modes from the model. These modes include ex-vessel explosion (EVE) from a medium lower drywell water level and direct containment heating (DCH).

To facilitate the PU sensitivity, a flag file was created to include the PU events in the quantification. The PU sensitivity was run using the base L2 model (Rev. 2) at a truncation of 1E-15 with the additional flag file. Results for the PU sensitivity showed only a small increase in the nTSL frequency over the PRA L2 base model. Results of the nTSL for the PU sensitivity are provided in Table 11.3-18.

Additional details of the PU sensitivity are provided in Table 11.3-19. A release frequency for DCH of 2.56E-12 was obtained for the PU sensitivity contributing 0.2% to the total non-TSL release frequency. The non-DCH release category source terms were minimally affected by the increased leakage area in their respective sequences. The DCH release category itself has a high release fraction, but its low frequency renders potential offsite consequences negligible.

The PU sensitivity confirms that no potentially significant offsite consequences are being negated by excluding PU events from the L2 PRA model.

11.3.2.3 Vacuum Breakers

In the vacuum breaker sensitivity, the failure rates of the vacuum breakers were increased by a factor of 10 in the database file to account for uncertainty in general reliability and anticipated number of cycles in the mission time. No other model or file changes were required for the vacuum breaker sensitivity.

The vacuum breaker sensitivity (Rev. 2) was run using the base model (Rev. 2) at a truncation of 1E-15 with the increased failure rate. Results for the vacuum breaker sensitivity showed a nTSL frequency of 2.13E-09 at a truncation of 1E-15. This value represents an increase in nTSL frequency of just over a factor of two compared to the base L2 model. Results of the nTSL for the vacuum breaker sensitivity are provided in Table 11.3-18.

Additional details of the vacuum breaker sensitivity (Rev. 2) are provided in Table 11.3-19. Other changes in release class frequencies over the base L2 model were shown in the classes BOC (accident class cdv), FR and OPVB (accident class cdii-a). The increase in these frequencies can be attributed to the failure of steam suppression functions supported by the vacuum breakers.

With the current baseline model (Rev. 4), the vacuum breaker sensitivity studies have been repeated. The vacuum breaker sensitivity results show some impacts to nTSL results over the base PRA model and are provided in Table 11.3-18A. A more detailed summary of the vacuum breaker results obtained from the sensitivity is shown in Table 11.3-19A.

The vacuum breaker sensitivity shows that increased failure rates do not contribute to a significant increase in the nTSL frequencies. The increased nTSL meets the NRC goal of 1E-06/year for LRF with considerable margin. Based on these results, the uncertainties associated with the primary vacuum breaker design and anticipated number of cycles may

contribute to slightly increased LRF, but the increase is reasonable. This conclusion was also supported by the L1 vacuum breaker sensitivity.

11.3.2.4 Squib Valves

In the squib valves sensitivity for current revision, the failure rates of the squib valves were increased by a factor of 10 in the database file to account for uncertainty in general reliability and anticipated number of cycles in the mission time.

The squib valves sensitivity was run using the base model at a truncation of 1E-15 with the increased failure rate. Results for the vacuum breaker sensitivity showed a nTSL frequency of 1.18E-8 at a truncation of 1E-15. This value represents an increase in nTSL frequency of almost one magnitude compared to the base L2 model. Results of the nTSL for the squib valves sensitivity are provided in Table 11.3-18A. Additional details of the squib valves sensitivity are provided in Table 11.3-19A.

The squib valves sensitivity shows that increased failure rates contribute to an increase in the nTSL frequencies. The increased nTSL meets the NRC goal of 1E-06/year for LRF with considerable margin.

11.3.2.5 Assessment of the Composite Conditional Containment Failure Probability

As seen in Table 8.2-2, the most likely release category for at-power internal events is that associated with leakage from an intact containment, designated as “TSL”. Release categories associated with containment failure due to phenomenological or system failure events are significantly less likely than the TSL release category. The release categories associated with containment failure are much lower than the TSL category, and their calculated probabilities are low on an absolute basis, that containment failure due to overpressurization or bypass in the 24-hour period after the onset of core damage is not considered credible. Thus, the ESBWR provides a reliable barrier to radionuclide release. This conclusion is reflected in the quantification of conditional containment failure probability (CCFP), which can be conservatively quantified as the frequency of release category nTSL (i.e., releases from a failed containment) divided by the core damage frequency.

$$CCFP = \frac{nTSL_frequency}{CDF}$$

Ideally, a composite CCFP for all at-power internal and external events provides confidence that the ESBWR containment and mitigation systems are reliable barriers against radioactive releases. However, estimating a composite CCFP for a design certification PRA is not an accurate indicator. This is because the internal events model strives to be a best-estimate model, while the external events models are intentionally bounding. There are several external events modeling simplifications associated with spatial, material, site location, and other considerations that are not identified when the design certification PRA is completed. As such, both the CDF and nTSL frequencies for external events are higher than the best-estimate values that exist in the final plant-specific PRA. It is not reasonable to divide one bounding estimate by another bounding estimate and conclude that the result represents a best-estimate value. Nonetheless, for the purpose of this discussion, a composite CCFP is estimated as follows:

At-Power Conditional Containment Failure Probabilities

	Internal Events	Fire	Flooding	High Winds	Composite
CDF (per yr)	1.68E-8	1.25E-8	3.30E-9	8.51E-9	4.11E-8
nTSL (per yr)	1.39E-9	1.56E-9	4.80E-10	1.24E-9	4.67E-9
CCFP	.083	0.12	.15	.15	.11

A site-specific PRA is required to be complete one year prior to fuel load. It is expected to show that the relative effects of external events on the composite risk profile are lower than those estimated for the design certification PRA.

The composite CCFP should approach 0.08, which is the value calculated by considering internal events alone.

The external events results are expected to be lower for the following reasons:

- (1) The design certification Fire PRA model does not credit fire detection and suppression and does not credit manual suppression. The site-specific Fire PRA CDF and LRF results are expected to be lower because mitigation systems and procedures will provide additional mitigation functions, thus allowing for best-estimate modeling of the expected response to fire-initiated accident sequences.
- (2) The design certification Flooding PRA model assumes, in most cases, that all components in a system are failed, or spuriously actuate, if the flood affects part of the system. This conservatism is made in the design phase to account for yet-to-be developed design details on the physical arrangement of components. The site-specific Flooding PRA CDF and LRF results are expected to be lower because adding the details on physical locations of components will result in less equipment being failed for a given flooding scenario, thus allowing for best-estimate modeling of flooding failure modes and their effects.
- (3) The design certification High Winds PRA model assumes a hypothetical site that experiences worst-case tornado and hurricane strike frequencies. In addition, conservative modeling of component failures is assumed for reasons similar to those discussed above. The site-specific High Winds PRA CDF and LRF results are expected to be lower because site-specific conditions and additional design details will reduce the initiating event frequencies and result in fewer component failures, thus allowing for best-estimate modeling of high wind sequences.

The ESBWR design certification PRA method for estimating release frequencies includes all releases other than the allowable release rate based on the allowable containment leakage rate. No distinction is made between early or late releases, or between controlled or uncontrolled releases. NRC letter SECY-90-016, "Evolutionary Light Water Reactor (LWR) Certification Issues and Their Relationship to Current Regulatory Requirements" defines CCFP in terms of

“...resulting in an uncontrollable leakage substantially greater than the design basis leakage, should not exceed approximately 0.1.”

If the design certification composite CCFP is adjusted to only include uncontrolled releases substantially greater than the design basis leakage, then filtered releases through the wetwell vent can be excluded from the calculation. This adjustment reduces the composite CCFP to less than 0.1.

Separating the filtered and unfiltered release frequencies from the PRA results, a composite CCFP is obtained by dividing the Unfiltered Release Frequency by the CDF:

	Internal Events	Fire	Flooding	High Winds	Composite
CDF(per yr)	1.68E-8	1.25E-8	3.30E-9	8.51E-9	4.11E-8
Unfiltered Release Frequency(per yr)	1.30E-9	1.50E-9	2.7E-10	9.8E-10	4.05E-9
Filtered Release Frequency(per yr)	9E-11	6E-11	2.1E-10	2.6E-10	6.2E-10
nTSL(per yr)	1.39E-9	1.56E-9	4.8E-10	1.24E-9	4.67E-9
CCFP(Unfiltered)	.077	0.12	.08	0.12	.099

Note: Filtered Release Frequency + Unfiltered Release Frequency = nTSL Frequency

11.3.3 Focus Level 1

A focus evaluation and a series of sensitivities were conducted on the L1 PRA model. The intent of these focus sensitivities was to develop a better understanding of safety-related systems and systems included in the regulatory treatment of non-safety systems (RTNSS) program. The focused studies also provide insights related to the CDF and the L1 PRA. Sensitivities were grouped according to scope and methodology. Focus sensitivities were conducted on the L1 PRA model included:

- Level 1 Internal Events
- Level 1 Fire
- Level 1 Flood
- Level 1 High Winds

In performing the focus sensitivities, the systems credited in the L1 PRA model and identified as non-safety systems include the following:

- Diesels (R21),
- Condenser (N37),
- Condensate and Feedwater (N21),
- CRD Injection & FMCRD (C12),
- Fuel & Auxiliary Pool Cooling System (FAPCS) (G21),
- Reactor Water Cleanup (RWCU)/SDC (G31),
- Fire Protection System (FPS) Injection (U43),
- Diverse Protection System (DPS) (C72),
- Main Steam Isolation Valves (MSIV) (B21),
- Reactor Component Cooling Water (RCCW) (P21),
- Turbine Component Cooling Water (TCCW) (P22),
- Plant Air (P51),
- Nitrogen (P54),
- Plant Service Water (P41),
- FMCRD groups' power (R12), and
- PIP buses A3 and B3 (R11).

11.3.3.1 Focus Level 1 Internal Events

In order to perform the focus and RTNSS sensitivities (Rev. 4), fourteen flag files were generated (1) to fail all non-safety systems, (2) to fail all non-safety systems except those systems designated as RTNSS, and (3) to fail RTNSS systems one at a time with all other

RTNSS equipment credited. The L1 focus sensitivity was run using the base model at a truncation of $1\text{E-}13/\text{year}$ with the additional flag files. The L1 focus generated a CDF of $3.30\text{E-}4/\text{year}$ the RTNSS generated a CDF of $3.14\text{E-}6/\text{year}$. The results for the L1 focus sensitivity showed significant impact to CDF with the failure of non-safety systems both with and without RTNSS. The inclusion of the RTNSS systems in the model reduces CDF by approximately two orders of magnitude compared to crediting safety-related systems only. CDF results for the L1 focus sensitivity are shown in Table 11.3-20. Based on the L1 focus sensitivities CDF results, the NRC goal of $1\text{E-}04/\text{year}$ CDF is met for the L1 RTNSS sensitivity, but is exceeded for the L1 focus sensitivity.

Additional details of the focus sensitivity are provided in Table 11.3-21. These results showed changes to the distribution of initiators, accident classes, or top sequence contribution for both the focus and RTNSS sensitivities over the base model. The GEN initiator dominates the L1 focus PRA due to common cause failures to safety-related digital control and instrumentation system (DCIS) software, reactor protection system (RPS) hardware and safety-related inverters. The IORV initiator dominates for RTNSS due to common cause failures of all GDCS check valves or squib valves coupled with operator errors and common cause failures of all DPVs in conjunction with various operator errors.

A series of sensitivities were conducted on the L1 RTNSS model to evaluate the impact of individual system failures on the CDF and the RTNSS focus model. In these sensitivities, an additional flag was added to the files to allow for a single RTNSS system to fail while all other RTNSS systems functioned normally. The L1 RTNSS sensitivities were run at a truncation of $1\text{E-}13/\text{year}$ with the additional flag files. These RTNSS sensitivity results are contained in Table 11.3-21A.

The L1 model CDF is significantly impacted by the failure of the non-safety and RTNSS systems. RTNSS sensitivities showed the impact to CDF is reduced with the availability of the DPS system. Unavailability of DPS coupled with %T-GEN initiator and common cause failures of safety-related DCIS software or RPS failures are dominant contributors to CDF for RTNSS sensitivities with individual system failures.

11.3.3.2 Focus Level 1 Fire

In order to perform the L1 fire focus and RTNSS sensitivities, two flag files were generated (1) to fail all non-safety systems and (2) to fail all non-safety systems except those systems designated as RTNSS. The L1 focus fire sensitivity was run using the base fire model at a truncation of $1\text{E-}14/\text{year}$ with the additional flag files. The L1 fire focus generated a CDF of $5.13\text{E-}5/\text{year}$; the RTNSS generated a CDF of $2.95\text{E-}7/\text{year}$. The results for the fire focus sensitivity showed significant impact to CDF with the failure of non-safety systems both with and without RTNSS. The inclusion of the RTNSS systems in the model reduces CDF by approximately two orders of magnitude compared to crediting safety-related systems only. CDF results for the L1 focus fire sensitivity are shown in Table 11.3-22.

The L1 fire PRA model is significantly impacted by the failure of the non-safety and RTNSS systems. The availability of the RTNSS systems significantly reduces CDF. Based on the L1 fire focus sensitivities CDF results, the NRC goal of $1\text{E-}04/\text{year}$ CDF is met for the baseline L1 fire model, the focus and the RTNSS sensitivities. The fire analysis is very conservative taking no credit for fire suppression or fire severity factors.

11.3.3.3 Focus Level 1 Flood

In order to perform the L1 flood focus and RTNSS sensitivities, two flag files were generated including (1) to fail all non-safety systems and (2) to fail all non-safety systems except those systems designated as RTNSS. The L1 flood focus sensitivity was evaluated using the base model at a truncation of $1E-15$ /year with the additional flag files. The L1 flood focus generated a CDF of $9.39E-5$ /year; the RTNSS generated a CDF of $4.36E-7$ /year. The results for the flood focus sensitivity showed significant impact to CDF with the failure of non-safety systems both with and without RTNSS. The inclusion of the RTNSS systems in the model reduces CDF by more than two orders of magnitude compared to crediting safety-related systems only. CDF results for the L1 focus flood sensitivity are shown in Table 11.3-23.

The L1 flood PRA model is significantly impacted by the failure of the non-safety and RTNSS systems. The availability of the RTNSS systems significantly reduces CDF. Based on the L1 flood focus sensitivities CDF results, the NRC goal of $1E-04$ /year CDF is satisfied.

11.3.3.4 Focus Level 1 High Wind

In order to perform the L1 high wind focus and RTNSS sensitivities, two flag files were generated including (1) to fail all non-safety systems and (2) to fail all non-safety systems except those systems designated as RTNSS. The L1 high wind focus sensitivity was run using the base model at a truncation of $1E-15$ /year with the additional flag files. The focus L1 high wind sensitivity generated a CDF of $1.61E-5$ /year for tornados and hurricanes; the RTNSS generated a CDF of $3.20E-8$ /year for tornados and hurricanes. The results for the L1 focus high wind sensitivity showed significant impact to CDF with the failure of non-safety systems both with and without RTNSS. The inclusion of the RTNSS systems in the model reduces the CDF by approximately three orders of magnitude compared to crediting safety-related systems only. CDF results for the L1 high wind focus are shown in Table 11.3-24.

The L1 high wind PRA model is significantly impacted by the failure of the non-safety and RTNSS systems. The L1 focus high wind sensitivity showed the CDF is dominated by hurricanes, which is consistent with the baseline PRA high wind model. The focus high wind sensitivity showed both the hurricane and total high wind CDF to increase by about three orders of magnitude with the failure of the nonsafety-related systems. The large tornado (F4/F5) high wind scenario did not benefit from the RTNSS equipment availability due to the fact that this magnitude of wind is assumed to have adversely impacted the buildings and structure housing the non-safety and RTNSS systems.

The availability of the RTNSS systems significantly minimizes L1 high wind CDF. Based on the L1 high wind focus and RTNSS sensitivities CDF results, the NRC goal of $1E-04$ /year CDF is satisfied.

11.3.4 FOCUS Level 2

A focus evaluation and a series of sensitivities were conducted on the L2 PRA model. The intent of these focus sensitivities was to develop a better understanding of safety and regulatory treatment of non-safety systems (RTNSS) and to provide insights related to the total non-TSL (nTSL) frequency and the L2 PRA. Sensitivities were grouped according to scope and methodology. Focus sensitivities were conducted on the L2 PRA model included:

- Level 2 Focus
- Level 2 Fire
- Level 2 Flood
- Level 2 High Wind
- Level 2 DPS/ARI Sensitivity

In performing the focus sensitivities, the systems credited in the L2 PRA model and identified as non-safety systems include the following:

- Diesels (R21),
- Condenser (N37),
- Condensate and Feedwater (N21),
- CRD Injection & FMCRD (C12),
- FAPCS (G21),
- RWCU/SDC (G31),
- FPS Injection (U43),
- DPS (C72),
- MSIV (B21),
- RCCW (P21),
- TCCW (P22),
- Plant Air (P51),
- Nitrogen (P54),
- Plant Service Water (P41),
- FMCRD groups' power (R12), and
- PIP buses A3 and B3 (R11),

11.3.4.1 Focus Level 2 Internal Events

In order to perform the focus and RTNSS sensitivities (Rev. 4), fourteen flag files were generated (1) to fail all non-safety systems, (2) to fail all non-safety systems except those

systems designated as RTNSS, and (3) to fail RTNSS systems one at a time with all other RTNSS equipment credited. The L2 focus sensitivity was run using the base model at a truncation of $1\text{E-}15/\text{year}$ with the additional flag files. The focus L2 generated a nTSL release frequency of $2.58\text{E-}4/\text{year}$.

The RTNSS generated a raw nTSL release frequency of $1.36\text{E-}7/\text{year}$. The results for the focus sensitivity showed significant impact to nTSL release with the failure of non-safety systems both with and without RTNSS. Results showing nTSL for the focus L2 sensitivity are shown in Table 11.3-25. These results showed changes to the release categories. Based on the L2 focus and RTNSS sensitivities, the NRC goal of $1\text{E-}06/\text{year}$ LRF is met for RTNSS but exceeded by the focus sensitivity. The focus L2 results are dominated by the BYP frequency as opposed to other release categories where passive safety-related systems are available. Additional details of the release categories for the L2 focus are provided in Table 11.3-26.

A series of sensitivities were conducted on the RTNSS to evaluate the impact of individual system failures on the nTSL release frequency, CDF and the RTNSS focus model. In these sensitivities, an additional flag was added to the files to allow for a single RTNSS system to fail while all other RTNSS systems functioned normally. The L2 RTNSS sensitivities were run at a truncation of $1\text{E-}13/\text{year}$ with the additional flag files. For the sensitivities excluding DPS, the nTSL frequency increased by about two orders of magnitude. In this case the NRC goal for LRF was exceeded. These RTNSS sensitivity results are contained in Table 11.3-27.

The L2 PRA model nTSL frequency is significantly impacted by the failure of the non-safety and RTNSS systems. RTNSS sensitivities showed the impact to nTSL release is minimized with the availability of the DPS and ARI system. Due to the predominance of containment bypass frequency, the L2 PRA focus sensitivity does not meet the NRC goal of less than $1\text{E-}06/\text{year}$.

11.3.4.2 Focus Level 2 Fire

In order to perform the L2 fire focus and RTNSS sensitivities, two flag files were generated (1) to fail all non-safety systems and (2) to fail all non-safety systems except those systems designated as RTNSS. The L2 focus fire sensitivity (Rev. 4) was run using the base model at a truncation of $1\text{E-}15$ with the additional flag files. The focus L2 fire generated a nTSL release frequency of $4.18\text{E-}5/\text{year}$. The RTNSS generated a nTSL release frequency of $8.34\text{E-}8/\text{year}$. The results for the focus sensitivity showed significant impact to nTSL release frequency with the failure of non-safety systems both with and without RTNSS. The results showed a two order of magnitude decrease in the nTSL frequency with the RTNSS systems available compared to safety-related systems only. Results for the focus L2 fire sensitivity are shown in Table 11.3-28.

The L2 fire PRA model is significantly impacted by the failure of the non-safety and RTNSS systems. The availability of the RTNSS systems significantly minimizes nTSL release. Based on the L2 fire focus sensitivities nTSL results, the NRC goal of $1\text{E-}06/\text{year}$ LRF is met for RTNSS, but this goal is exceeded for the focus L2 fire. The focus fire L2 nTSL is dominated by long-term containment heat removal (OPW2), in which limited equipment is available for ICS/PCCS pool makeup. Some other release categories such as OPW1 and OPVB are relatively unaffected because passive safety-related systems, which exhibit excellent reliability, are available. The RTNSS L2 fire results are dominated by OPW2, BYP and CCID release categories, yet the NRC goal is met with an order of magnitude margin. Additional details of the release categories for the L2 focus are provided in Table 11.3-29.

11.3.4.3 Focus Level 2 Flood

In order to perform the L2 flood focus and RTNSS sensitivities, two flag files were generated (1) to fail all non-safety system and (2) to fail all non-safety systems except those systems designated as RTNSS. The L2 focus flood sensitivity (Rev. 4) was run using the base model at a truncation of $1\text{E-}15/\text{year}$ with the additional flag files. The focus L2 flood generated a nTSL release frequency of $9.22\text{E-}5/\text{year}$. The RTNSS L2 flood generated a nTSL release frequency of $3.12\text{E-}7/\text{year}$. The results for the focus sensitivity showed significant impact to both nTSL and CDF with the failure of non-safety systems both with and without RTNSS. The results show that crediting RTNSS systems reduces the nTSL release frequency by over two orders of magnitude. Results for the focus L2 flood sensitivity are shown in Table 11.3-30.

The L2 flood PRA model is significantly impacted by the failure of the non-safety and RTNSS systems. The availability of the RTNSS systems significantly minimizes nTSL frequency. Based on the L2 flood focus sensitivities nTSL results, the NRC goal of $1\text{E-}06/\text{year}$ LRF is exceeded. Additional details of the release categories for the L2 focus flood are provided in Table 11.3-31.

11.3.4.4 Focus Level 2 High Wind

In order to perform the L2 high wind focus and RTNSS sensitivities, two flag files were generated (1) to fail all non-safety system and (2) to fail all non-safety systems except those systems designated as RTNSS. The L2 focus high wind sensitivity (Rev. 4) was run using the base model at a truncation of $1\text{E-}15/\text{year}$ with the additional flag files. The focus L2 generated a nTSL release frequency of $1.31\text{E-}5/\text{year}$. The RTNSS generated a nTSL release frequency of $9.47\text{E-}9/\text{year}$. The results for the focus high wind sensitivities showed significant impact to nTSL with the failure of non-safety systems both with and without RTNSS. The results show that crediting the RTNSS systems reduces the nTSL release frequency by more than three orders of magnitude. Results for the focus L2 high wind sensitivity are shown in Table 11.3-32.

The L2 high wind PRA model is significantly impacted by the failure of the non-safety and RTNSS systems. The availability of the RTNSS systems significantly minimizes nTSL release frequency. Based on the L2 high wind focus sensitivities nTSL results, the NRC goal of $1\text{E-}06/\text{year}$ LRF is not met for the focus sensitivity but is met for the RTNSS L2 high wind sensitivity. Additional details of the release categories for the L2 high wind focus sensitivities are provided in Table 11.3-33.

11.3.4.5 DPS and ARI Sensitivity

The focus L2 models for the internal events, fire and flood did not meet the NRC goal $1\text{E-}06/\text{year}$ for LRF. The focus Level 1 internal events and fire model did not satisfy the NRC goal of $1\text{E-}04/\text{year}$ for CDF. Further results showed that the addition of DPS alone was not sufficient to meet the NRC LRF goal of $1\text{E-}06/\text{year}$ as discussed in Subsection 11.3.4.1 for internal events, Subsection 11.3.4.2 for fire and Subsection 11.3.4.3 for flood. Various sensitivity studies were conducted to establish which additional system(s) are required to reduce the nTSL frequency to below $1\text{E-}06/\text{year}$ for the cases mentioned above.

The focus results for the L2 internal events and flood models satisfied the LRF goal with the condition that DPS and parts of the ARI system (Rev. 2) are credited in addition to the safety-

related systems. Specifically, the portion of ARI that supports the automatic DPS backup to reactor trip is credited in an effort to reduce CDF and LRF.

The L2 focus CDF (Rev. 2) was reduced from 3.22E-04/year to 2.10E-05/year and the focus fire CDF (Rev. 2) was reduced from 1.15E-04/year to 2.54E-06/year. The L2 focus nTSL frequency (Rev. 2) was reduced from 3.04E-04/year to 4.19E-07/year and the L2 flood focus (Rev. 2) was reduced from 4.49E-06/year to 3.74E-09/year. These results are shown in Table 11.3-34.

Additional detailed results for the DPS & ARI sensitivity are contained in Table 11.3-35.

The raw results indicated that the L2 focus fire nTSL release frequency (Rev. 2) was reduced from 1.15E-04/year to 1.71E-06/year. This number does not meet the 1E-06/year LRF goal, but significant conservatisms associated with the long-term containment heat removal model assure that the results are below 1E-06/year. The conservatisms associated with release category OPW2, which comprises 95.5% of the nTSL results are shown below:

- Thermal-hydraulic calculations show that make-up to the ICS/PCCS pools is not actually required until post 72 hours, while the model requires make-up at 24 hours. Since all OPW2 cutsets involve failure to make-up, this is a significant point.
- Long-term containment heat removal uses the same success criteria for the PCCS as in the short term (4/6 loops). In reality, as few as one PCCS loop can successfully remove post-24 hours decay heat.
- The release category OPW2 (among other contained in “nTSL”) does not meet the definition of a “large” release from NUREG/CR-6595, Appendix A.1. Therefore, the OPW2 release frequency could be excluded from the LRF number for comparison to the 1E-06/year NRC goal.

If, based on the conservatisms listed above, the OPW2 release category is removed from the focus fire L2 (with DPS and portions of ARI) results, the total nTSL release drops to 6.98E-08/year.

A sensitivity on DPS functions with the current internal events model confirmed that the identified key DPS functions are important to meet the NRC safety goals when only safety-related and RTNSS systems are credited in the PRA. No DPS functions are credited in the Shutdown PRA model.

The focus cases described here are able to meet the NRC goals of 1E-04/year for CDF and 1E-06/year for LRF by crediting the DPS and portions of ARI that support automatic DPS back up to reactor trip.

11.3.5 Focus Shutdown

A focus evaluation and a series of sensitivities were conducted on the shutdown PRA model. The intent of these focus sensitivities was to develop a better understanding of the importance of safety-related systems and those systems in the RTNSS program. Sensitivities were grouped according to scope and methodology. Focus sensitivities were conducted on the shutdown PRA model included:

- Shutdown Focus
- Shutdown Fire

- Shutdown Flood
- Shutdown High Wind

In performing the focus sensitivities, the systems credited in the shutdown PRA model and identified as non-safety systems include the following:

- Diesels (R21),
- CRD Injection & FMCRD (C12),
- FAPCS (G21),
- RWCU/SDC (G31),
- FPS Injection (U43),
- DPS (C72),
- RCCW (P21),
- TCCW (P22),
- Plant Air (P51),
- Nitrogen (P54),
- Plant Service Water (P41),
- FMCRD groups' power (R12), and
- PIP buses A3 and B3 (R11).

While these systems reflect the systems credited in the L1 PRA model, not all of these systems were credited in shutdown. However, the L1 PRA model focus flag file was used for simplification to conduct the shutdown focus sensitivities.

No additional assumptions were made beyond the baseline internal events shutdown PRA.

11.3.5.1 Focus Shutdown Internal Events

In order to perform the focus and RTNSS sensitivities, two flag files were generated (1) to fail all non-safety system, and (2) to fail all non-safety systems except those systems designated as RTNSS. The shutdown focus sensitivity (Rev. 4) was run using the base shutdown model at a truncation of 1E-14/year with the additional flag files. The focus shutdown generated a CDF of 1.69E-6/year; the RTNSS generated a CDF of 4.41E-7/year. The results for the focus sensitivity showed significant impact to CDF with the failure of non-safety systems both with and without RTNSS. The difference in CDF showed a decrease of about a factor of four in the CDF with the RTNSS systems available than without. The CDF results for the focus shutdown sensitivity are shown in Table 11.3-36.

The ESBWR shutdown PRA CDF is significantly impacted in nonsafety-related systems are not credited. The RTNSS program is fairly important for reducing the risk associated with the crediting only the safety systems, as shown by the reduction in CDF in the RTNSS case. However, the CDF reduction achieved by crediting RTNSS systems is not as significant as in the

at-power cases, because the shutdown PRA already begins with a limited set of equipment for mitigating initiating events.

Based on the shutdown focus sensitivities CDF results, the NRC goal of $1\text{E-}04/\text{year}$ CDF is met for both the shutdown focus and RTNSS sensitivities. Since all shutdown CDF sequences are assumed to be direct LRF contributors, the LRF goal of $1\text{E-}06/\text{year}$ is applicable as well. The RTNSS LRF meets the threshold, but the shutdown focus exceeds the threshold.

A review of risk significant events from the previous RTNSS shutdown results shows the importance of the locked open, manual valve restoration failure that fails the FPS/FAPCS injection pathway. Further review shows the failure probability for this valve to be $4.84\text{E-}02$, a conservative value that has been lowered with a MCR alarm in the current revision.

11.3.5.2 Focus Shutdown Fire

In order to perform the shutdown fire focus and RTNSS sensitivities, two flag files were generated (1) to fail all non-safety system and (2) to fail all non-safety systems except those systems designated as RTNSS. The shutdown focus fire sensitivity (Rev. 4) was run using the base model at a truncation of $1\text{E-}14/\text{year}$ with the additional flag files. The focus shutdown fire generated a CDF of $2.87\text{E-}6/\text{year}$; the RTNSS generated a CDF of $3.91\text{E-}7/\text{year}$. The results for the focus shutdown fire sensitivity showed significant impact to CDF with the failure of non-safety systems both with and without RTNSS. The RTNSS results for the focus shutdown fire sensitivity are shown in Table 11.3-37.

The availability of the RTNSS systems significantly minimizes shutdown fire CDF. Based on the shutdown fire focus sensitivities CDF results, the NRC goal of $1\text{E-}4/\text{year}$ CDF is met for both the baseline fire and RTNSS sensitivities. Since all shutdown CDF sequences are assumed to be direct LRF contributors, the LRF goal of $1\text{E-}06/\text{year}$ is met for the RTNSS case, but slightly exceeded in the focus sensitivity.

11.3.5.3 Focus Shutdown Flood

In order to perform the shutdown flood focus and RTNSS sensitivities, two flag files were generated (1) to fail all non-safety system and (2) to fail all non-safety systems except those systems designated as RTNSS. The focus shutdown flood (Rev. 4) generated a CDF of $6.35\text{E-}07/\text{year}$ and the RTNSS generated a CDF of $2.81\text{E-}07/\text{year}$ at a truncation value of $1\text{E-}15/\text{year}$. The results for the focus shutdown flood sensitivity showed impact to CDF with the failure of non-safety systems both with and without RTNSS. The RTNSS results indicate a CDF reduction of approximately 56% compared to the focus case. The results for the focus sensitivity are shown in Table 11.3-38.

The shutdown flood PRA model is significantly impacted by the failure of the non-safety and RTNSS systems. The availability of the RTNSS systems significantly minimizes CDF. When compared to the full power PRA model, the impact of the non-safety versus RTNSS systems to the shutdown model CDF is less pronounced due to the already limited set of equipment available to mitigate the initiating events. In both the focus and RTNSS shutdown flood sensitivities, the results meet the NRC goal of $1\text{E-}04/\text{year}$ per year for CDF and $1\text{E-}06/\text{year}$ for LRF.

11.3.5.4 Focus Shutdown High Wind

In order to perform the shutdown high wind focus and RTNSS sensitivities, two flag files were generated including (1) to fail all non-safety system and (2) to fail all non-safety systems except those systems designated as RTNSS. The shutdown high wind focus sensitivity (Rev. 4) was run using the base model at a truncation of $1E-15$ /year with the additional flag files. The focus shutdown high wind generated a CDF of $1.20E-6$ /year for tornados and hurricanes; the RTNSS generated a CDF of $1.71E-7$ /year for tornados and hurricanes. The results for the focus high wind sensitivity showed significant impact to CDF with the failure of non-safety systems both with and without RTNSS. The RTNSS results indicate a CDF reduction of approximately 86% compared to the focus case. CDF results for the shutdown high wind focus are shown in Table 11.3-39.

The shutdown high wind PRA model is significantly impacted by the failure of the non-safety and RTNSS systems. The shutdown focus high winds sensitivity showed the CDF is dominated by hurricanes, which is consistent with the baseline high winds PRA model. The focus high winds sensitivity showed both the hurricane and total high wind CDF to increase by about two orders of magnitude with the failure of all nonsafety-related systems. The F4/F5 tornado CDFs were not shown to be sensitive to either the nonsafety-related failures or RTNSS due to the fact that this magnitude of wind has adversely impacted the buildings and structure housing the non-safety and RTNSS systems. In both the focus and RTNSS shutdown high wind sensitivities, the CDF results meet the NRC goal of $1E-04$ /year CDF. Since all shutdown CDF sequences are assumed to be direct LRF contributors, the LRF goal of $1E-06$ /year is not met for the focus sensitivity but is met for the RTNSS sensitivity.

11.3.6 Transportation and Nearby Facilities Sensitivity

Sensitivity studies were conducted to evaluate other external events (Rev. 2) on the L1 PRA model. These types of external events include in this evaluation are as follows:

Airports and Airways hazards

- Industrial accidents,
- Pipeline accidents,
- Hydrogen storage failures, and
- Transportation accidents.

Each of the external events was evaluated using the L1 PRA model (Rev. 2). To facilitate the quantification of the risk impact associated with transportation and nearby facilities, a number of assumptions and simplifications were made in support of the sensitivities and are shown in Table 11.3-40.

11.3.6.1 Airports and Airways Hazards

A sensitivity study on unintentional aircraft hazards (Rev. 2) was performed to evaluate the significance of this event on CDF and the L1 PRA model. The evaluation of the aircraft accidents including commercial, military and small private aircraft has been previously conducted within the industry. For the purpose of the sensitivity study, a screening probability for unintentional aircraft accidents was calculated to be $1.52E-07$ /year and is shown in Table

11.3-41 (ref. 11-1, 11-4 and 11-5). With the assumption that an aircraft accident impacting the plant facility would result in a loss of preferred power (LOPP), the Level 1 PRA CDF for the aircraft accident would be $1.31\text{E-}14/\text{year}$. In the event that the aircraft accident results in more extensive damage of the plant site impacting all nonsafety-related components (equivalent to a focused PRA), a more conservative CDF value of $1.94\text{E-}11/\text{year}$ is obtained.

The robust ESBWR design with its high redundant passive systems greatly help to mitigate the effect of these events. An assessment of intentional aircraft impacts to the site is discussed in DCD Appendix 19D.

11.3.6.2 Industrial Accidents

A sensitivity was conducted to evaluate the impact of industrial accidents from nearby facilities (Rev. 2) including the effects of chemical toxic releases and explosions such as blast pressure on the ESBWR facilities and supporting structures. To evaluate the impact of industrial accidents, a scenario involving the failure of both diesels due to the incapacitation of the air intakes by a chemical toxic release was postulated. The CDF for this scenario would be $2.03\text{E-}11/\text{year}$ per year. A second, more conservative scenario was identified as the same failure of both diesels accompanied by the incapacitation of the operators and a turbine trip. The evaluation of this scenario resulted in a CDF of $9.24\text{E-}11/\text{year}$ (ref. 11-2).

11.3.6.3 Pipeline Accidents

The potential of pipeline accidents impacting the plant facility was found to pose insignificant risk. Scenarios associated with gas leaks traveling toward the facility with concentrations not favorable for deflagration or detonation were bounded by toxic gas releases. Other scenarios involving blast pressure or radiant heat resulting from large explosions or external fires are not expected to significantly impact the concrete ESBWR structures.

No credible accident scenarios from pipeline facilities were found with potential to impact the plant facilities. In addition, facility citing restrictions and protective systems (control room habitability system) further prevent pipeline accidents from posing any significant impact.

11.3.6.4 Hydrogen Storage Failures

On-site hydrogen storage facilities are assumed to follow the industry guidance associated with minimum separation distances between plant structures and the hydrogen storage units. In addition, DCD Subsection 20.2.2.2.8 for the "Hydrogen Gas Control System" provides additional guidance to ensure the hydrogen storage facilities present no impact to the ESBWR facility.

11.3.6.5 Transportation Accidents

Transportation accident can be divided into three types including marine (ship/barge), trucks or railroad. A transportation accident sensitivity was performed to evaluate the significance of each of these transportation events on CDF and the L1 PRA model.

11.3.6.5.1 Marine Accidents

A sensitivity was conducted to evaluate the impact of marine accidents (Rev. 2) on the ESBWR facilities and supporting structures. To evaluate the impact of marine accidents, a scenario involving the release of toxic chemicals to the atmosphere was postulated. The CDF for this scenario would be $1.05E-12$ /year per year and is shown in Table 11.3-42 (ref. 11-6). A second scenario was identified as an explosion that impacts the service water system resulted in a CDF of $1.03E-12$ /year. Facility citing restrictions are expected to further prevent vehicle accidents from posing any significant impact.

11.3.6.5.2 Vehicle Accidents

A sensitivity was conducted to evaluate the impact of transportation accidents (Rev. 2) on the ESBWR facilities and supporting structures. For vehicle accidents, a scenario involving the release of toxic chemicals to the atmosphere was postulated. These scenarios are highly dependent upon the proximity of trucking routes and nature of the release. For a toxic chemical release, a CDF for this scenario would be $1.42E-13$ /year and is shown in Table 11.3-43 (ref. 11-3 & 11-6).

11.3.6.5.3 Railroad Accidents

The evaluation of the railroad accidents (Rev. 2) was conducted to determine the impact to the ESBWR facilities and supporting structures. For the purpose of the railroad accident sensitivity, a scenario in which toxic chemicals are released resulting in the incapacitation of equipment and/or personnel was postulated. The impact from this railroad accident was calculated to be $8.40E-13$ /year and is shown in Table 11.3-44 (ref. 11-6). Facility citing restrictions are expected to further prevent railroad accidents from posing any significant impact.

11.3.7 Fire Sensitivity

Besides the focus fire studies included in the above sections, a series of sensitivities were conducted with the previous and current fire models to determine the impact to CDF and LRF in the full-power and shutdown fire PRA models from the uncertainties in the model assumptions. The full-power fire model sensitivity studies are grouped as follows:

- Plant partitioning
- Fire risk in transition modes
- Fire ignition frequencies
- Separation criteria
- Fire barrier failure probabilities

The shutdown fire model sensitivity studies are grouped as follows:

- Fire barrier failure probabilities
- Separation criteria
- Initiating event frequencies and basic event probabilities

11.3.7.1 Plant Partitioning for Full-Power Fire Model

Plant partitioning for fire modeling is based on the fire area definitions in DCD Appendix 9A. Fire risk insights have been communicated to the design engineers in the process of fire PRA model development. One major risk insight is that DPS cabinet(s) cannot be located in N-DCIS room 3301 that also houses control cabinets for nonsafety-related systems. A fire in room 3301 could result in train A failure of all nonsafety-related systems. It also results in failure of feedwater and condensate system.

In previous DCD Appendix 9A, rooms 3140 and 3301 were included in fire area F3140. Changes requested from PRA have been incorporated to assign different fire areas for those rooms, which have been reflected in the fire model assumptions.

This plant partitioning fire sensitivity case (Rev. 2) was conducted to show the risk impact should the fire area definitions differ from the PRA assumptions.

If the DPS room were not separated from room 3301, the fire risk associated with the room 3301 would be the dominant risk contributor. The increase of CDF (Rev. 2) is about $5.80E-8$ /year (or about 712% of total baseline fire CDF). The increase in LRF was not as significant as CDF since the majority of the increase came from the TSL sequences. The increase in LRF was about $8.12E-10$ /year (or 168% of total baseline fire LRF).

If room 3301 were not separated from room 3140, moderate risk increase would be calculated. The fire risk associated with the room 3301 will have an increase in CDF of about $1.33E-9$ /year (or about 14% of total baseline fire CDF). The increase in LRF was not as significant as CDF since the majority of the increase came from the TSL sequences. The increase in LRF was about $1.66E-11$ /year (or 3% of total baseline fire LRF).

In summary, DPS is critical in mitigating the fire risks, which warrants the separation of the DPS cabinet(s) from other cabinets in room 3301. The risk increases associated with the merging rooms 3301 and 3140 into one single fire area are moderate. In both cases, the resulting total fire risks are still over two orders of magnitude lower than the threshold values ($1.E-4$ /year for CDF and $1.E-6$ /year for LRF).

11.3.7.2 Fire Risk in Transition Modes

Under the full-power (Mode 1) condition, the drywell and containment fire area F1170 is inerted. Therefore, the fire risk associated with a fire in fire area F1170 during full-power condition (Mode 1) is not evaluated. A special fire scenario is assumed for fire area F1170 in Mode 2, 3 or 4.

Technical Specification treatment of systems in Mode 2, 3 or 4 is the same for all credited systems in Mode 1. The plant is assumed to respond to a transient in these modes just as it will in Mode 1. Therefore, the Mode 1 PRA model is assumed to be applicable to all modes 1 through 4.

In Mode 2, 3, or 4, the containment will have a short period when it is de-inerted. It is assumed that the de-inerted period is 48 hours per refueling cycle. For sensitivity study purpose, it is conservatively assumed that the containment could have a fire that result in a plant trip during this period. It should be noted that the fire ignition sources inside the containment are limited since all the control cables inside the containment are normally de-energized. There is no other

ignition source except transient loads, which are highly unlikely to exist in this fire area in Modes 1 through 4.

The fire ignition frequency for fire area F1170 is only applicable to a short period when the containment is de-inerted during Modes 1 through 4 (assumed to be 48 hours per refueling cycle). Including cables as ignition sources, an averaged fire frequency of $1.58\text{E-}6/\text{year}$ is calculated for fire area F1170. Since the cables will be typically de-energized, a less conservative F1170 fire ignition frequency based on transient bin (#7) only is $2.05\text{E-}7/\text{year}$.

In this sensitivity study, a fire-induced inadvertent opening of relief valve initiating event is assumed for F1170. This is conservative since the hot shorts of the cables are unlikely under de-energized conditions. All the fire-susceptible components located inside the drywell and containment are assumed to be damaged by the postulated fire, which is physically unreasonable. The upper drywell is well separated from the lower drywell although they are connected. The upper drywell is spacious and divisional separation of safety-related components and control cables are ensured by design requirements. A single fire that can induce failure to all components in the containment/drywell area is physically unreasonable.

Nevertheless, this physically unreasonable scenario is constructed for sensitivity study purposes and to demonstrate the importance of separation criteria for the components and their associated cables inside the upper and lower drywells.

With an averaged fire frequency of $1.58\text{E-}6/\text{year}$, the fire CDF from F1170 (Rev. 2) is calculated to be $1.53\text{E-}9/\text{year}$ (or 19% of the total baseline fire CDF). With the conservative assumption on the failure of all components in the containment/drywell area, all F1170 CDF is LRF (release category CCID with GDCS deluge system failed). This leads to a contribution of LRF (Rev. 2) of $1.53\text{E-}9/\text{year}$ from F1170 (or 317% of the total baseline fire LRF).

A review of the cutset file shows that about 60% of the cutsets have event “R10-LOSP-EPRI,” which models the consequential LOPP. Since the plant is already in a transition to shutdown mode, the grid is prepared for the loss of the output from the nuclear power plant. Therefore, this failure is not applicable to this fire sequence. With the adjustment, the increase in CDF due to F1170 is $6.16\text{E-}10/\text{year}$ (or 8% of total baseline fire CDF). The LRF increase due to F1170 is also $6.16\text{E-}10/\text{year}$ (or 127% of total baseline fire LRF).

With an averaged fire frequency of $2.05\text{E-}7/\text{year}$, the fire CDF and LRF from F1170 are both calculated to be $7.895\text{E-}11/\text{year}$ (or 1% of total baseline fire CDF and 16% of total baseline total fire LRF).

Since the total baseline fire CDF and LRF values are at least three orders of magnitude below the thresholds values ($1.\text{E-}04/\text{year}$ for CDF and $1.\text{E-}06/\text{year}$ for LRF), the increases due to F1170 are not significant.

11.3.7.3 Fire Ignition Frequencies for Full-Power Fire Model

The following cases are constructed for the sensitivity studies (Rev. 2) on fire ignition frequencies for full-power fire models.

- All fire initiating event frequencies increased by a factor of 2;
- All fire initiating event frequencies reduced by a factor of 2;

- The main control room fire initiating event (%F3270) includes main control boards, which results in a new frequency of $5.97E-3/\text{year}$;
- In the ignition source data sheets, Bin 15 number is re-calculated based on the assumption that all high energy cabinets (480V and higher) would have 4 vertical sections and each counted as one cabinet.

The first case is not credible since the total fire frequency for the plant would be about 0.45/year, which exceeds the total fire frequency of 0.299/year in NUREG/CR-6850 (Ref. 11-7). The fire CDF and LRF values are increased to $1.63E-08/\text{year}$ and $9.67E-10/\text{year}$, respectively. With such conservative fire ignition frequencies, the fire CDF and LRF values are still about four orders of magnitude below the NRC thresholds ($1E-4/\text{year}$ for CDF and $1E-6/\text{year}$ for LRF).

The second case may reflect the actual ESBWR plant fire ignition frequencies more closely. The ESBWR plant has less active components than the traditional plants. Since the fire ignition frequency calculations are basically partitioning the fire ignition source bins, it is reasonable to assume that the non-PRA components that are located in the screened fire areas would significantly reduce the fire ignition frequencies calculated in the fire analysis. This case results in a total fire CDF of $4.07E-09/\text{year}$ and a total fire LRF of $2.42E-10/\text{year}$.

The third case demonstrates that the fire risk increase is negligible with the main control boards bin included in the MCR fire ignition frequency calculation. In the baseline fire ignition frequency calculation, the main control room (MCR) fire ignition frequency (%F3270) does not include the main control boards since the ESBWR MCR is totally different from the traditional plant design. Only display units are included in the MCR and all other control cabinets are in the DCIS rooms. Based on the new calculation for this sensitivity case, a fire ignition frequency of $5.97E-3/\text{year}$ is obtained for %F3270, which is about 60% higher than the baseline value. This results in an increase in total fire CDF of $2.10E-11/\text{year}$ (or 0.3%) and an increase in total fire LRF of $4.04E-12/\text{year}$ (or 0.8%), which is negligible.

The high energy switchgear (480V and higher) have been identified for Bin 16 counts. It is assumed in the fourth sensitivity case that each high energy switchgear (480V and above) would be counted as 4 cabinets in Bin 15. There are 44 high energy switchgears identified in Bin 15 counts. Therefore, 132 additional cabinet counted are added to the subject fire areas. This change leads to the redistribution of the fire ignition frequencies. As a result, the total fire CDF is reduced by $3.0E-10/\text{year}$ (or 3.7%) from the baseline CDF to $7.84E-09/\text{year}$. The total LRF is also reduced by $1.51E-11/\text{year}$ (or 3.1%) to $4.68E-10/\text{year}$. This demonstrates that the fire ignition frequency calculations without counting the additional high energy switchgear cabinets are slightly more conservative.

11.3.7.4 Separation Criteria for Full-Power Fire Model

This sensitivity case (Rev. 2) was constructed to investigate the sensitivity of fire risk to separation criteria on the nonsafety-related systems. Turbine Building general area (fire area F4100 in Rev. 2, which corresponds to fire area F4197 in Rev. 4) is investigated specifically since the simplified cable routing conservatively assumes that the majority of cables in the Turbine Building have to pass through this area. The baseline case for F4100 scenario assumes that a fire in F4100 would not result in the failure associated with cable routing for the RCCW and PSW systems. This is a reasonable assumption since these two systems are RTNSS and no

single fire should impact both trains. In this sensitivity study, the following cases are constructed:

- Case 1: Assume that a fire in F4100 will induce failure to both trains of RCCW and PSW systems.
- Case 2: Assume that the instrument air (IA) system cables are also protected. A fire in F4100 will not induce failure to RCCW, PSW or IA systems.
- Case 3: Assume that a fire in F4100 will not induce failure to train A of RCCW and PSW systems.
- Case 4: Assume that a fire in F4100 will not induce failure to train B of RCCW and PSW systems.

The CDF increases for the above four cases are as follows:

- Case 1: 2.60E-09/year (or 32.0% of the baseline total fire CDF)
- Case 2: 0.00E+00/year (no change from the baseline total fire CDF)
- Case 3: 2.90E-11/year (or 0.4% of the baseline total fire CDF)
- Case 4: 3.02E-11/year (or 0.4% of the baseline total fire CDF)

The LRF increases for the above four cases are as follows:

- Case 1: 6.58E-10/year (or 136.2% of the baseline total fire LRF)
- Case 2: 0.00E+00/year (no change from the baseline total fire LRF)
- Case 3: 2.29E-12/year (or 0.5% of the baseline total fire LRF)
- Case 4: 2.39E-12/year (or 0.5% of the baseline total fire LRF)

The results clearly demonstrate the importance of the RTNSS requirements for RCCW and PSW systems to ensure separation criteria. The separation criteria applied to instrument air system has a negligible impact on the full-power fire model. It should be noted that even without the separation criteria implemented for RCCW and PSW systems, the fire risk CDF and LRF are still three orders of magnitude lower than the NRC thresholds (1E-04/year for CDF and 1E-06/year for LRF).

11.3.7.5 Fire Barrier Failure Probability for Full-Power Fire Model

This sensitivity case (Rev. 4) is constructed to investigate the sensitivity of fire risk to the failure probabilities of fire barriers. Fire propagation scenarios have been modeled for the full-power L1 and L2 fire models. For risk-significant fire areas, typically the exposing area and exposed areas are reversed to construct two fire propagation scenarios. Some fire propagation cases do not have their reversed scenarios. These cases are not significant risk contributors. The inclusion of some cases is simply to demonstrate that these postulated fire propagation scenarios are not risk significant (especially the ones that change the corresponding initiating event from general transient to T-IORV). It is not intended to postulate all potential fire propagation scenarios.

To report the importance of these fire barriers, a recovery rule file has been used to add the fire barrier failure events to the merged cutset files.

Based on the baseline full-power fire CDF results, the fire barrier importance measures are reported in Table 11.3-45, which shows two risk important fire barriers based on the full-power CDF cutsets:

- Fire barrier between fire areas F3150 and F3301 (DPS room and N-DCIS room 3301),
- Fire barrier between fire areas F9150 and F9160 (the cable tunnels), and
- Fire barrier between fire areas F3302 and F9150 (N-DCIS room 3302 and cable tunnel A).

Fire areas F3150 and F3301 are separated by walls and a fire door since the DPS room is enclosed by room 3301. The most vulnerable fire barrier is the fire door. Fire areas F9150 and F9160 are cable tunnels that are mostly separated by walls except at the access point. It is unlikely for a fire to start at the access point and propagate to both cable tunnels since there should not be combustibles along the path to fuel the fire propagation. Fire areas F3302 and F9150 are separated by walls.

Based on the baseline full-power fire LRF (nTSL releases) results, the fire barrier importance measures are reported in Table 11.3-46. The fire propagation scenarios have more significant impacts on the LRF results since they defeat more redundancy and result in more severe release categories instead of the TSL release. Almost a quarter of total LRF is contributed from the fire propagation scenarios. Table 11.3-46 shows the following risk important fire barriers based on LRF cutsets:

- Fire barrier between fire areas F9160 and F9150 (the cable tunnels),
- Fire barrier between fire areas F3150 and F3301 (DPS room and N-DCIS room 3301),
- Fire barrier between fire areas F3150 and F3302 (DPS room and N-DCIS room 3302), and
- Fire barrier between fire areas F3302 and F9150 (N-DCIS room 3302 and cable tunnel A).

To perform online maintenance, some of the fire doors may be open for access or other purposes. This is not modeled in the baseline ESBWR fire PRA model. The risk increases associated with the open fire doors will be controlled by the plant's risk management program of 10 CFR 50.65(a)(4) when the plant is in operation.

This sensitivity study also investigates the potential fire risk increases associated with the risk important fire barriers. It should be noted that the risk important fire barriers based on the CDF cutsets are a subset of the risk important fire barriers based on LRF cutsets.

Tables 11.3-47 and 11.3-48 show the risk impact when the fire barriers are assumed to be failed and with a failure probability of 0.1. The calculations with fire barrier failed are based on the RAW values. The calculations for failure probability of 0.1 are performed by increasing probability of the subject fire barrier failure event in the cutset files.

Tables 11.3-47 and 11.3-48 indicate that the risk increases associated with several fire barrier failures are significant. However, even with the most limiting case, the fire risk is still at least one order of magnitude below the NRC threshold values ($1E-04$ /year for CDF and $1E-06$ /year for LRF). Note the results in the above tables do not take credit for fire suppression and fire severity factors. If a screening value of 0.1 is used for these two additional factors, the most limiting fire CDF and LRF will be at least three orders of magnitude lower than the NRC thresholds.

The risk importance measures for the fire barriers will be used to implement design requirements to mitigate their fire risk impact.

11.3.7.6 Fire Barrier Failure Probability for Shutdown Fire Model

This sensitivity case (Rev. 4) is constructed to investigate the sensitivity of the shutdown fire risk to the failure probabilities of fire barriers. Based on the baseline shutdown fire CDF results, the fire barrier importance measures are reported in Table 11.4-49, which shows two risk important fire barriers:

- Fire barrier between fire areas F1152 and F1162 (two RWCU/SDC pump rooms)
- Fire barriers between fire areas F3301 and F3302 (two N-DCIS rooms)

As discussed in the qualitative screening task for shutdown fire (Subsection 12.6.2), the fire propagation scenario for fire areas F1152 and F1162 is extremely conservative since a fire has to pass through multiple normally closed non-fire doors, two access tunnels, two corridor areas and the fire door separating the two fire areas. This postulated fire propagation is highly unlikely. Fire barrier between F3301 and F3302 has a RAW value greater than 2.0. However, its F-V value is very low.

During an outage, some of the fire doors may be open for access or other purposes. This is not modeled in the baseline ESBWR fire PRA model. The risk increases associated with the open fire doors will be controlled by the plant's risk management program of 10 CFR 50.65(a)(4).

Table 11.4-50 shows the shutdown fire risk increases by setting the fire barrier failure probabilities to either 1.0 or 0.1. The calculations with a failure probability of 0.1 are performed for the screening purpose. A fire watch will be posted when the maintenance is performed with the fire door open. Whether the fire watch is a roving watch or a continuous watch with capability to communicate to the control room cannot be defined at this time since the ESBWR plant is in design certification phase and no detailed procedures are available. However, a screen value of 0.1 is sufficient to demonstrate the potential risk impact of the fire barrier failure associated with a fire watch.

For shutdown fire analysis, all CDF sequences are assumed to be contributors to LRF. However, even for the LRF threshold of $1E-6$ /year, the most limiting fire barrier failure is at least one order of magnitude lower. Note the results in the above tables do not take credit of fire suppression and fire severity factors. If a screening value of 0.1 is used for these two additional factors, the most limiting fire CDF and LRF will be at least three orders of magnitude lower than the NRC thresholds.

Moreover, for fire propagation between F3301 and F3302, the screening value of 0.1 for the failure of a fire watch is still very conservative. Between these two fire areas, there is another

fire area F3100. Opening fire doors from F3301 and F3302 to F3100 at the same time should not be allowed. With one fire door open and the other one intact, the failure probability for the modeled fire barrier would be $7.4E-3$ without credit of a fire watch. This will lead to a shutdown CDF of $1.00E-8$ /year, or a 4% increase.

The risk importance measures for the fire barriers will be used to implement design requirements to mitigate their fire risk impact.

11.3.7.7 Separation Criteria for Shutdown Fire Model

This sensitivity case (Rev. 2) was constructed to investigate the sensitivity of the shutdown fire risk to the separation criteria, especially in the Turbine Building general area (F4100 in Rev. 2, which corresponds to fire area F4197 in Rev. 4). Almost two thirds of the total shutdown CDF is coming from the postulated fire in this fire area. With the RTNSS requirements, RCCW and PSW cables are assumed to be separate and protected or routed outside of fire area F4100.

Without the separation criteria for RTNSS systems, the shutdown fire risk in fire area F4100 would result in an increase of $8.52E-8$ /year (or 314% of the baseline shutdown fire CDF). This case clearly demonstrates the necessity of separation requirements for the RTNSS systems.

In contrast, if the instrument air system cables are routed outside fire area F4100 or protected with 3-hour fire barriers, a fire in F4100 will not result in a shutdown-initiating event, which then can be qualitatively screened. In this case, the shutdown fire CDF will be reduced to $8.15E-9$ /year.

Similarly, separation criteria for PSW trains should also be implemented in fire area F7300 since PSW system is RTNSS. With two PSW trains separated, only a fire big enough to propagate and damage all PSW components would result in a shutdown-initiating event. Assuming a probability of 0.1 for the fire propagation, the F7300 initiating event frequencies are updated as follows:

$$\%F7300\text{sensitivity} = \frac{1}{2} * \%F7300\text{baseline} * 0.1$$

Table 11.3-51 shows the results with the modified F7300 initiating event frequencies.

With the assumed separation criteria implemented for fire area F7300 and excluding the F4100 contribution by assuming that the instrument air system cable will meet separation criteria, the shutdown fire CDF can be further reduced to $1.00E-9$ /year.

In summary, the separation criteria required for the ESBWR plant design are extremely important to shutdown fire risk. Without taking credit for the separation and protection of RCCW and PSW cables in the Turbine Building general area (F4100), the shutdown fire risk increases by $8.52E-8$ /year (or 314% from the baseline shutdown fire CDF). On the other hand, when the separation criteria are also applied to the Instrument Air systems and the Plant Service Water area (F7300), the shutdown fire CDF can be reduced to $1.00E-9$ /year, which is five orders of magnitude below the NRC CDF threshold ($1E-4$ /year) and three orders of magnitude below the NRC LRF threshold ($1E-6$ /year) by assuming all shutdown fire CDF contributes to LRF.

11.3.7.8 Initiating Event Frequencies and Basic Event Probabilities for Shutdown Fire Model

This sensitivity case (Rev. 2) was constructed to investigate the sensitivity of the shutdown fire risk to the initiating event frequencies and some basic event failure probabilities. To

demonstrate the conservatism in the baseline shutdown fire model, the shutdown fire ignition frequency for fire area F4100 (Turbine Building general area in Rev. 2, which corresponds to fire area F4197 in Rev. 4) and the failure probability of basic event G21-BV_-RE-F334 are investigated.

In the baseline shutdown fire model (Rev. 2), 50% of Turbine Building fire during shutdown is assumed to be applicable to the Turbine Building general area, this is conservative since the Turbine Building has more than 30 fire areas. However, F4100 does cover large areas in the Turbine Building.

For the sensitivity study, assuming that 25% of Turbine Building fire during shutdown is applicable to the Turbine Building general area, the total shutdown fire CDF reduction would be $9.49\text{E-}09/\text{year}$ (or 35% of the baseline shutdown fire CDF).

In the baseline shutdown fire CDF cutset file (Rev. 2), basic event G21-BV_-RE-F334 (MISPOSITION OF VALVE F334) has a FV value of 0.736, which is the most risk important basic event. The failure probability for this event is $4.84\text{E-}02$ with a test interval greater than 8640 hours.

With the valve position monitored continuously, the type code for the valve F334 failure is changed to “MANUAL VALVE PLUGS/TRANSFERS CLOSED” with a failure rate of $3\text{E-}08/\text{hour}$. That results in a failure probability of $7.2\text{E-}07$ for 24 hours. This is consistent with other normally locked open manual valves with alarm and indication in the main control room.

With a probability of $7.2\text{E-}07$ for basic event G21-BV_-RE-F334, the shutdown fire CDF is reduced to $7.162\text{E-}9/\text{year}$ (or a reduction of 73% from the baseline shutdown fire CDF).

By removing conservatism in both F4100 fire ignition frequency and the basic event G21-BV_-RE-F334 probability as discussed above, a new shutdown fire CDF is calculated as $4.755\text{E-}09/\text{year}$ (or a reduction of 82.5% from the baseline shutdown fire CDF).

In summary, the shutdown fire PRA model (Rev. 2) was very conservative with some conservatism inherited from the shutdown PRA model. By removing conservatism associated with the F4100 fire ignition frequency and the failure probability for basic event G21-BV_-RE-F334 (MISPOSITION OF VALVE F334), the shutdown fire CDF value can be reduced significantly.

In the current revision, the failure probability of Valve F334 on the FAPCS injection path has been lowered with a MCR alarm in the current revision, which has resulted in a reduction in the shutdown fire CDF value.

11.3.8 Source Terms Sensitivities

The effects of the erosion of the concrete used as a Protective Layer on the Basemat Internal Melt Arrest and Coolability (BiMAC) component are evaluated below.

The Modular Accident Analysis Program (MAAP) version 406 was used to analyze the effects of gases and fission product aerosols produced from the core debris/concrete interactions (CCI) of the concrete to be used to cover the BiMAC.

11.3.8.1 References for Source Terms Sensitivities

1. ESBWR PRA Section 21 Severe Accident Management.
2. ESBWR Licensing Topical Report – The MAC Experiments: Fine Tuning of the BiMAC Design NEDE-33392P.
3. ESBWR Design Control Document Tier 2, Chapter 19, 26A6642BY.

11.3.8.2 Analysis

The BiMAC was originally designed using zirconia as a protective layer for the BiMAC pipes lining the lower drywell floor [Reference 1]. As a result of prototype testing of the BiMAC design [Reference 2], it was determined that a layer of concrete can be used to protect the BiMAC pipes until the deluge system floods the BiMAC and lower drywell.

The models in MAAP406 predict that the overlying pool will cool the corium pool and stop CCI early. However due to uncertainties concerning the heat transfer between a debris bed and an overlying water pool, CCI of concrete used to cover the BiMAC was investigated. A protective layer of concrete 0.5 m (1.6 ft) thick was assumed. The input heat transfer characteristics were adjusted so that CCI would take place until concrete is eroded to a depth of 0.5 m (1.6 ft). At this point, the MAAP models were returned to default values, which resulted in halting CCI. This initial CCI releases non-condensable gases and fission product aerosols into containment.

The release of CCI generated aerosols into the lower drywell when flooded does not impact PCCS performance.

The representative sequences for the Section 9 Source Terms were analyzed using MAAP as follows:

- Case 1 - BOCsd_nIN: this run was re-evaluated considering CCI to a depth of 0.5 m.
- Case 2 - BOCdr_nIN: this run was re-evaluated considering CCI to a depth of 0.5 m and late injection.
- Case 3 - T_nIN_BYP: this run was re-evaluated considering CCI to a depth of 0.5 m.
- Case 4 - T_nDP_nIN_BYP: this run was re-evaluated considering CCI to a depth of 0.5 m and late injection.
- Case 5 - T_nIN_nD_CCID: this run was not evaluated as it already models CCI via failure of deluge to actuate.
- Case 6 - T_nDP_nIN_nD_CCID: this run was not evaluated as it already models CCI via failure of deluge to actuate.
- Case 7 - T_nIN_CCIW: this run was not evaluated as it already models CCI via failure of BiMAC to cool the corium pool from below and overlying pool from above.
- Case 8 - T_nDP_nIN_CCIW: this run was not evaluated as it already models CCI via failure of BiMAC to cool the corium pool from below and overlying pool from above.
- Case 9 - T_nIN_nD_EVE: this run was not evaluated as it already includes CCI via failure of deluge to actuate with containment failure at the time of RPV failure.

- Case 10 - T-AT_nIN_nCHR_FR: this run was re-evaluated considering CCI to a depth of 0.5 m.
- Case 11 - T_nDP_nIN_VB: this run was re-evaluated considering CCI to a depth of 0.5 m and late injection.
- Case 12 - T_nIN_VB: this run was re-evaluated considering CCI to a depth of 0.5 m.
- Case 13 - T_nDP_nIN_nCHR_W1: this run was re-evaluated considering CCI to a depth of 0.5 m and late injection.
- Case 14 - T_nDP_nIN_nCHR_W2: this run was re-evaluated considering CCI to a depth of 0.5 m and late injection.
- Case 15 - T_AT_nIN_TSL2x: this run was re-evaluated considering CCI to a depth of 0.5 m.

Previous studies of release categories in Section 9 of the PRA have showed that as the overlying pool is lost due to decay heat evaporating water which escapes through the containment failure, the CsI release fraction increases. This is predicted in most cases in which it occurs 48 hours after the beginning of the sequence. In this analysis it occurs sooner than in the previous analysis but not dramatically different. Since there are multiple ways to inject water into the ESBWR containment, this analysis models external injection 48 hours after the beginning of the sequence for Cases 2, 11, 13 and 14 to better represent expected recovery 2 days into an event.

The results from this analysis are evaluated in the following sections.

Representative sequences in Case 5 – 9 are not affected by this analysis since the previous evaluations of these representative sequences included CCI which continued through the sequence.

11.3.8.2.1 PCCS Effectiveness and Pressure Increases in Containment

Sequences Not Affected:

PCCS effectiveness in Cases 1-4 is not affected due to the assumed break outside of containment in Cases 1 and 2 and containment bypass in Cases 3 and 4. Cases 10 and 13 assumed PCCS was not available as part of the sequence. Cases 11 and 12 include failure of the drywell to wetwell vacuum breakers, which fails PCCS irrespective of the CCI of the BiMAC protective layer.

Case 15 Analysis:

Case 15 is the representative sequence for successful operation of containment heat removal by PCCS. A comparison of PCCS heat removal in Case 15 as analyzed for PRA Section 9 Revision 4 to this analysis is shown in Figures 11.3-1 and 11.3-2 below. These figures show that the assumption of CCI depresses PCCS heat removal until cooling of the corium is allowed. This is an expected result due to the reduction of heat transfer from corium to the overlying pool required for CCI results in less steam being produced. The condensation of steam is the main heat removal mechanism for the PCCS.

The long-term pressure in containment increases from approximately 0.54 MPa gage (78 psig) in the base case to approximately 0.76 MPa gage (110 psig) when including CCI due to the additional non-condensable gases in containment. These pressures are below the limiting containment failure pressure in DCD Appendix 19C Table 19C-13 [Reference 3]. The limiting

95% confidence value at a containment temperature of 533 K (500°F) is 1.095MPa gage (158.8 psig).

Case 14 Analysis:

Case 14 assumed PCCS fails at 24 hours as a conservative representation of failure to replenish to upper pools, which MAAP indicates would be required much later. The effectiveness of PCCS in Case 14 during the first 24 hours is slightly affected as described in analysis for Case 15 above.

11.3.8.2.2 Ranges of Potential Containment Failure Time

Sequences Not Affected:

Containment failure times in Cases 1-4 are not affected due to the assumed break outside of containment in Cases 1 and 2 and containment bypass in Cases 3 and 4. Case 15 did not result in containment failure as described above.

Containment Failure Results:

Case 10 indicates that containment is vented at 90% of containment ultimate strength 1 hour sooner than previously calculated.

Case 11, RPV failure at high pressure with vacuum breaker failure, shows containment failing 3 hours earlier with CCI but Case 12, RPV failure at low pressure with vacuum breaker failure, shows containment failing 3.5 hours later with CCI. This is due to the assumed time of vacuum breaker failure at RPV failure for Case 11 and 12. Since Case 12 includes RPV depressurization prior to RPV failure, the energy of depressurization is absorbed by the wetwell and the steam produced in cooling the corium is delayed until the assumed CCI is complete.

Cases 13 and 14 have containment failure times which are not significantly changed by the CCI.

The ranges of containment failure times excluding Case 12 are 13.0 to 50.1 hours without CCI and 10.4 to 48.9 hours with CCI.

11.3.8.2.3 Release Category and Large Release Frequency

Release Category Frequency:

CCI of the BiMAC protective layer does not affect the frequency of the release categories since CCI has no effect on plant response prior to RPV failure. The discussion above shows the performance of PCCS will not be changed significantly and therefore, the frequency of each release category is also not changed.

Large Release Frequency:

A release other than Case 15 (TSL) is considered a large release. Since containment failure in Case 15 is not expected due to CCI of the BiMAC protective layer, the Large Release Frequency is not changed.

11.3.8.2.4 Fission Product Releases for Representative Scenarios

The fission product releases for representative scenarios are reported in the following tables. The tables 11.3-52a, 11.3-53a and 11.5-54a are the results for PRA Revision 4 and tables 11.3-52b, 11.3-53b and 11.5-54b are the results including CCI.

The results from Case 1 show that the Noble Gas and CsI release fractions 24 hours after core damage increase slightly, Noble Gas release fraction 72 hours after core damage is not significantly changed and CsI release fraction 72 hours after core damage increases slightly.

The results from Case 2 indicate that the Noble Gas release fraction 24 hours after core damage increases less than 50%, CsI release fraction 24 hours after core damage is not significantly changed, Noble Gas release fraction 72 hours after core damage increases more than 50% and CsI release fraction 72 hours after core damage increases slightly.

The results from Case 3 indicate that the Noble Gas release fraction 24 hours after core damage is not significantly changed, CsI release fraction 24 hours after core damage increases approximately 20%, Noble Gas release fraction 72 hours after core damage is not significantly changed and CsI release fraction 72 hours after core damage is not significantly changed.

The results from Case 4 indicate that the Noble Gas release fraction 24 hours after core damage increases over 50%, CsI release fraction 24 hours after core damage increases over 100%, Noble Gas release fraction 72 hours after core damage increases over 20% and CsI release fraction 72 hours after core damage increases over 100%. The CsI release fraction remains less than 0.1.

The results from Case 10 indicate that no release is indicated 24 hours after core damage and Noble Gas release fraction and CsI release fraction 72 hours after core damage is not significantly changed.

The results from Case 11 indicate that the Noble Gas release fraction 24 hours after core damage increases 20%, CsI release fraction 24 hours after core damage increases over 400%, Noble Gas release fraction 72 hours after core damage is not significantly changed and CsI release fraction 72 hours after core damage increases less than 100%. The CsI release fraction remains less than 0.01.

The results from Case 12 indicate that the Noble Gas and CsI release fractions 24 hours after core damage and 72 hours after core damage do not change significantly.

The results from Case 13 indicate that there is no release 24 hours after core damage and this is not changed from previous evaluations. Noble Gas release fraction 72 hours after core damage is not significantly changed and CsI release fraction 72 hours after core damage increases more than one order of magnitude.

The results from Case 14 indicate that there is no release 24 hours after core damage and this is not changed from previous evaluations. Noble Gas release fraction 72 hours after core damage increases by 1% and CsI release fraction 72 hours after core damage increases less than 50%.

The results from Case 15 indicate that the Noble Gas and CsI release fractions are not significantly changed.

11.3.8.3 Design Requirements for Concrete Type

The composition of concrete protecting the BiMAC is not specified at this time. A design requirement is in DCD Table 19.2-3 which requires that the material covering the BiMAC is designed, for the more likely severe accident sequences, to prevent melt impingement due to corium ablation, and also to prevent noncondensable gas generation in quantities that would lead to exceeding the containment ultimate pressure.

11.3.8.4 Conclusions

Modeling CCI of the concrete used to cover the BiMAC results in small changes to the containment failure times and release fractions calculated by MAAP406. The performance of PCCS is not significantly changed when modeling this CCI. These results with the results from sequences which were not affected by CCI of the BiMAC protective layer are shown in the Tables 11.3-52a through 11.3-54b.

Table 11.3-1
Level 1 Sensitivity — Detailed Model Results (DELETED)

Table 11.3-2
Level 1 Sensitivity – Human Reliability – CDF

Case (Rev. 2)	CDF (/year)	Difference	RAW
Baseline L1	1.22E-08	N/A	N/A
ALL T	6.27E-07	5.04E+01	51.4
PRE T	3.61E-07	2.86E+01	29.6
POST T	5.54E-08	3.54E+00	4.5
Case (Rev. 2)	CDF (/year)	Difference	F-V
ALL F	2.91E-09	-7.61E-01	0.76
PRE F	7.04E-09	-4.23E-01	0.42
POST F	5.22E-09	-5.72E-01	0.57

Note: Based on the Rev. 2 PRA model with a truncation limit of 1E-15/year.

**Table 11.3-3
Level 1 Sensitivity – Human Reliability – Detailed Model Results**

Initiator Distribution	Level 1 (Rev. 2)	ALL F	ALL T	POST F	POST T	PRE F	PRE T
BOC	3.05E-10	1.90E-10	1.84E-09	2.19E-10	9.93E-10	2.70E-10	1.10E-09
LOCA	1.06E-09	2.10E-10	2.53E-08	4.39E-10	4.02E-09	7.37E-10	1.65E-08
LOPP	1.41E-09	5.27E-10	9.11E-09	9.38E-10	3.97E-09	9.35E-10	9.46E-09
FDW	2.28E-09	2.40E-10	3.26E-08	9.66E-10	9.10E-09	1.51E-09	3.05E-08
DHR	4.58E-10	2.72E-10	7.14E-09	2.93E-10	1.98E-09	3.53E-10	2.20E-09
IORV	4.45E-09	7.74E-11	5.08E-07	8.98E-10	2.49E-08	1.58E-09	2.90E-07
GEN	2.24E-09	1.39E-09	4.15E-08	1.47E-09	1.04E-08	1.65E-09	1.17E-08
Total	1.22E-08	2.91E-09	6.26E-07	5.22E-09	5.54E-08	7.05E-09	3.61E-07
Class Distribution	Level 1 (Rev. 2)	ALL F	ALL T	POST F	POST T	PRE F	PRE T
cdi	46.12%	5.39%	68.11%	29.52%	54.64%	41.54%	73.38%
cdii	0.35%	0.26%	0.99%	0.41%	13.16%	0.19%	0.25%
cdiii	36.99%	25.49%	30.48%	31.67%	27.92%	29.66%	25.77%
cdiv	15.35%	64.37%	0.31%	35.86%	3.38%	26.56%	0.53%
cdv	1.20%	4.49%	0.12%	2.54%	0.89%	2.05%	0.07%
Drywell Water Level Classes	Level 1 (Rev. 2)	ALL F	ALL T	POST F	POST T	PRE F	PRE T
DWL-L	55.70%	68.21%	67.13%	60.75%	52.66%	60.98%	72.06%
DWL-M	0.82%	0.21%	0.49%	0.74%	0.73%	0.82%	0.49%
DWL-H	5.00%	1.44%	0.80%	3.96%	4.67%	6.31%	1.40%
Other	38.48%	30.15%	31.57%	34.56%	41.94%	31.89%	26.06%
Top Sequences	Level 1 (Rev. 2)	ALL F	ALL T	POST F	POST T	PRE F	PRE T
AT-T-FDW012	NA	NA	NA	NA	0.84%	NA	NA
AT-T-FDW013	3.00%	2.72%	0.52%	7.01%	0.66%	1.12%	0.90%
AT-T-FDW015	0.92%	3.86%	NA	2.15%	NA	1.59%	NA
AT-T-GEN020	NA	NA	NA	NA	9.81%	NA	NA
AT-T-GEN021	7.20%	2.69%	6.04%	2.81%	7.73%	3.28%	2.06%
AT-T-GEN023	10.70%	44.90%	0.21%	25.00%	2.36%	18.50%	0.36%
AT-T-GEN024	NA	1.05%	NA	NA	NA	NA	NA
AT-T-GEN026	2.03%	8.51%	NA	4.75%	NA	3.51%	NA
AT-T-IORV008	NA	NA	NA	NA	1.84%	NA	NA
AT-T-IORV009	1.30%	NA	1.13%	NA	1.44%	NA	0.37%
AT-T-IORV011	NA	0.91%	NA	NA	NA	NA	NA
Top Sequences	Level 1 (Rev. 2)	ALL F	ALL T	POST F	POST T	PRE F	PRE T
AT-T-LOPP013	5.57%	15.70%	NA	13.00%	1.23%	6.47%	NA
AT-T-LOPP015	NA	1.15%	NA	0.64%	NA	NA	NA

Table 11.3-3

Level 1 Sensitivity – Human Reliability – Detailed Model Results

Top Sequences	Level 1 (Rev. 2)	ALL F	ALL T	POST F	POST T	PRE F	PRE T
AT-T-SW004	NA	0.90%	NA	NA	NA	NA	NA
BOC-FDWA027	0.64%	2.64%	NA	1.51%	NA	1.09%	NA
BOC-FDWA029	NA	0.88%	NA	NA	NA	NA	NA
BOC-FDWB054	NA	0.77%	NA	NA	NA	NA	NA
BOC-RWCU015	NA	NA	NA	NA	0.56%	NA	NA
BOC-RWCU051	NA	1.51%	NA	0.84%	NA	NA	NA
LL-S047	NA	NA	0.72%	NA	NA	NA	0.62%
LL-S050	0.69%	2.92%	NA	1.62%	NA	1.20%	NA
LL-S-FDWA013	NA	NA	0.40%	0.90%	NA	NA	0.69%
LL-S-FDWB045	4.30%	NA	0.40%	2.33%	4.52%	5.73%	0.69%
ML-L011	NA	NA	NA	NA	0.54%	NA	NA
ML-L013	NA	2.45%	NA	1.36%	NA	1.01%	NA
ML-L014	NA	0.65%	NA	NA	NA	NA	NA
RVR-014	NA	0.57%	NA	NA	NA	NA	NA
SL-L068	NA	NA	0.21%	NA	NA	NA	NA
SL-S017	NA	NA	NA	NA	NA	NA	1.15%
SL-S018	NA	NA	NA	NA	NA	NA	0.38%
SL-S063	NA	NA	1.34%	NA	0.70%	NA	NA
SL-S065	NA	NA	0.45%	NA	NA	NA	NA
T-FDW003	NA	NA	0.48%	NA	NA	NA	NA
T-FDW050	9.35%	NA	2.60%	5.06%	9.87%	12.10%	4.51%
T-FDW060	0.72%	NA	NA	1.69%	NA	NA	1.52%
T-FDW061	2.66%	NA	1.12%	NA	3.34%	4.10%	0.67%
T-GEN004	NA	NA	0.30%	NA	NA	NA	NA
T-GEN021	NA	NA	NA	0.95%	NA	NA	1.16%
T-GEN022	NA	NA	NA	NA	NA	0.75%	0.39%
T-GEN067	1.38%	NA	1.13%	4.21%	2.09%	2.25%	NA
T-GEN069	NA	NA	0.49%	NA	0.74%	0.87%	NA
T-IORV017	5.39%	0.85%	NA	12.30%	NA	NA	51.50%
T-IORV018	7.39%	NA	NA	4.06%	NA	4.40%	17.20%
T-IORV063	16.90%	NA	60.00%	NA	31.50%	12.80%	8.40%
T-IORV065	5.70%	NA	20.00%	NA	10.50%	4.32%	2.82%
T-LOPP050	3.51%	NA	0.83%	1.85%	3.89%	4.09%	1.44%
T-LOPP061	1.57%	1.06%	0.37%	1.55%	1.43%	1.79%	NA

**Table 11.3-4
Level 1 Sensitivity - CDF Results**

Case (Rev. 2)	CDF (/year)	Difference
Baseline L1	1.22E-08	N/A
CCF	2.19E-11	-9.98E-01
SLCS	1.08E-08	-1.15E-01
SRV CCFs	1.22E-08	0.00E+00
SPC/LPCI Pumps	1.23E-08	8.20E-03
Turbine Bypass	1.22E-08	0.00E+00
Sens_LOCA_x2	1.36E-08	1.15E-01
Sens_LOCA_ICS	1.22E-08	0.00E+00
CRD Injection	1.22E-08	0.00E+00
Vacuum Breaker	1.34E-08	9.84E-02
Case (Rev. 2, truncation at 1E-13/year)	CDF (/year)	Difference
Baseline L1	1.07E-08	N/A
Accumulator	5.42E-06	5.06E+02

Note: Based on the Rev. 2 PRA model with a truncation limit of 1E-15/year with the following exceptions:

1. The accumulator case was quantified with a truncation limit of 1E-13/year.
2. The vacuum breaker case was also quantified with the Rev. 4 PRA model (see Tables 11.3-6 & 11.3-7).

Table 11.3-5

Level 1 Sensitivity – Common Cause Factors – Detailed Model Results

Initiator Distribution	Level 1 (Rev. 2)	CCF (Rev. 2)
BOC	3.05E-10	5.08E-12
LOCA	1.06E-09	1.64E-11
LOOP	1.41E-09	0.00E+00
FDW	2.28E-09	0.00E+00
DHR	4.58E-10	3.99E-14
IORV	4.45E-09	3.14E-13
GEN	2.24E-09	0.00E+00
Total	1.22E-08	2.18E-11

Class Distribution	Level 1 (Rev. 2)	CCF (Rev. 2)
cdi	46.12%	75.03%
cdii	0.35%	1.70%
cdiii	36.99%	0.00%
cdiv	15.35%	0.00%
cdv	1.20%	23.27%

Drywell Water Level Classes	Level 1 (Rev. 2)	CCF (Rev. 2)
DWL-L	55.70%	0.00%
DWL-M	0.82%	0.00%
DWL-H	5.00%	75.10%
Other	38.48%	24.90%

Top Sequences	Level 1 (Rev. 2)	CCF (Rev. 2)
AT-LOCA004	NA	0.00%
AT-T-FDW013	3.00%	NA
AT-T-FDW015	0.92%	NA
AT-T-GEN021	7.20%	NA
AT-T-GEN023	10.70%	NA
AT-T-GEN026	2.03%	NA
AT-T-IORV009	1.30%	NA
AT-T-LOPP013	5.57%	NA
BOC-FDWA027	0.64%	NA
BOC-RWCU049	NA	14.20%
BOC-RWCU015	NA	8.00%
BOC-RWCU046	NA	1.09%
LL-S050	0.69%	NA
LL-S-FDWB012	NA	0.08%
LL-S-FDWB045	4.30%	NA
RVR-014	NA	75.10%
T-FDW050	9.35%	NA
T-FDW060	0.72%	NA
T-FDW061	2.66%	NA
T-GEN067	1.38%	NA
T-IORV015	NA	0.76%
T-IORV017	5.39%	NA
T-IORV018	7.39%	NA
T-IORV030	NA	0.05%
T-IORV031	NA	0.63%
T-IORV063	16.90%	NA
T-IORV065	5.70%	NA
T-LOPP050	3.51%	NA
T-LOPP061	1.57%	NA
T-SW002	NA	0.18%

Table 11.3-6
Level 1 Sensitivity – Vacuum Breaker and Squib Valves – CDF Results

Case (Rev. 2)	CDF (/year)	Difference
Baseline L1	1.22E-08	N/A
All SQV x10	5.24E-08	3.30E+00
All SQV x5	2.90E-08	1.38E+00
SLCS SQV x10	1.40E-08	1.48E-01
ADS SQV x10	3.40E-08	1.79E+00
INJ SQV x10	2.88E-08	1.36E+00
EQU SQV x10	1.22E-08	0.00E+00

Table 11.3-6A

Level 1 Sensitivity – Vacuum Breaker and Squib Valves – Rev. 4 CDF Results

Case (Rev. 4, truncation at 1E-15/year)	CDF (/year)	Difference
Baseline L1	1.68E-08	N/A
Vacuum Breaker	1.75E-08	4.17E-02
Case (Rev. 4, truncation at 1E-14/year)	CDF (/year)	Difference
Baseline L1	1.64E-08	N/A
All SQV x10	1.13E-07	5.89E+00

**Table 11.3-7
Level 1 Sensitivity - Squib Valves – Detailed Model Results**

Initiator Distribution	Level 1	ALL_x5	ALL_x10	ADS_X10	SLCS_X10	INJ_X10	EQU_x10
BOC	3.05E-10	7.17E-10	1.25E-09	8.21E-10	3.24E-10	7.10E-10	3.05E-10
LOCA	1.06E-09	2.36E-09	4.00E-09	1.61E-09	1.06E-09	3.44E-09	1.06E-09
LOOP	1.41E-09	2.70E-09	4.38E-09	2.90E-09	1.45E-09	2.84E-09	1.41E-09
FDW	2.28E-09	5.80E-09	1.03E-08	6.36E-09	2.42E-09	6.04E-09	2.28E-09
DHR	4.58E-10	7.13E-10	1.08E-09	7.14E-10	6.80E-10	6.03E-10	4.58E-10
IORV	4.45E-09	1.44E-08	2.69E-08	1.88E-08	4.49E-09	1.26E-08	4.47E-09
GEN	2.24E-09	3.13E-09	4.49E-09	2.84E-09	3.57E-09	2.58E-09	2.24E-09
Total	1.22E-08	2.98E-08	5.24E-08	3.40E-08	1.40E-08	2.88E-08	1.22E-08
Class Distribution	Level 1	ALL_x5	ALL_x10	ADS_X10	SLCS_X10	INJ_X10	EQU_x10
cdi	46.12%	45.18%	44.48%	19.81%	40.31%	77.10%	46.13%
cdii	0.35%	0.14%	0.08%	0.12%	0.30%	0.14%	0.34%
cdiii	36.99%	45.77%	48.16%	74.11%	32.31%	15.68%	36.98%
cdiv	15.35%	8.39%	6.95%	5.50%	26.03%	6.50%	15.34%
cdv	1.20%	0.52%	0.33%	0.45%	1.05%	0.57%	1.20%
Drywell Water Level Classes	Level 1	ALL_x5	ALL_x10	ADS_X10	SLCS_X10	INJ_X10	EQU_x10
DWL-L	55.70%	48.23%	46.32%	23.24%	61.30%	74.32%	55.72%
DWL-M	0.82%	0.70%	0.66%	0.29%	0.72%	1.19%	0.82%
DWL-H	5.00%	4.63%	4.48%	1.79%	4.36%	8.14%	5.00%
Other	38.48%	46.44%	48.54%	74.68%	33.62%	16.35%	38.47%
Top Sequences	Level 1	ALL_x5	ALL_x10	ADS_X10	SLCS_X10	INJ_X10	EQU_x10
AT-T-FDW013	3.00%	1.23%	0.70%	1.07%	2.62%	1.27%	3.00%
AT-T-FDW015	0.92%	NA	NA	NA	1.76%	NA	0.92%
AT-T-GEN021	7.20%	2.95%	1.68%	2.58%	6.29%	3.05%	7.20%
AT-T-GEN023	10.70%	6.25%	5.47%	3.83%	20.50%	4.53%	10.70%
AT-T-GEN026	2.03%	0.83%	NA	0.73%	1.77%	0.86%	2.03%
AT-T-IORV009	1.30%	NA	NA	NA	1.14%	NA	1.30%
AT-T-LOPP013	5.57%	2.28%	1.30%	2.00%	4.87%	2.36%	5.57%
BOC-FDWA027	0.64%	0.62%	0.60%	NA	0.56%	1.10%	0.64%
BOC-FDWA029	NA	NA	0.51%	0.78%	NA	NA	NA
LL-S050	0.69%	NA	NA	NA	0.61%	NA	0.69%
LL-S-FDWA013	NA	NA	NA	NA	NA	0.65%	NA

Table 11.3-7
Level 1 Sensitivity - Squib Valves – Detailed Model Results

Top Sequences	Level 1	ALL_x5	ALL_x10	ADS_X10	SLCS_X10	INJ_X10	EQU_x10
LL-S-FDWB045	4.30%	4.10%	4.00%	1.54%	3.75%	7.28%	4.30%
ML-L011	NA	NA	NA	NA	NA	0.81%	NA
SL-S017	NA	NA	NA	NA	NA	0.82%	NA
SL-S018	NA	NA	NA	0.58%	NA	NA	NA
T-FDW050	9.35%	8.94%	8.74%	3.35%	8.17%	15.90%	9.36%
T-FDW060	0.72%	1.48%	1.70%	2.62%	0.63%	NA	0.72%
T-FDW061	2.66%	5.07%	5.77%	8.88%	2.32%	1.13%	2.66%
T-GEN021	NA	NA	NA	NA	NA	0.71%	NA
T-GEN022	NA	1.24%	1.43%	2.20%	NA	NA	NA
T-GEN067	1.38%	1.33%	1.32%	NA	1.20%	2.39%	1.38%
T-GEN069	NA	1.03%	1.15%	1.77%	NA	NA	NA
T-IORV017	5.39%	5.19%	5.10%	1.93%	4.70%	9.28%	5.39%
T-IORV018	7.39%	15.20%	17.40%	26.80%	6.45%	3.13%	7.39%
T-IORV063	16.90%	16.20%	15.80%	6.06%	14.80%	28.80%	16.90%
T-IORV065	5.70%	11.70%	13.40%	20.60%	4.98%	2.42%	5.70%
T-LOPP050	3.51%	3.43%	3.41%	1.26%	3.06%	6.20%	3.51%
T-LOPP060	NA	0.56%	0.65%	1.01%	NA	NA	NA
T-LOPP061	1.57%	2.20%	2.39%	3.68%	1.37%	0.66%	1.57%

Table 11.3-7A

Level 1 Sensitivity - Vacuum Breaker & Squib Valves – Rev. 4 Detailed Model Results

Initiator Distribution	Baseline L1 (Rev. 4)	VB x10 (Rev. 4)	SQV x10 (Rev. 4)
BOC	2.11E-10	2.12E-10	9.13E-10
LOCA	6.54E-09	7.07E-09	6.14E-08
LOOP	1.70E-09	1.74E-09	5.94E-09
FDW	8.47E-10	8.60E-10	1.95E-09
DHR	6.21E-10	6.25E-10	1.71E-09
IORV	3.68E-09	3.78E-09	3.32E-08
GEN	3.21E-09	3.22E-09	7.92E-09
Total	1.68E-08	1.75E-08	1.13E-07
Class Distribution	Baseline L1 (Rev. 4)	VB x10 (Rev. 4)	SQV x10 (Rev. 4)
cdi	65.17%	62.68%	75.71%
cdii	0.18%	0.49%	0.07%
cdiii	18.06%	17.36%	20.17%
cdiv	16.12%	15.49%	3.96%
cdv	0.47%	3.98%	0.08%
Top Sequences	Baseline L1 (Rev. 4)	VB x10 (Rev. 4)	SQV x10 (Rev. 4)
AT-T-GEN023	12.70%	12.20%	3.26%
T-IORV063	10.30%	9.91%	13.90%
T-IORV065	9.57%	9.19%	13.90%
ML-L017	5.43%	5.22%	7.34%
AT-T-GEN021	4.93%	4.74%	0.71%
ML-L019	4.87%	4.69%	7.27%
ML-L020	4.69%	4.51%	6.99%
SL-S023	4.30%	4.14%	5.81%
SL-L024	4.13%	3.97%	5.58%
T-LOPP061	4.05%	3.88%	2.29%

Table 11.3-8
Level 1 Sensitivity – Test and Maintenance Unavailability – CDF Results

Case (Rev. 2)	CDF (/year)	Difference	RAW
Baseline L1	1.22E-08	N/A	N/A
noTM	1.11E-08	-9.02E-02	0.9
0.1xTM	1.12E-08	-8.20E-02	0.9
10xTM	2.61E-08	1.14E+00	2.1

Table 11.3-9

Level 1 Sensitivity – Test and Maintenance Unavailability – Detailed Model Results

Initiator Distribution	Level 1 (Rev. 2)	noTM (Rev. 2)	0_1xTM (Rev. 2)	10xTM (Rev. 2)
BOC	3.05E-10	3.05E-10	3.05E-10	3.17E-10
LOCA	1.06E-09	1.01E-09	1.02E-09	1.67E-09
LOOP	1.41E-09	1.27E-09	1.28E-09	3.09E-09
FDW	2.28E-09	2.27E-09	2.27E-09	2.42E-09
DHR	4.58E-10	4.49E-10	4.50E-10	5.73E-10
IORV	4.45E-09	3.62E-09	3.70E-09	1.51E-08
GEN	2.24E-09	2.19E-09	2.18E-09	2.95E-09
Total	1.22E-08	1.11E-08	1.12E-08	2.61E-08
Class Distribution	Level 1 (Rev. 2)	noTM (Rev. 2)	0_1xTM (Rev. 2)	10xTM (Rev. 2)
cdi	46.12%	45.39%	45.47%	49.86%
cdii	0.35%	0.36%	0.36%	2.02%
cdiii	36.99%	36.02%	36.10%	40.16%
cdiv	15.35%	16.91%	16.76%	7.38%
cdv	1.20%	1.33%	1.31%	0.58%
Drywell Water Level Classes	Level 1 (Rev. 2)	noTM (Rev. 2)	0_1xTM (Rev. 2)	10xTM (Rev. 2)
DWL-L	55.70%	56.08%	56.04%	54.01%
DWL-M	0.82%	0.79%	0.79%	0.92%
DWL-H	5.00%	5.49%	5.45%	2.37%
Other	38.48%	37.64%	37.72%	42.70%
Top Sequences	Level 1 (Rev. 2)	noTM (Rev. 2)	0_1xTM (Rev. 2)	10xTM (Rev. 2)
AT-T-FDW013	3.00%	3.20%	3.18%	1.82%
AT-T-FDW015	0.92%	1.01%	1.00%	NA
AT-T-GEN021	7.20%	7.55%	7.51%	4.99%
AT-T-GEN023	10.70%	11.80%	11.70%	4.99%
AT-T-GEN026	2.03%	2.23%	2.21%	1.08%
AT-T-IORV009	1.30%	1.36%	1.36%	0.91%
AT-T-LOPP013	5.57%	5.13%	5.18%	6.50%
BOC-FDWA027	0.64%	0.71%	0.70%	NA
LL-S050	0.69%	0.77%	0.76%	NA
LL-S-FDWA027	4.30%	4.73%	4.69%	2.01%
SL-S017	NA	NA	NA	0.75%

Table 11.3-9

Level 1 Sensitivity – Test and Maintenance Unavailability – Detailed Model Results

Top Sequences	Level 1 (Rev. 2)	noTM (Rev. 2)	0_1xTM (Rev. 2)	10xTM (Rev. 2)
T-FDW050	9.35%	10.30%	10.20%	4.39%
T-FDW060	0.72%	0.79%	0.79%	NA
T-FDW061	2.66%	2.93%	2.90%	1.26%
T-GEN067	1.38%	1.39%	1.39%	1.21%
T-GEN069	NA	NA	NA	0.64%
T-IORV013	NA	NA	NA	0.83%
T-IORV017	5.39%	4.78%	4.84%	8.70%
T-IORV018	7.39%	6.56%	6.64%	11.60%
T-IORV027	NA	NA	NA	0.62%
T-IORV063	16.90%	15.00%	15.20%	26.40%
T-IORV065	5.70%	5.06%	5.12%	8.91%
T-LOPP050	3.51%	3.75%	3.72%	2.64%
T-LOPP061	1.57%	1.57%	1.56%	1.89%

Table 11.3-10
Other Level 1 Sensitivity -- Detailed Model Results

Initiator Distribution	Level 1 (Rev. 2)	SLCS (Rev. 2)	SRVCCF (Rev. 2)	SPC/LPCI (Rev. 2)	TB (Rev. 2)	CRD (Rev. 2)	VB (Rev. 2)
BOC	3.05E-10	2.90E-10	3.05E-10	3.05E-10	3.05E-10	3.05E-10	3.08E-10
LOCA	1.06E-09	1.05E-09	1.06E-09	1.06E-09	1.06E-09	1.06E-09	1.82E-09
LOOP	1.41E-09	1.37E-09	1.41E-09	1.41E-09	1.41E-09	1.41E-09	1.48E-09
FDW	2.28E-09	2.17E-09	2.28E-09	2.33E-09	2.28E-09	2.28E-09	2.42E-09
DHR	4.58E-10	2.87E-10	4.58E-10	4.62E-10	4.58E-10	4.58E-10	4.63E-10
IORV	4.45E-09	4.42E-09	4.47E-09	4.46E-09	4.47E-09	4.45E-09	4.68E-09
GEN	2.24E-09	1.22E-09	2.24E-09	2.28E-09	2.24E-09	2.24E-09	2.25E-09
Total	1.22E-08	1.08E-08	1.22E-08	1.23E-08	1.22E-08	1.22E-08	1.34E-08
Class Distribution	Level 1 (Rev. 2)	SLCS (Rev. 2)	SRVCCF (Rev. 2)	SPC/LPCI (Rev. 2)	TB (Rev. 2)	CRD (Rev. 2)	VB (Rev. 2)
cdi	46.12%	51.95%	46.13%	45.84%	46.13%	46.12%	42.50%
cdii	0.35%	0.38%	0.34%	1.13%	0.34%	0.35%	2.74%
cdiii	36.99%	41.65%	36.98%	36.64%	36.98%	36.99%	33.80%
cdiv	15.35%	4.66%	15.35%	15.19%	15.35%	15.35%	14.01%
cdv	1.20%	1.35%	1.20%	1.19%	1.20%	1.20%	6.95%
Drywell Water Level Classes	Level 1 (Rev. 2)	SLCS (Rev. 2)	SRVCCF (Rev. 2)	SPC/LPCI (Rev. 2)	TB (Rev. 2)	CRD (Rev. 2)	VB (Rev. 2)
DWL-L	55.70%	50.13%	55.71%	55.35%	55.71%	55.70%	51.21%
DWL-M	0.82%	0.92%	0.82%	0.81%	0.82%	0.82%	0.75%
DWL-H	5.00%	5.62%	5.00%	4.96%	5.00%	5.00%	4.56%
Other	38.48%	43.32%	38.47%	38.88%	38.47%	38.48%	43.48%
Top Sequences	Level 1 (Rev. 2)	SLCS (Rev. 2)	SRVCCF (Rev. 2)	SPC/LPCI (Rev. 2)	TB (Rev. 2)	CRD (Rev. 2)	VB (Rev. 2)
AT-T-FDW013	3.00%	3.38%	3.00%	2.97%	3.00%	3.00%	2.74%
AT-T-FDW015	0.92%	NA	0.92%	0.91%	0.92%	0.92%	0.84%
AT-T-GEN021	7.20%	8.11%	7.20%	7.13%	7.20%	7.20%	6.57%
AT-T-GEN023	10.70%	0.90%	10.70%	10.60%	10.70%	10.70%	9.76%
AT-T-GEN026	2.03%	2.29%	2.03%	2.01%	2.03%	2.03%	1.85%
AT-T-IORV009	1.30%	1.47%	1.30%	1.29%	1.30%	1.30%	1.19%
AT-T-LOPP013	5.57%	6.28%	5.57%	5.52%	5.57%	5.57%	5.09%
BOC-FDWA027	0.64%	0.73%	0.64%	0.64%	0.64%	0.64%	NA
LL-S050	0.69%	0.78%	0.69%	0.69%	0.69%	0.69%	NA
LL-S-FDWB045	4.30%	4.84%	4.30%	4.27%	4.30%	4.30%	3.92%
ML-L013	NA	NA	NA	NA	NA	NA	5.33%

Table 11.3-10
Other Level 1 Sensitivity – – Detailed Model Results

Top Sequences	Level 1 (Rev. 2)	SLCS (Rev. 2)	SRVCCF (Rev. 2)	SPC/LPCI (Rev. 2)	TB (Rev. 2)	CRD (Rev. 2)	VB (Rev. 2)
T-FDW050	9.35%	10.50%	9.35%	9.29%	9.36%	9.35%	8.54%
T-FDW052	NA	NA	NA	NA	NA	NA	0.85%
T-FDW060	0.72%	0.81%	0.72%	0.72%	0.72%	0.72%	NA
T-FDW061	2.66%	2.99%	2.66%	2.63%	2.66%	2.66%	2.43%
T-GEN067	1.38%	1.55%	1.38%	1.36%	1.38%	1.38%	1.26%
T-GEN069	NA	0.69%	NA	NA	NA	NA	NA
T-IORV015	NA	NA	NA	NA	NA	NA	0.69%
T-IORV017	5.39%	6.07%	5.39%	5.39%	5.39%	5.39%	4.92%
T-IORV018	7.39%	8.33%	7.39%	7.34%	7.39%	7.39%	6.75%
T-IORV063	16.90%	19.10%	16.90%	16.80%	16.90%	16.90%	15.40%
T-IORV065	5.70%	6.42%	5.70%	5.65%	5.70%	5.70%	5.21%
T-LOPP050	3.51%	3.95%	3.51%	3.50%	3.51%	3.51%	3.20%
T-LOPP061	1.57%	1.76%	1.57%	1.55%	1.57%	1.57%	1.43%

Table 11.3-11
Level 1 Sensitivity – Component Type Code Data – CDF Results

Case (Rev. 2)	Type Code (TC) Description	Baseline TC Prob.	Sens. TC Prob. (x10)	CDF (/year)	Difference
Baseline L1 (truncation at 1E-14/year)	N/A	N/A	N/A	1.18E-08	N/A
MTS CO x10	Manual Transfer Switch Spuriously Opens	1.00E-06	1.00E-05	1.18E-08	0.00E+00
NMO CC x10	Nitrogen Motor Operated Valve Fails to Open	1.00E-04	1.00E-03	1.18E-08	0.00E+00
NMO OC x10	Nitrogen Motor Operated Valve Transfers Closed	1.00E-07	1.00E-06	1.18E-08	0.00E+00
NMO OO x10	Nitrogen Motor Operated Valve Fail to Close	1.00E-04	1.00E-03	1.18E-08	0.00E+00
NPO CC x10	Nitrogen Piston Operated Valve Fails to Open	1.00E-04	1.00E-03	1.18E-08	0.00E+00
NPO OC x10	Nitrogen Piston Operated Valve Transfers Closed	1.00E-07	1.00E-06	1.18E-08	0.00E+00

Table 11.3-12
Level 1 Sensitivity – LOCA – Detailed Model Results

Initiator Distribution	Level 1 (Rev. 2)	LOCA_x2 (Rev. 2)	LOCA_ICS (Rev. 2)
BOC	3.05E-10	6.16E-10	3.05E-10
LOCA	1.06E-09	2.12E-09	1.06E-09
LOOP	1.41E-09	1.41E-09	1.41E-09
FDW	2.28E-09	2.28E-09	2.28E-09
DHR	4.58E-10	4.60E-10	4.58E-10
IORV	4.47E-09	4.47E-09	4.47E-09
GEN	2.24E-09	2.24E-09	2.24E-09
Total	1.22E-08	1.36E-08	1.22E-08
Class Distribution	Level 1 (Rev. 2)	LOCA_x2 (Rev. 2)	LOCA_ICS (Rev. 2)
cdi	46.12%	48.44%	46.13%
cdii	0.35%	0.35%	0.34%
cdiii	36.99%	34.44%	36.98%
cdiv	15.35%	14.72%	15.35%
cdv	1.20%	2.06%	1.20%
Drywell Water Level Classes	Level 1 (Rev. 2)	LOCA_x2 (Rev. 2)	LOCA_ICS (Rev. 2)
DWL-L	55.70%	52.82%	55.71%
DWL-M	0.82%	1.50%	0.82%
DWL-H	5.00%	8.86%	5.00%
Other	38.48%	36.81%	38.47%
Top Sequences	Level 1 (Rev. 2)	LOCA_x2 (Rev. 2)	LOCA_ICS (Rev. 2)
AT-T-FDW013	3.00%	2.77%	3.00%
AT-T-FDW015	0.92%	NA	0.92%
AT-T-GEN021	7.20%	6.53%	7.20%
AT-T-GEN023	10.70%	9.70%	10.70%
AT-T-GEN026	2.03%	1.84%	2.03%
AT-T-IORV009	1.30%	1.17%	1.30%
AT-T-LOPP013	5.57%	5.01%	5.57%
BOC-FDWA027	0.64%	1.16%	0.64%
LL-S050	0.69%	1.25%	0.69%
LL-S-FDWB045	4.30%	7.73%	4.30%
ML-L011	NA	0.86%	NA
ML-L013	NA	1.05%	NA

Table 11.3-12
Level 1 Sensitivity – LOCA – Detailed Model Results

Top Sequences	Level 1 (Rev. 2)	LOCA_x2 (Rev. 2)	LOCA_ICS (Rev. 2)
T-FDW050	9.35%	8.41%	9.36%
T-FDW060	0.72%	NA	0.72%
T-FDW061	2.66%	2.39%	2.66%
T-GEN067	1.38%	1.24%	1.38%
T-IORV017	5.39%	4.84%	5.39%
T-IORV018	7.39%	6.65%	7.39%
T-IORV063	16.90%	15.20%	16.90%
T-IORV065	5.70%	5.13%	5.70%
T-LOPP050	3.51%	3.16%	3.51%
T-LOPP061	1.57%	1.41%	1.57%

Table 11.3-13
Level 1 Sensitivity – Accumulator – Detail Model Results

Initiator Distribution	Level 1 @ 1E-13 (Rev. 2)	ACC (Rev. 2)
BOC	2.44E-10	2.29E-08
LOCA	9.55E-10	1.93E-09
LOOP	1.03E-09	2.28E-09
FDW	2.20E-09	8.70E-07
DHR	4.07E-10	2.38E-06
IORV	3.75E-09	3.77E-08
GEN	2.12E-09	2.10E-06
Total	1.07E-08	5.42E-06
Class Distribution	Level 1 @ 1E-13 (Rev. 2)	ACC (Rev. 2)
cdi	46.56%	0.11%
cdii	0.25%	99.75%
cdiii	34.53%	0.10%
cdiv	17.38%	0.03%
cdv	1.27%	0.00%
Drywell Water Level Classes	Level 1 @ 1E-13 (Rev. 2)	ACC (Rev. 2)
DWL-L	57.52%	0.13%
DWL-M	0.77%	0.00%
DWL-H	5.67%	0.01%
Other	36.05%	99.86%
Top Sequences	Level 1 @ 1E-13 (Rev. 2)	ACC (Rev. 2)
AT-T-FDW013	3.19%	0.01%
AT-T-FDW015	1.04%	NA
AT-T-GEN021	7.00%	0.01%
AT-T-GEN023	12.20%	0.02%
AT-T-GEN026	2.24%	NA
AT-T-IORV009	1.40%	NA
AT-T-LOPP013	4.18%	0.01%
BOC-FDWA027	0.72%	NA
LL-S007	NA	0.01%
LL-S050	0.80%	NA
LL-S-FDWB045	4.91%	0.01%

Table 11.3-13
Level 1 Sensitivity – Accumulator – Detail Model Results

Top Sequences	Level 1 @ 1E-13 (Rev. 2)	ACC (Rev. 2)
SL-S023	NA	0.01%
T-FDW003	NA	3.82%
T-FDW050	10.50%	0.02%
T-FDW060	0.81%	NA
T-FDW061	2.94%	0.01%
T-GEN004	NA	57.80%
T-GEN027	NA	0.01%
T-GEN067	1.43%	NA
T-IORV017	4.62%	NA
T-IORV018	6.81%	0.01%
T-IORV023	NA	0.58%
T-IORV063	16.80%	0.05%
T-IORV065	5.39%	0.04%
T-LOPP008	NA	0.02%
T-LOPP050	3.41%	0.01%
T-LOPP061	1.21%	NA
T-SW002	NA	37.50%
T-SW015	NA	0.01%

**Table 11.3-14
Level 1 Sensitivity – System Importance – CDF, RAW and F-V Results**

Systems/ Functions		Results				Risk Significance ¹	
System ID	Description	CDF False	CDF True	FV	RAW	RAW	FV
B21	Nuclear Boiler System	8.73E-09	3.02E-02	4.67E-01	1.85E+06	Yes	Yes
B32	Isolation Condenser System	1.53E-08	5.78E-06	6.52E-02	3.53E+02	Yes	Yes
C12	Control Rod Drive	1.06E-08	1.59E-07	3.52E-01	9.71E+00	Yes	Yes
C41	Standby Liquid Control System	1.40E-08	4.08E-07	1.45E-01	2.49E+01	Yes	Yes
C51	Neutron Monitoring System	1.63E-08	4.13E-07	4.09E-03	2.52E+01	Yes	No
C62	N-DCIS Non Safety Control System	1.58E-08	3.05E-04	3.46E-02	1.86E+04	Yes	Yes
C63	Q-DCIS Safety Related Control System	1.48E-08	1.97E-05	9.57E-02	1.21E+03	Yes	Yes
C71	Reactor Protection System	1.64E-08	1.91E-02	2.90E-01	1.17E+06	Yes	Yes
C72	Diverse Protection System	1.57E-08	3.88E-05	4.08E-02	2.37E+03	Yes	Yes
C74	Safety System Logic and Control	1.64E-08	4.08E-07	0.00E+00	2.49E+01	Yes	No
C99 (PRA-assumed system ID)	Independent Control Platform - HPCRD Isolation Bypass	1.64E-08	1.31E-07	0.00E+00	7.98E+00	Yes	No
E50-VE	Gravity Driven Cooling System - Equalizing	1.04E-08	1.56E-04	3.65E-01	9.52E+03	Yes	Yes
E50-VI	Gravity Driven Cooling System - Injection	1.04E-08	3.13E-05	3.65E-01	1.91E+03	Yes	Yes
G21-LPCI	Fuel and Auxiliary Pools Cooling System - LPCI	1.63E-08	6.29E-08	2.83E-01	3.85E+00	No	Yes
G21-SPC	Fuel and Auxiliary Pools Cooling System - SPC	1.64E-08	1.67E-08	0.00E+00	1.02E+00	No	No
G31	Reactor Water Cleanup/Shutdown Cooling System	1.58E-08	1.66E-08	3.46E-02	1.01E+00	No	Yes
N21	Condensate and Feedwater System	1.54E-08	6.89E-08	5.91E-02	4.21E+00	No	Yes
N37	Turbine Bypass System	1.64E-08	1.64E-08	0.00E+00	1.00E+00	No	No
N71	Circulating Water System	1.54E-08	1.64E-08	5.91E-02	1.00E+00	No	Yes
P21	Reactor Component Cooling Water System	1.49E-08	1.99E-07	8.96E-02	1.22E+01	Yes	Yes

Table 11.3-14
Level 1 Sensitivity – System Importance – CDF, RAW and F-V Results

Systems/ Functions		Results				Risk Significance ¹	
System ID	Description	CDF False	CDF True	FV	RAW	RAW	FV
P22	Turbine Component Cooling Water System	1.64E-08	7.09E-08	0.00E+00	4.33E+00	No	No
P30	Condensate Storage and Transfer System	1.64E-08	1.58E-07	0.00E+00	9.65E+00	Yes	No
P41	Plant Service Water System	1.61E-08	1.83E-06	1.63E-02	1.12E+02	Yes	Yes
P51	Service Air System	1.64E-08	7.49E-08	0.00E+00	4.58E+00	No	No
P52	Instrument Air System	1.64E-08	7.49E-08	0.00E+00	4.58E+00	No	No
P54	High Pressure Nitrogen Supply System	1.64E-08	1.69E-08	0.00E+00	1.04E+00	No	No
R10	Electrical Power Distribution System	1.35E-08	1.00E-06	1.75E-01	6.12E+01	Yes	Yes
R11	Medium Voltage Distribution System	1.62E-08	2.30E-06	1.02E-02	1.40E+02	Yes	Yes
R12	Low Voltage Distribution System	1.64E-08	1.84E-06	0.00E+00	1.12E+02	Yes	No
R13-NS	Uninterruptible AC Power – Non-Safety	1.62E-08	2.71E-04	1.02E-02	1.66E+04	Yes	Yes
R13-S	Uninterruptible AC Power – Safety	1.63E-08	3.04E-06	4.09E-03	1.86E+02	Yes	No
R16-NS	Direct Current Power Supply – Non-Safety	1.63E-08	5.34E-05	4.09E-03	3.26E+03	Yes	No
R16-S	Direct Current Power Supply – Safety	1.64E-08	3.08E-06	0.00E+00	1.88E+02	Yes	No
R21	Standby On Site AC Power Supply	1.40E-08	9.49E-08	1.45E-01	5.80E+00	Yes	Yes
T10	Containment System	1.63E-08	3.59E-03	4.09E-03	2.19E+05	Yes	No
T15	Passive Containment Cooling System	1.64E-08	8.01E-06	0.00E+00	4.90E+02	Yes	No
T23	Suppression Pool?	1.64E-08	1.70E-08	0.00E+00	1.04E+00	No	No
T31	Containment Inerting System	1.64E-08	1.64E-08	0.00E+00	1.00E+00	No	No
U40	Reactor Building HVAC	1.64E-08	1.64E-08	0.00E+00	1.00E+00	No	No
U43	Fire Protection System	1.64E-08	5.97E-08	0.00E+00	3.65E+00	No	No

Note 1: Risk significance based on a Fussell-Vesely importance value > 0.01 and/or a risk achievement worth (RAW) value > 5.

Table 11.3-15
Level 1 Sensitivity – System Importance - RAW system Ranking

Systems/ Functions		Results	
System ID	Description	RAW	Ranking
B21	Nuclear Boiler System	1850000.0	1
C71	Reactor Protection System	1170000.0	2
T10	Containment System	219000.0	3
C62	N-DCIS Non Safety Control System	18600.0	4
R13-NS	Uninterruptible AC Power – Non-Safety	16600.0	5
E50-VE	Gravity Driven Cooling System - Equalizing	9520.0	6
R16-NS	Direct Current Power Supply – Non-Safety	3260.0	7
C72	Diverse Protection System	2370.0	8
E50-VI	Gravity Driven Cooling System - Injection	1910.0	9
C63	Q-DCIS Safety Related Control System	1210.0	10
T15	Passive Containment Cooling System	490.0	11
B32	Isolation Condenser System	353.0	12
R16-S	Direct Current Power Supply - Safety	188.0	13
R13-S	Uninterruptible AC Power - Safety	186.0	14
R11	Medium Voltage Distribution System	140.0	15
P41	Plant Service Water System	112.0	16
R12	Low Voltage Distribution System	112.0	17
R10	Electrical Power Distribution System	61.2	18
C51	Neutron Monitoring System	25.2	19
C41	Standby Liquid Control System	24.9	20
C74	Safety System Logic and Control	24.9	21
P21	Reactor Component Cooling Water System	12.2	22
C12	Control Rod Drive	9.7	23
P30	Condensate Storage and Transfer System	9.7	24
C99	Independent Control Platform - HPCRD Isolation Bypass	8.0	25
R21	Standby On Site AC Power Supply	5.8	26

Table 11.3-16**Level 1 Sensitivity – System Importance - FV System Ranking**

Systems/ Functions		Results	
System ID	Description	FV	Ranking
B21	Nuclear Boiler System	4.67E-01	1
E50-VE	Gravity Driven Cooling System - Equalizing	3.65E-01	2
E50-VI	Gravity Driven Cooling System - Injection	3.65E-01	3
C12	Control Rod Drive	3.52E-01	4
C71	Reactor Protection System	2.90E-01	5
G21-LPCI	Fuel and Auxiliary Pools Cooling System - LPCI	2.83E-01	6
R10	Electrical Power Distribution System	1.75E-01	7
C41	Standby Liquid Control System	1.45E-01	8
R21	Standby On Site AC Power Supply	1.45E-01	9
C63	Q-DCIS Safety Related Control System	9.57E-02	10
P21	Reactor Component Cooling Water System	8.96E-02	11
B32	Isolation Condenser System	6.52E-02	12
N21	Condensate and Feedwater System	5.91E-02	13
N71	Circulating Water System	5.91E-02	14
C72	Diverse Protection System	4.08E-02	15
C62	N-DCIS Non Safety Control System	3.46E-02	16
G31	Reactor Water Cleanup/Shutdown Cooling System	3.46E-02	17
P41	Plant Service Water System	1.63E-02	18
R11	Medium Voltage Distribution System	1.02E-02	19
R13-NS	Uninterruptible AC Power - Non-Safety	1.02E-02	20

Table 11.3-17

Level 1 Sensitivity – Passive Component Demand – CDF and F-V Results

Sequences – Depressurization (Rev. 2)	Demand Sensitivity	
	F-V	CDF
DPV – All	6.12E-01	7.47E-09
DPV - Failure	2.12E-01	2.59E-09
DPV - Success	4.00E-01	4.88E-09
Sequences – Passive Decay Heat Removal (Rev. 2)	Demand Sensitivity	
	F-V	CDF
Makeup Failure - ICS	2.35E-01	2.86E-09
Makeup Failure - ICS and PCCS	3.04E-05	3.71E-13
Makeup Failure - PCCS or Pool	2.14E-04	2.61E-12
PCCS	2.10E-04	2.56E-12
Pool	3.90E-06	4.76E-14
TOTAL	2.35E-01	2.87E-09

Table 11.3-18
Level 2 Sensitivity – Base Model and Sensitivity – nTSL Results

Truncation	Level 2 – Base		Level 2 - CIS		Difference	
	nTSL (Rev. 2)	CDF (Rev. 2)	nTSL (Rev. 2)	CDF (Rev. 2)	nTSL (Rev. 2)	CDF (Rev. 2)
1.00E-15	9.62E-10	1.22E-08	9.62E-10	1.22E-08	0.0E+00	0.0E+00
Truncation	Level 2 – Base		Level 2 - PU		Difference	
	nTSL (Rev. 2)	CDF (Rev. 2)	nTSL (Rev. 2)	CDF (Rev. 2)	nTSL (Rev. 2)	CDF (Rev. 2)
1.00E-15	9.62E-10	1.22E-08	9.64E-10	1.22E-08	2.08E-03	0.0E+00
Truncation	Level 2 – Base		Level 2 – VB		Difference	
	nTSL (Rev. 2)	CDF (Rev. 2)	nTSL (Rev. 2)	CDF (Rev. 2)	nTSL (Rev. 2)	CDF (Rev. 2)
1.00E-15	9.62E-10	1.22E-08	2.13E-09	1.34E-08	1.21E+00	9.84E-02

Table 11.3-18A

Level 2 Sensitivity – Base Model and Sensitivity – nTSL Rev. 4 Results

Level 2 – Base		Level 2 - SQV		Difference	
nTSL	CDF	nTSL	CDF	nTSL	CDF
(Rev. 4)	(Rev. 4)	(Rev. 4)	(Rev. 4)	(Rev. 4)	(Rev. 4)
1.39E-09	1.68E-08	1.18E-08	1.13E-07	7.49E+00	5.73E+00
Level 2 – Base		Level 2 – VB		Difference	
nTSL	CDF	nTSL	CDF	nTSL	CDF
(Rev. 4)	(Rev. 4)	(Rev. 4)	(Rev. 4)	(Rev. 4)	(Rev. 4)
1.39E-09	1.68E-08	2.06E-09	1.75E-08	4.82E-01	4.17E-02

Table 11.3-19

Level 2 Sensitivity – Base Model and Sensitivity Detailed Model Results

Release Category	Level 2	CIS	PU	VB
	Freq. (Rev. 2)	Freq. (Rev. 2)	Freq. (Rev. 2)	Freq. (Rev. 2)
TSL	1.12E-08	1.12E-08	1.12E-08	1.12E-08
FR	2.34E-13	2.34E-13	2.34E-13	1.66E-11
OPW2	7.78E-14	7.78E-14	7.77E-14	7.77E-14
OPW1	3.21E-11	3.21E-11	3.21E-11	3.22E-11
OPVB	1.57E-11	1.57E-11	1.57E-11	3.78E-10
BYP	5.63E-11	5.63E-11	5.64E-11	5.96E-11
CCIW	9.92E-11	9.92E-11	9.94E-11	9.98E-11
CCID	9.02E-13	9.03E-13	9.02E-13	9.02E-13
EVE	6.10E-10	6.10E-10	6.10E-10	6.10E-10
DCH	PU	PU	2.56E-12	PU
BOC	1.47E-10	1.47E-10	1.47E-10	9.29E-10
TOTAL	1.22E-08	1.22E-08	1.22E-08	1.34E-08
nTSL	9.62E-10	9.62E-10	9.64E-10	2.13E-09
Initiator Distribution	Level 2	CIS	PU	VB
	F-V (Rev. 2)	F-V (Rev. 2)	F-V (Rev. 2)	F-V (Rev. 2)
%BOC-FDWA	1.37E-03	1.37E-03	1.39E-03	1.43E-03
%BOC-FDWB	2.17E-03	2.17E-03	2.21E-03	1.07E-03
%BOC-IC	0.00E+00	0.00E+00	0.00E+00	0.00E+00
%BOC-MS	6.78E-04	6.77E-04	6.76E-04	3.05E-04
%BOC-RWCU	6.43E-02	6.43E-02	6.42E-02	2.86E-02
%ISLOCA	0.00E+00	0.00E+00	0.00E+00	0.00E+00
%LL-S	7.53E-03	7.53E-03	7.50E-03	3.13E-02
%LL-S-FDWA	5.20E-02	5.20E-02	5.18E-02	2.35E-02
%LL-S-FDWB	5.73E-01	5.73E-01	5.71E-01	2.78E-01
%ML-L	9.80E-02	9.80E-02	9.77E-02	3.51E-01
%ML-L-RWCU	0.00E+00	0.00E+00	0.00E+00	0.00E+00
%RVR	1.78E-02	1.78E-02	1.78E-02	7.92E-03
%SL-L	1.82E-04	1.82E-04	1.84E-04	2.87E-04
%SL-L-RWCU	0.00E+00	0.00E+00	0.00E+00	0.00E+00
%SL-S	1.12E-03	1.12E-03	1.14E-03	1.85E-03
%T-FDW	3.66E-02	3.66E-02	3.71E-02	7.99E-02
%T-GEN	4.47E-02	4.46E-02	4.51E-02	2.10E-02
%T-IA	1.97E-02	1.97E-02	1.97E-02	9.85E-03
%T-IORV	5.06E-02	5.06E-02	5.16E-02	1.18E-01
%T-LOPP-GR	1.21E-02	1.21E-02	1.23E-02	2.27E-02
%T-LOPP-PC	8.81E-04	8.81E-04	8.85E-03	1.80E-03
%T-LOPP-SC	6.14E-03	6.14E-03	6.15E-02	1.17E-02
%T-LOPP-WR	2.34E-03	2.34E-03	2.35E-03	4.83E-03
%T-PCS	8.75E-03	8.73E-03	8.73E-03	4.03E-03
%T-SW	1.01E-03	1.01E-03	1.03E-03	2.06E-03

Table 11.3-19A

Level 2 Sensitivity – Rev. 4 Base Model and Sensitivity Detailed Model Results

Release Category	Baseline Level 2 (Rev. 4)	SQV (Rev. 4)	VB (Rev. 4)
TSL	1.54E-08	1.01E-07	1.54E-08
FR	9.15E-11	4.62E-10	1.21E-10
OPW2	8.51E-12	7.38E-11	8.50E-12
OPW1	1.97E-12	1.17E-12	1.97E-12
OPVB	2.08E-12	1.30E-12	2.85E-11
BYP	5.66E-11	3.15E-10	5.85E-11
CCIW	2.92E-12	2.07E-11	2.91E-12
CCID	1.47E-12	1.16E-11	1.47E-12
EVE	1.14E-09	1.08E-08	1.14E-09
BOC	7.95E-11	9.04E-11	6.95E-10
Total	1.68E-08	1.13E-07	1.75E-08
nTSL	1.39E-09	1.18E-08	2.06E-09
CCFP	0.082	0.105	0.118

Table 11.3-20
Focus Level 1 – CDF Results

Baseline L1 (Rev. 4)	L1 Focus	Difference
1.68E-08	3.30E-04	1.96E+04
Baseline L1 (Rev. 4)	L1 RTNSS	Difference
1.68E-08	3.14E-06	1.86E+02
L1 Focus	L1 RTNSS	Difference
3.30E-04	3.14E-06	-9.90E-01

Table 11.3-21
Focus Level 1 – Detailed Model Results

Initiator Distribution	Baseline L1 (Rev. 4)	L1 Focus	L1 RTNSS
BOC	2.11E-10	2.66E-06	4.13E-08
LOCA	6.54E-09	7.31E-07	1.59E-07
LOOP	1.70E-09	7.26E-06	1.16E-08
FDW	8.47E-10	2.57E-05	4.15E-08
DHR	6.21E-10	4.01E-05	6.76E-08
IORV	3.68E-09	1.47E-05	2.41E-06
GEN	3.21E-09	2.39E-04	4.05E-07
Total	1.68E-08	3.30E-04	3.14E-06
Class Distribution	Baseline L1 (Rev. 4)	L1 Focus	L1 RTNSS
cdi	65.17%	14.10%	95.62%
cdii	0.18%	0.12%	0.19%
cdiii	18.06%	75.44%	2.66%
cdiv	16.12%	10.12%	0.24%
cdv	0.47%	0.22%	1.29%
Top Sequences	Baseline L1 (Rev. 4)	L1 Focus	L1 RTNSS
AT-T-GEN023	12.70%	0.00%	0.07%
T-IORV063	10.30%	0.00%	24.30%
T-IORV065	9.57%	1.47%	22.10%
ML-L017	5.43%	0.00%	0.17%
AT-T-GEN021	4.93%	0.00%	1.23%
ML-L019	4.87%	0.00%	0.15%
ML-L020	4.69%	0.00%	0.00%
SL-S023	4.30%	0.04%	1.07%
SL-L024	4.13%	0.02%	0.82%
T-LOPP061	4.05%	1.74%	0.04%
T-GEN069	Not top 10	67.20%	1.58%
AT-T-GEN026	Not top 10	8.85%	0.14%
T-GEN004A	Not top 10	8.68%	10.60%
T-IORV017	Not top 10	1.43%	15.80%
T-IORV018	Not top 10	1.29%	14.20%

Table 11.3-21A
Focus Level 1 – RTNSS Sensitivity Results

Case Name (Rev. 4)	Description	CDF (/year)	Difference
RTNSS	L1 RTNSS Baseline	3.14E-06	N/A
nADG	L1 RTNSS w/o ADG	3.16E-06	6.37E-03
nARI	L1 RTNSS w/o ARI	3.14E-06	0.00E+00
nChilled-NI	L1 RTNSS w/o Nuclear-Island CWS	1.07E-05	2.41E+00
nDPS	L1 RTNSS w/o DPS	2.91E-04	9.17E+01
nFAPCS	L1 RTNSS w/o FAPCS	1.02E-05	2.25E+00
nFDWRB	L1 RTNSS w/o FDW Runback	3.45E-06	9.87E-02
nFPSMU	L1 RTNSS w/o FPS Makeup	1.48E-05	3.71E+00
nPIP	L1 RTNSS w/o PIP	1.07E-05	2.41E+00
nPSW	L1 RTNSS w/o PSW	1.07E-05	2.41E+00
nRCCW	L1 RTNSS w/o RCCW	1.07E-05	2.41E+00
nSDG	L1 RTNSS w/o SDG	1.07E-05	2.41E+00

Table 11.3-22
Focus Level 1 – Fire Sensitivity Results

Baseline L1 (Rev. 4)	L1 Focus	Difference
1.25E-08	5.13E-05	4.10E+03
Baseline L1 (Rev. 4)	L1 RTNSS	Difference
1.25E-08	2.95E-07	2.26E+01
L1 Focus	L1 RTNSS	Difference
5.13E-05	2.95E-07	-9.94E-01

Table 11.3-23
Focus Level 1 – Flood Sensitivity Results

Baseline L1 (Rev. 4)	L1 Focus	Difference
6.95E-09	9.39E-05	1.35E+04
Baseline L1 (Rev. 4)	L1 RTNSS	Difference
6.95E-09	4.36E-07	6.17E+01
L1 Focus	L1 RTNSS	Difference
9.39E-05	4.36E-07	-9.95E-01

Table 11.3-24
Focus Level 1 – High Wind Sensitivity Results

Truncation	Scenario	Level 1 High Wind	Level 1 High Wind - Focus	Difference
		CDF	CDF	
1.00E-15	Tornado T23	9.02E-12	2.05E-08	2.27E+03
1.00E-15	Tornado T4	8.45E-10	9.37E-10	1.09E-01
1.00E-15	Tornado T5	9.60E-11	1.06E-10	1.04E-01
1.00E-15	Hurricane H345	7.56E-09	1.61E-05	2.13E+03
1.00E-15	TOTAL	8.51E-09	1.61E-05	1.89E+03
Truncation	Scenario	Level 1 High Wind	Level 1 High Wind - RTNSS	Difference
		CDF	CDF	
1.00E-15	Tornado T23	9.02E-12	3.21E-11	2.56E+00
1.00E-15	Tornado T4	8.45E-10	8.51E-10	7.10E-03
1.00E-15	Tornado T5	9.60E-11	9.66E-11	6.25E-03
1.00E-15	Hurricane H345	7.56E-09	3.10E-08	3.10E+00
1.00E-15	TOTAL	8.51E-09	3.20E-08	2.76E+00
Truncation	Scenario	Level 1 High Wind - Focus	Level 1 High Wind - RTNSS	Difference
		CDF	CDF	
1.00E-15	Tornado T23	2.05E-08	3.21E-11	-9.98E-01
1.00E-15	Tornado T4	9.37E-10	8.51E-10	-9.18E-02
1.00E-15	Tornado T5	1.06E-10	9.66E-11	-8.87E-02
1.00E-15	Hurricane H345	1.61E-05	3.10E-08	-9.98E-01
1.00E-15	TOTAL	1.61E-05	3.20E-08	-9.98E-01

Table 11.3-25
Focus Level 2 – nTSL Results

Baseline Level 2 (Rev. 4)		Level 2 Focus		Difference	
nTSL	CCFP	nTSL	CCFP	nTSL	CCFP
1.39E-09	0.082	2.58E-04	0.781	1.86E+05	8.52E+00
Baseline Level 2 (Rev. 4)		Level 2 RTNSS		Difference	
nTSL	CCFP	nTSL	CCFP	nTSL	CCFP
1.39E-09	0.082	1.36E-07	0.043	9.68E+01	-4.76E-01
Level 2 Focus		Level 2 RTNSS		Difference	
nTSL	CCFP	nTSL	CCFP	nTSL	CCFP
2.58E-04	0.781	1.36E-07	0.043	-9.99E-01	-9.45E-01

Table 11.3-26
Focus Level 2 – Detailed Model Results

Release Category	Baseline L2 (Rev. 4)	Level 2 – Focus	Level 2 – RTNSS
TSL	1.54E-08	17.22E-05	3.00E-06
FR	9.15E-11	0	0
OPW2	8.51E-12	2.23E-06	6.97E-08
OPW1	1.97E-11	2.56E-08	1.77E-09
OPVB	2.08E-12	2.96E-08	2.17E-09
BYP	5.66E-11	3.43E-05	1.36E-08
CCIW	2.92E-12	7.20E-08	6.76E-10
CCID	1.47E-12	5.04E-08	4.13E-10
EVE	1.14E-09	1.02E-08	6.71E-09
BOC	7.95E-11	7.43E-07	4.05E-08
Total	1.68E-08	3.30E-04	3.14E-06
nTSL	1.39E-09	2.58E-04	1.36E-07
CCFP	0.082	0.781	0.043

Table 11.3-27
Focus Level 2 – RTNSS Sensitivity Results

Case Name (Rev. 4)	Description	nTSL (/year)	CCFP
RTNSS	L2 RTNSS Baseline	1.36E-07	0.043
nADG	L2 RTNSS w/o ADG	1.58E-07	0.050
nARI	L2 RTNSS w/o ARI	1.36E-07	0.043
nChilled-NI	L2 RTNSS w/o Nuclear-Island CWS	9.74E-07	0.091
nDPS	L2 RTNSS w/o DPS	4.18E-05	0.143
nFAPCS	L2 RTNSS w/o FAPCS	5.20E-07	0.051
nFDWRB	L2 RTNSS w/o FDW Runback	1.37E-07	0.040
nFPSMU	L2 RTNSS w/o FPS Makeup	1.49E-06	0.100
nPIP	L2 RTNSS w/o PIP	9.74E-07	0.091
nPSW	L2 RTNSS w/o PSW	9.74E-07	0.091
nRCCW	L2 RTNSS w/o RCCW	9.74E-07	0.091
nSDG	L2 RTNSS w/o SDG	9.74E-07	0.091

Table 11.3-28
Focus Level 2 – Fire Sensitivity - nTSL Results

Baseline Level 2 Fire (Rev. 4)		Level 2 Fire Focus		Difference	
nTSL	CCFP	nTSL	CCFP	nTSL	CCFP
1.60E-09	0.128	4.18E-05	0.814	2.61E+04	5.36E+00
Baseline Level 2 Fire (Rev. 4)		Level 2 Fire RTNSS		Difference	
nTSL	CCFP	nTSL	CCFP	nTSL	CCFP
1.60E-09	0.128	8.34E-08	0.283	5.11E+01	1.21E+00
Level 2 Fire Focus		Level 2 Fire RTNSS		Difference	
nTSL	CCFP	nTSL	CCFP	nTSL	CCFP
4.18E-05	0.814	8.34E-08	0.283	-9.98E-01	-6.52E-01

Table 11.3-29
Focus Level 2 – Fire Sensitivity –Detailed Model Results

Release Category	Level 2 Fire (Rev.4)	Level 2 Fire - Focus (Rev.4)	Level 2 Fire - RTNSS (Rev.4)
TSL	1.09E-08	9.56E-06	2.12E-07
FR	6.17E-11	NA	NA
OPW2	2.25E-10	3.51E-05	5.81E-08
OPW1	3.48E-12	1.35E-09	1.79E-11
OPVB	1.54E-12	7.90E-09	3.02E-09
BYP	1.20E-09	5.59E-06	9.98E-09
CCIW	2.18E-12	1.36E-08	4.56E-11
CCID	9.53E-11	1.04E-06	1.09E-08
EVE	NA	NA	NA
BOC	4.82E-12	1.35E-09	1.37E-09
Total	1.25E-08	5.13E-05	2.95E-07
nTSL	1.60E-09	4.18E-05	8.34E-08
CCFP	0.128	0.814	0.283

Table 11.3-30
Focus Level 2 – Flood Sensitivity - nTSL Results

Baseline Level 2 Flood (Rev. 4)		Level 2 Flood Focus		Difference	
nTSL	CCFP	nTSL	CCFP	nTSL	CCFP
4.11E-09	0.595	9.22E-05	0.982	2.24E+04	6.50E-01
Baseline Level 2 Flood (Rev. 4)		Level 2 Flood RTNSS		Difference	
nTSL	CCFP	nTSL	CCFP	nTSL	CCFP
4.11E-09	0.595	3.12E-07	0.716	7.49E+01	2.03E-01
Level 2 Flood Focus		Level 2 Flood RTNSS		Difference	
nTSL	CCFP	nTSL	CCFP	nTSL	CCFP
9.22E-05	0.982	3.12E-07	0.716	-9.97E-01	-2.71E-01

Table 11.3-31
Focus Level 2 – Flood Sensitivity –Detailed Model Results

Release Category	Level 2 Flood (Rev. 4)	Level 2 Flood Focus (Rev.4)	Level 2 Flood RTNSS (Rev.4)
TSL	2.80E-09	1.71E-06	1.24E-07
FR	1.08E-09	0	0
OPW2	1.30E-10	4.02E-05	2.71E-07
OPW1	6.71E-13	2.67E-10	1.45E-11
OPVB	2.01E-12	5.11E-11	3.30E-11
BYP	2.89E-09	5.20E-05	4.10E-08
CCIW	1.44E-12	1.66E-08	6.06E-11
CCID	7.57E-13	1.18E-08	3.89E-11
EVE	0	0	0
BOC	5.28E-13	4.03E-12	5.54E-12
Total	6.91E-09	9.39E-05	4.36E-07
nTSL	4.11E-09	9.22E-05	3.12E-07
CCFP	0.595	0.982	0.716

Table 11.3-32

Focus Level 2 – High Wind Sensitivity - nTSL Results

Baseline Level 2 High Wind (Rev. 4)		Level 2 High Wind Focus		Difference	
nTSL	CCFP	nTSL	CCFP	nTSL	CCFP
1.27E-09	0.147	1.31E-05	0.816	1.03E+04	4.55E+00
Baseline Level 2 High Wind (Rev. 4)		Level 2 High Wind RTNSS		Difference	
nTSL	CCFP	nTSL	CCFP	nTSL	CCFP
1.27E-09	0.147	9.47E-09	0.296	6.46E+00	1.01E+00
Level 2 High Wind Focus		Level 2 High Wind RTNSS		Difference	
nTSL	CCFP	nTSL	CCFP	nTSL	CCFP
1.31E-05	0.816	9.47E-09	0.296	-9.99E-01	-6.37E-01

Table 11.3-33

Focus Level 2 – High Wind Sensitivity –Detailed Model Results

Release Category	Level 2 High Wind (Rev.4)	Level 2 High Wind Focus (Rev.4)	Level 2 High Wind RTNSS (Rev.4)
TSL	7.38E-09	2.96E-06	2.25E-08
FR	2.58E-10	0	0
OPW2	2.10E-12	1.15E-05	9.11E-09
OPW1	1.33E-15	3.79E-10	5.61E-13
OPVB	1.74E-14	4.15E-11	4.74E-12
BYP	9.82E-10	1.67E-06	3.31E-10
CCIW	2.05E-12	4.40E-09	6.17E-12
CCID	1.16E-12	3.10E-09	3.67E-12
EVE	0	0	0
BOC	2.08E-11	1.66E-11	2.09E-11
Total	8.64E-09	1.61E-05	3.20E-08
nTSL	1.27E-09	1.31E-05	9.47E-09
CCFP	0.147	0.816	0.296

Table 11.3-34
Focus Level 2 – DPS and ARI Sensitivity – nTSL Results

Truncation	Level 2 Focus (Rev. 2)			Level 2 - Focus w/DPS & ARI (Rev. 2)			Difference		
	nTSL	CCFP	CDF	nTSL	CCFP	CDF	nTSL	CCFP	CDF
1.00E-15	3.04E-04	0.943	3.22E-04	4.19E-07	0.020	2.10E-05	-9.99E-01	-9.79E-01	-9.35E-01
Truncation	Level 2 Fire Focus (Rev. 2)			Level 2 Fire – Focus w/DPS &ARI(Rev. 2)			Difference		
	nTSL	CCFP	CDF	nTSL	CCFP	CDF	nTSL	CCFP	CDF
1.00E-15	1.15E-04	1.000	1.15E-04	1.71E-06	0.672	2.54E-06	-9.85E-01	-3.28E-01	-9.78E-01
Truncation	Level 2 Flood Focus (Rev. 2)			Level 2 Flood - Focus w/DPS &ARI (Rev. 2)			Difference		
	nTSL	CCFP	CDF	nTSL	CCFP	CDF	nTSL	CCFP	CDF
1.00E-14	4.49E-06	0.389	1.15E-05	3.74E-09	0.118	3.15E-08	-9.99E-01	-6.97E-01	-9.97E-01

Table 11.3-35
Focus Level 2 – DPS and ARI Sensitivity – Detailed Model Results

Release Category	Level 2 (Rev. 2)	Level 2 Focus (Rev. 2)	Level 2 Focus w/DPS & ARI (Rev. 2)
TSL	1.12E-08	1.84E-05	2.06E-05
FR	2.34E-13	(1)	5.89E-09
OPW2	7.78E-14	1.83E-04	6.26E-08
OPW1	3.21E-11	2.77E-08	2.77E-08
OPVB	1.57E-11	1.58E-08	1.57E-08
BYP	5.63E-11	1.18E-04	8.33E-08
CCIW	9.92E-11	3.22E-06	2.13E-07
CCID	9.02E-13	6.41E-08	4.23E-09
EVE	6.10E-10	1.12E-07	5.25E-09
DCH	PU	PU	PU
BOC	1.47E-10	3.79E-07	1.74E-09
Total	1.22E-08	3.22E-04	2.10E-05
nTSL	9.62E-10	3.04E-04	4.19E-07
CCFP	0.079	0.943	0.020
Release Category	Level 2 Fire (Rev. 2)	Level 2 Fire – Focus (Rev. 2)	Level 2 Fire Focus w/DPS & ARI (Rev. 2)
TSL	1.31E-09	2.29E-07	8.31E-07
FR	1.29E-14	(1)	5.34E-12
OPW2	7.95E-13	1.13E-04	1.63E-06
OPW1	1.07E-13	6.39E-10	5.39E-10
OPVB	2.21E-14	3.67E-10	3.36E-10
BYP	7.30E-12	1.37E-06	3.72E-08
CCIW	1.25E-11	2.73E-07	(1)
CCID	1.49E-13	1.68E-07	3.86E-08
EVE	(2)	(2)	(2)
DCH	PU	PU	PU
BOC	4.41E-12	1.54E-11	2.31E-11
Total	1.34E-09	1.15E-04	2.54E-06
nTSL	4.83E-10	1.15E-04	1.71E-06
CCFP	0.060	0.998	0.672

**Table 11.3-35
Focus Level 2 – DPS and ARI Sensitivity – Detailed Model Results**

Release Category	Level 2 Flood (Rev. 2)	Level 2 Flood – Focus (Rev. 2)	Level 2 Flood – Focus w/DPS & ARI (Rev. 2)
TSL	1.31E-09	7.05E-06	2.78E-08
FR	1.29E-14	(1)	4.45E-13
OPW2	7.95E-13	1.68E-09	2.29E-09
OPW1	1.07E-13	3.73E-12	7.44E-12
OPVB	2.21E-14	2.01E-12	4.01E-12
BYP	7.30E-12	4.49E-09	1.17E-09
CCIW	1.25E-11	(1)	2.57E-10
CCID	1.49E-13	(1)	2.50E-12
EVE	(2)	(2)	(2)
DCH	PU	PU	PU
BOC	(1)	(1)	(1)
Total	4.41E-12	1.15E-05	3.15E-08
nTSL	2.07E-10	4.49E-06	3.74E-09
CCFP	0.128	0.389	0.118

- (1) No cutsets generated at truncation level.
- (2) No LOCA initiators used for fire and flood analysis.

Table 11.3-36
Focus Shutdown – CDF Results

Baseline SD CDF/LRF (Rev. 4)⁺	SD Focus CDF/LRF	Difference
1.63E-08	1.69E-06	1.03E+02
Baseline SD CDF/LRF (Rev. 4)⁺	SD RTNSS CDF/LRF	Difference
1.63E-08	4.41E-07	2.61E+01
SD Focus CDF/LRF	SD RTNSS CDF/LRF	Difference
1.69E-06	4.41E-07	-7.39E-01

+ with a truncation limit of 1E-14/year

Table 11.3-37
Focus Shutdown – Fire Sensitivity – CDF Results

Baseline SD Fire CDF/LRF (Rev. 4)	SD Fire Focus CDF/LRF⁺	Difference
9.56E-09	2.87E-06	2.99E+02
Baseline SD Fire CDF/LRF (Rev. 4)	SD Fire RTNSS CDF/LRF⁺	Difference
9.56E-09	3.91E-07	3.99E+01
SD Fire Focus CDF/LRF⁺	SD Fire RTNSS CDF/LRF⁺	Difference
2.87E-06	3.91E-07	-8.64E-01

+ with a truncation limit of 1E-14/year

Table 11.3-38
Focus Shutdown – Flood Sensitivity – CDF Results

Baseline SD Flood CDF/LRF (Rev. 4)	SD Flood Focus CDF/LRF	Difference
5.21E-09	6.35E-07	1.21E+02
Baseline SD Flood CDF/LRF (Rev. 4)	SD Flood RTNSS CDF/LRF	Difference
5.21E-09	2.81E-07	5.29E+01
SD Flood Focus CDF/LRF	SD Flood RTNSS CDF/LRF	Difference
6.35E-07	2.81E-07	-5.57E-01

Table 11.3-39

Focus Shutdown – High Wind Sensitivity – CDF Results

Baseline SD High Wind CDF/LRF (Rev. 4)	SD High Wind Focus CDF/LRF	Difference
3.95E-08	1.20E-06	2.94E+01
Baseline SD High Wind CDF/LRF (Rev. 4)	SD High Wind RTNSS CDF/LRF	Difference
3.95E-08	1.71E-07	3.33E+00
SD High Wind Focus CDF/LRF	SD High Wind RTNSS CDF/LRF	Difference
1.20E-06	1.71E-07	-8.58E-01

**Table 11.3-40
Transportation Sensitivity - Assumptions**

External Event	Assumption
Airports and Airways Hazards	Accident rate for aircraft is 4.0E-10 per mile. A total of approximately 980,000 flights per year (Atlanta Hartsfield Jackson International Airport, 2006).
Transportation	Accident conditional release probability of 0.09 for trucks, 0.2 for rail and 0.023 for barges. A total of four major highways are within an approximate width of 9 miles.
All Industrial Accidents	A 10 mile diameter area of interest for chemical storage. Materials stored or situated at a distance of greater than 5 miles from the plant site need not be considered. (RG 1.78)
General Citing	ESBWR facilities occupy approximately 10% of total site or 0.014 square miles.

**Table 11.3-41
Transportation Sensitivity – Airports and Airways Hazards**

Frequency		(Accident Rate * # Flights * Area)/ Airway Width		
Accident Rate for Aircraft	=	4.00E-10		per mile
Number of flights	=	980,000		
Area of ESBWR facility	=	0.014		sq. mi.
Airway width	=	9		mi
		Frequency	1.52E-07	per year
Scenario 1	Aircraft accident results in station blackout			
		Frequency	1.52E-07	per year
Level 1 PRA CCDP	=	8.61E-08		per year
CDF	=	1.31E-14		per year
Scenario 2	Aircraft accident in station blackout and loss of non-safety systems			
		Frequency	1.52E-07	per year
Level 1 PRA CCDP	=	1.27E-04		per year
CDF	=	1.94E-11		per year

**Table 11.3-42
Transportation Sensitivity – Marine Accidents**

Probability	$ReleaseFrequency * CCDP$		
Scenario 1	Explosion from barge.ship results in complete loss of service water		
	Frequency	1.13E-04	per year
	=	9.33E-09	per year
Level 1 PRA CCDP			
CDF	=	1.05E-12	per year
Scenario 2	Marine accident resulting in release of toxic materials		
	Chemical Release Rate	1.00E-02	per year
	=	9.33E-09	per year
Level 1 PRA CCDP			
CDF	=	1.03E-12	per year

**Table 11.3-43
Transportation Sensitivity – Vehicle Accidents**

Probability	=	$\boxed{\text{ReleaseFrequency} * \text{CCDP}}$	
Scenario 1		Toxic chemical release from vehicle accident	
	Frequency	1.52E-05	per year
Level 1 PRA CCDP	=	9.33E-09	per year
CDF	=	1.42E-13	per year

Table 11.3-44
Transportation Sensitivity – Railroad Accidents

Probability	=	$\boxed{\text{ReleaseFrequency} * \text{CCDP}}$	
Scenario 1		Toxic chemical release from railcar accident	
	Frequency	9.00E-05	per year
Level 1 PRA CCDP	=	9.33E-09	per year
CDF	=	8.40E-13	per year

Table 11.3-45

Fire Sensitivity – Fire Barrier Importance Based on Full-Power CDF Cutsets

Event Name¹ (Rev. 4)	Probability	F-V	RAW
FB_F1210_F1150	2.70E-03	8.00E-07	1
FB_F1210_F1230	7.40E-03	3.98E-05	1.01
FB_F1210_F1240	7.40E-03	4.86E-06	1
FB_F1210_F1311	1.20E-03	3.40E-05	1.03
FB_F1220_F1162	2.70E-03	9.61E-07	1
FB_F1220_F1203	1.20E-03	4.27E-07	1
FB_F1220_F1230	7.40E-03	6.07E-06	1
FB_F1220_F1240	7.40E-03	4.77E-05	1.01
FB_F1220_F1321	1.20E-03	4.00E-05	1.03
FB_F1230_F1210	7.40E-03	2.92E-05	1
FB_F1230_F1220	7.40E-03	2.47E-06	1
FB_F1230_F1331	1.20E-03	4.29E-06	1
FB_F1240_F1160	2.70E-03	6.40E-07	1
FB_F1240_F1210	7.40E-03	2.47E-06	1
FB_F1240_F1220	7.40E-03	2.94E-05	1
FB_F1240_F1341	1.20E-03	1.80E-05	1.01
FB_F1311_F1150	2.70E-03	3.99E-04	1.15
FB_F1311_F1210	1.20E-03	1.74E-04	1.14
FB_F1311_F1331	7.40E-03	5.35E-04	1.07
FB_F1311_F1341	7.40E-03	3.91E-04	1.05
FB_F1321_F1162	2.70E-03	4.05E-04	1.15
FB_F1321_F1203	7.40E-03	3.83E-04	1.05
FB_F1321_F1220	1.20E-03	1.68E-04	1.14
FB_F1321_F1341	7.40E-03	4.02E-04	1.05
FB_F1331_F1152	2.70E-03	1.92E-04	1.07
FB_F1331_F1203	7.40E-03	2.66E-05	1
FB_F1331_F1230	1.20E-03	4.31E-05	1.04
FB_F1331_F1311	7.40E-03	5.39E-04	1.07
FB_F1341_F1160	2.70E-03	5.80E-05	1.02
FB_F1341_F1240	1.20E-03	1.25E-04	1.1
FB_F1341_F1311	7.40E-03	4.04E-04	1.05
FB_F1341_F1321	7.40E-03	4.33E-04	1.06
FB_F3110_F3100	7.40E-03	6.40E-07	1
FB_F3110_F3130	1.20E-03	9.61E-07	1
FB_F3110_F3270	2.70E-03	1.03E-05	1
FB_F3110_F3301	2.70E-03	1.17E-05	1
FB_F3110_F3302	1.20E-03	4.45E-06	1
FB_F3120_F3101	7.40E-03	6.40E-07	1
FB_F3120_F3140	1.20E-03	8.89E-07	1
FB_F3120_F3270	1.20E-03	2.85E-06	1
FB_F3130_F3101	7.40E-03	6.40E-07	1
FB_F3130_F3110	1.20E-03	8.89E-07	1

Table 11.3-45
Fire Sensitivity – Fire Barrier Importance Based on Full-Power CDF Cutsets

Event Name ¹ (Rev. 4)	Probability	F-V	RAW
FB_F3130_F3270	2.70E-03	9.61E-06	1
FB_F3130_F3302	2.70E-03	1.09E-05	1
FB_F3140_F3100	7.40E-03	6.40E-07	1
FB_F3140_F3120	1.20E-03	8.89E-07	1
FB_F3140_F3270	1.20E-03	2.85E-06	1
FB_F3150_F3100	1.20E-03	1.25E-05	1.01
FB_F3150_F3301	7.40E-03	1.16E-02	2.55
FB_F3150_F3302	1.20E-03	1.74E-03	2.45
FB_F3301_F3100	7.40E-03	1.33E-04	1.02
FB_F3301_F3101	2.70E-03	4.53E-05	1.02
FB_F3301_F3110	1.20E-03	1.83E-05	1.02
FB_F3301_F3130	1.20E-03	1.83E-05	1.02
FB_F3301_F3150	7.40E-03	1.56E-01	21.94
FB_F3301_F3270	1.20E-03	9.70E-04	1.8
FB_F3302_F3100	7.40E-03	1.57E-04	1.02
FB_F3302_F3110	1.20E-03	2.29E-05	1.02
FB_F3302_F3130	1.20E-03	2.29E-05	1.02
FB_F3302_F3270	1.20E-03	1.02E-03	1.84
FB_F3302_F9150	1.20E-03	3.06E-02	26.48
FB_F4197_F1770	1.20E-03	2.27E-05	1.02
FB_F4197_F4250	7.40E-03	8.96E-04	1.12
FB_F4197_F4260	7.40E-03	2.12E-04	1.03
FB_F4197_F4302	7.40E-03	1.90E-04	1.03
FB_F4197_F4303	7.40E-03	1.90E-04	1.03
FB_F4197_F4403	1.20E-03	2.27E-05	1.02
FB_F4197_F4550	7.40E-03	1.90E-04	1.03
FB_F4197_F4560	7.40E-03	1.90E-04	1.03
FB_F4403_F4197	7.40E-03	3.23E-05	1
FB_F5153_F5100	1.20E-03	7.12E-07	1
FB_F5153_F5203	1.20E-03	7.12E-07	1
FB_F5153_F5250	1.20E-03	7.12E-07	1
FB_F5154_F5164	1.20E-03	4.27E-07	1
FB_F5154_F5205	1.20E-03	4.27E-07	1
FB_F5163_F5100	1.20E-03	7.12E-07	1
FB_F5163_F5205	1.20E-03	7.12E-07	1
FB_F5163_F5260	1.20E-03	7.12E-07	1
FB_F5164_F5154	1.20E-03	4.45E-07	1
FB_F5201_F5100	7.40E-03	4.27E-07	1
FB_F5201_F5202	7.40E-03	4.27E-07	1
FB_F5201_F5350	1.20E-03	5.51E-06	1
FB_F5202_F5350	1.20E-03	5.09E-06	1
FB_F5203_F5100	7.40E-03	1.92E-06	1
FB_F5203_F5202	7.40E-03	1.92E-06	1

Table 11.3-45

Fire Sensitivity – Fire Barrier Importance Based on Full-Power CDF Cutsets

Event Name¹ (Rev. 4)	Probability	F-V	RAW
FB_F5203_F5350	1.20E-03	7.29E-05	1.06
FB_F5204_F5100	7.40E-03	4.27E-07	1
FB_F5204_F5205	7.40E-03	4.27E-07	1
FB_F5204_F5360	1.20E-03	7.29E-07	1
FB_F5205_F5360	1.20E-03	2.49E-07	1
FB_F5350_F5100	7.40E-03	3.46E-04	1.05
FB_F5350_F5201	1.20E-03	5.10E-05	1.04
FB_F5350_F5202	1.20E-03	2.34E-04	1.19
FB_F5350_F5203	1.20E-03	2.34E-04	1.19
FB_F5350_F5450	2.70E-03	1.17E-04	1.04
FB_F5360_F5100	7.40E-03	3.55E-04	1.05
FB_F5360_F5204	1.20E-03	9.71E-06	1.01
FB_F5360_F5205	1.20E-03	5.14E-05	1.04
FB_F5360_F5460	2.70E-03	2.30E-05	1.01
FB_F7300A_F7300B	1.20E-03	2.25E-05	1.02
FB_F7300B_F7300A	1.20E-03	2.17E-05	1.02
FB_F9150_F9160	1.20E-03	1.93E-02	17.07
FB_F9160_F9150	1.20E-03	2.17E-02	19.07
	Total F-V	2.52E-01	

(1) The fire barriers are named as “FB_FXXXX_FYYYY.” The first two letters “FB” denotes fire barrier. “FXXXX” and “FYYYY” denote the two fire areas connected by the subject fire barrier.

Table 11.3-46

Fire Sensitivity – Fire Barrier Importance Based on Full-Power LRF Cutsets

Event Name (Rev. 4)	Probability	F-V	RAW
FB_F1210_F1230	7.40E-03	3.19E-04	1.04
FB_F1210_F1240	7.40E-03	3.89E-05	1.01
FB_F1210_F1311	1.20E-03	4.70E-06	1
FB_F1220_F1162	2.70E-03	7.70E-06	1
FB_F1220_F1203	1.20E-03	3.42E-06	1
FB_F1220_F1230	7.40E-03	4.86E-05	1.01
FB_F1220_F1240	7.40E-03	3.82E-04	1.05
FB_F1220_F1321	1.20E-03	3.20E-04	1.27
FB_F1230_F1210	7.40E-03	2.34E-04	1.03
FB_F1230_F1220	7.40E-03	1.98E-05	1
FB_F1240_F1210	7.40E-03	1.98E-05	1
FB_F1240_F1220	7.40E-03	2.36E-04	1.03
FB_F1311_F1150	2.70E-03	1.44E-04	1.05
FB_F1311_F1210	1.20E-03	4.69E-05	1.04
FB_F1311_F1331	7.40E-03	4.28E-03	1.57
FB_F1311_F1341	7.40E-03	3.13E-03	1.42
FB_F1321_F1162	2.70E-03	2.41E-04	1.09
FB_F1321_F1203	7.40E-03	1.08E-04	1.01
FB_F1321_F1220	1.20E-03	1.35E-03	2.12
FB_F1321_F1341	7.40E-03	3.22E-03	1.43
FB_F1331_F1152	2.70E-03	6.56E-04	1.24
FB_F1331_F1230	1.20E-03	1.91E-05	1.02
FB_F1331_F1311	7.40E-03	4.32E-03	1.58
FB_F1341_F1311	7.40E-03	3.24E-03	1.43
FB_F1341_F1321	7.40E-03	3.47E-03	1.47
FB_F3110_F3270	2.70E-03	3.59E-05	1.01
FB_F3110_F3301	2.70E-03	2.76E-05	1.01
FB_F3110_F3302	1.20E-03	7.41E-06	1.01
FB_F3120_F3270	1.20E-03	7.98E-06	1.01
FB_F3130_F3270	2.70E-03	3.28E-05	1.01
FB_F3130_F3302	2.70E-03	2.57E-05	1.01
FB_F3140_F3270	1.20E-03	7.98E-06	1.01
FB_F3150_F3100	1.20E-03	2.00E-06	1
FB_F3150_F3301	7.40E-03	3.30E-02	5.43
FB_F3150_F3302	1.20E-03	5.33E-03	5.44
FB_F3301_F3100	7.40E-03	3.18E-04	1.04
FB_F3301_F3101	2.70E-03	1.11E-04	1.04
FB_F3301_F3110	1.20E-03	4.53E-05	1.04
FB_F3301_F3130	1.20E-03	4.53E-05	1.04
FB_F3301_F3150	7.40E-03	4.45E-01	60.69
FB_F3301_F3270	1.20E-03	2.72E-03	3.25
FB_F3302_F3100	7.40E-03	3.76E-04	1.05
FB_F3302_F3110	1.20E-03	6.47E-05	1.05

Table 11.3-46

Fire Sensitivity – Fire Barrier Importance Based on Full-Power LRF Cutsets

Event Name (Rev. 4)	Probability	F-V	RAW
FB_F3302_F3130	1.20E-03	6.47E-05	1.05
FB_F3302_F3270	1.20E-03	7.46E-03	7.19
FB_F3302_F9150	1.20E-03	8.49E-02	71.64
FB_F4197_F4250	7.40E-03	3.95E-05	1.01
FB_F4197_F4260	7.40E-03	2.57E-05	1
FB_F5204_F5360	1.20E-03	7.13E-07	1
FB_F5360_F5100	7.40E-03	8.62E-05	1.01
FB_F5360_F5204	1.20E-03	9.98E-06	1.01
FB_F5360_F5205	1.20E-03	9.98E-06	1.01
FB_F5360_F5460	2.70E-03	2.68E-05	1.01
FB_F7300A_F7300B	1.20E-03	2.85E-06	1
FB_F7300B_F7300A	1.20E-03	2.57E-06	1
FB_F9150_F9160	1.20E-03	1.75E-02	15.55
FB_F9160_F9150	1.20E-03	1.97E-02	17.37
	Total	6.43E-01	

Table 11.3-47

Fire Sensitivity – Full Power Fire CDF Sensitivity Results for Fire Barrier Failure Probabilities

Fire Barrier (Rev. 4)	FV_CDF	Base CDF Contribution	RAW_CDF	CDF if Failed (Prob =1)	%CDF Increase if Failed	CDF if Prob = 0.1	CDF Increase if Prob = 0.1
FB_F3150_F3301	1.16E-02	1.45E-10	2.55	3.19E-08	155%	1.43E-08	14%
FB_F3150_F3302	1.74E-03	2.18E-11	2.45	3.06E-08	145%	1.43E-08	14%
FB_F3301_F3150	1.56E-01	1.95E-09	21.94	2.74E-07	2094%	3.69E-08	195%
FB_F3302_F9150	3.06E-02	3.83E-10	26.48	3.31E-07	2548%	4.39E-08	251%
FB_F9150_F9160	1.93E-02	2.41E-10	17.07	2.13E-07	1607%	3.23E-08	158%
FB_F9160_F9150	2.17E-02	2.71E-10	19.07	2.38E-07	1807%	3.48E-08	178%

Table 11.3-48
Fire Sensitivity – Full-Power Fire LRF Sensitivity Results for Fire Barrier Failure
Probabilities

Fire Barrier (Rev. 4)	FV_LRF	Base LRF Contribution	RAW_LRF	LRF if Failed (Prob =1)	%LRF Increase if Failed	LRF if Prob =0.1	LRF Increase if Prob = 0.1
FB_F1321_F1220	1.35E-03	2.11E-12	2.12	3.31E-09	112%	1.73E-09	11%
FB_F3150_F3301	3.30E-02	5.15E-11	5.43	8.47E-09	443%	2.20E-09	41%
FB_F3150_F3302	5.33E-03	8.31E-12	5.44	8.49E-09	444%	2.24E-09	44%
FB_F3301_F3150	4.45E-01	6.94E-10	60.69	9.47E-08	5969%	1.02E-08	556%
FB_F3301_F3270	2.72E-03	4.24E-12	3.25	5.07E-09	225%	1.90E-09	22%
FB_F3302_F3270	7.46E-03	1.16E-11	7.19	1.12E-08	619%	2.51E-09	61%
FB_F3302_F9150	8.49E-02	1.32E-10	71.64	1.12E-07	7064%	1.25E-08	698%
FB_F9150_F9160	1.75E-02	2.73E-11	15.55	2.43E-08	1455%	3.80E-09	144%
FB_F9160_F9150	1.97E-02	3.07E-11	17.37	2.71E-08	1637%	4.08E-09	162%

Table 11.3-49

Fire Sensitivity – Fire Barrier Importance Based on Shutdown CDF Cutsets

Event Name (Rev. 4)	Probability	F-V	RAW
FB_F1152_F1162	7.40E-03	3.19E-02	5.27
FB_F3301_F3302	1.10E-04	6.68E-04	7.04
FB_F4250_F4260	7.40E-03	1.52E-02	3.04
FB_F4550_F4560	7.40E-03	6.83E-04	1.09
FB_F5350_F5360	2.20E-04	4.92E-04	3.22
FB_F7300A_F7300B	7.40E-03	2.16E-03	1.29
FB_F9150_F9160	1.20E-03	1.46E-04	1.12

Table 11.3-50
Fire Sensitivity – Shutdown Fire CDF Sensitivity Results for Fire Barrier Failure
Probabilities

Fire Barrier (Rev. 4)	FV_CDF	Base CDF Contribution	RAW_CDF	CDF if Failed (Prob =1)	%CDF Increase if Failed	CDF if Prob = 0.1	CDF Increase if Prob = 0.1
FB_F1152_F1162	3.19E-02	3.05E-10	5.27	5.04E-08	427%	1.34E-08	40%
FB_F3301_F3302	6.68E-04	6.39E-12	7.04	6.73E-08	604%	1.53E-08	60%
FB_F4250_F4260	1.52E-02	1.45E-10	3.04	2.91E-08	204%	1.14E-08	19%
FB_F4550_F4560	6.83E-04	6.53E-12	1.09	1.04E-08	9%	9.64E-09	1%
FB_F5350_F5360	4.92E-04	4.70E-12	3.22	3.08E-08	222%	1.17E-08	22%
FB_F7300A_F7300B	2.16E-03	2.06E-11	1.29	1.23E-08	29%	9.81E-09	3%
FB_F9150_F9160	1.46E-04	1.40E-12	1.12	1.07E-08	12%	9.67E-09	1%

Table 11.3-51

Fire Sensitivity – Shutdown Fire CDF Sensitivity Results for Fire Area F7300

Shutdown Fire Scenarios (Rev. 2)	Baseline Initiating Event Frequency	Baseline CCDP	Baseline CDF	Initiating Event Frequency for Sensitivity	Shutdown Fire CDF for Sensitivity
F7300_M5	1.42E-04	1.60E-06	2.28E-10	7.12E-06	1.14E-11
F7300_M5O	3.56E-05	1.59E-06	5.65E-11	1.78E-06	2.82E-12
F7300_M6U	4.45E-05	1.62E-04	7.23E-09	2.23E-06	3.62E-10
F7300 Total	2.23E-04		7.52E-09	1.11E-05	3.76E-10

Table 11.3-52a
Release Categories for PRA Revision 4

Release Category	Representative Sequence	Core Damage Onset (TClad Max >1478K)	Time to Initial Release (hr)	Noble Gas Release Fraction @24 hrs after onset of core damage	CsI Release Fraction @24 hrs after onset of core damage	Noble Gas Release Fraction @72 hrs after onset of core damage	CsI Release Fraction @72 hours after onset of core damage
1: BOC	BOCs _d _nIN_R1	2545s = 0.7hr	0.7	9.7E-01	7.0E-01	9.8E-01	7.0E-01
2: dr	BOC _{dr} _nIN_R1	1474s = 0.4hr	0.6	2.4E-01	1.1E-01	2.6E-01	1.3E-01
3: BYP	T_nIN_BYP_R1	2405s = 0.7hr	0.7	9.5E-01	2.1E-01	9.7E-01	3.0E-01
4: nDP	T_nDP_nIN_BYP_R1	4496s = 1.2hr	1.3	5.3E-01	3.3E-02	6.8E-01	3.5E-02
5: CCID	T_nIN_nD_CCID_R4	2948s = 0.8hr	23.4	7.5E-01	1.3E-03	9.0E-01	1.7E-01
6: nDP	T_nDP_nIN_nD_CCID_R4	5264s = 1.5hr	15.9	9.1E-01	6.8E-02	9.4E-01	3.4E-01
7: CCIW	T_nIN_CCIW_R4	2948s = 0.8hr	23.1	2.5E-01	1.6E-06	8.8E-01	2.5E-05
8: nDP	T_nDP_nIN_CCIW_R4	5254s = 1.5hr	17.5	6.4E-01	1.5E-04	8.2E-01	1.3E-02
9: EVE	T_nIN_nD_EVE_R1	2362s = 0.7hr	7.4	8.3E-01	2.8E-02	8.3E-01	1.5E-01
10: FR	T-AT_nIN_nCHR_FR_R4	1635s = 0.5hr	25.4	0.0	0.0	1.0E+00	7.3E-03
11: OPVB	T_nDP_nIN_VB_R4	4502s = 1.3hr	13.0	4.5E-01	6.7E-05	9.7E-01	4.8E-03
12: DP	T_nIN_VB_R4	2399s = 0.7hr	8.4	7.8E-01	3.3E-03	9.9E-01	8.1E-03
13: OPW 1	T_nDP_nIN_nCHR_W1_R4	5253s = 1.5hr	31.7	0.0	0.0	9.9E-01	8.4E-04
14: OPW 2	T_nDP_nIN_nCHR_W2_R4	5254s = 1.5hr	50.1	0.0	0.0	9.7E-01	1.4E-04
15: TSL	T_AT_nIN_TSL2x_R1	2045s = 0.6hr	0.5	2.7E-03	1.6E-04	2.7E-03	1.6E-04

Table 11.3-52b
Release Categories with CCI

Release Category	Representative Sequence	Core Damage Onset (TClad Max >1478K)	Time to Initial Release (hr)	Noble Gas Release Fraction @24 hrs after onset of core damage	CsI Release Fraction @24 hrs after onset of core damage	Noble Gas Release Fraction @72 hrs after onset of core damage	CsI Release Fraction @72 hours after onset of core damage
1: BOCsd	BOCsd_nIN_R4c	2553s = 0.7hr	0.7	9.8E-01	7.2E-01	9.8E-01	7.2E-01
2: BOCdr	BOCdr_nIN_R4c_wltinj	1470s = 0.4hr	0.6	3.3E-01	1.1E-01	4.1 E-01	1.4E-01
3: BYP	T_nIN_BYP_R4c	2343s = 0.7hr	0.7	9.4E-01	2.5E-01	9.4E-01	2.5E-01
4: _nDP	T_nDP_nIN_BYP_R4c	4491s = 1.2hr	1.3	8.3E-01	7.6E-02	8.4E-01	7.6E-02
5: CCID	T_nIN_nD_CCID_R4	2948s = 0.8hr	23.4	7.5E-01	1.3E-03	9.0E-01	1.7E-01
6: _nDP	T_nDP_nIN_nD_CCID_R4	5264s = 1.5hr	15.9	9.1E-01	6.5E-02	9.4E-01	3.4E-01
7: CCIW	T_nIN_CCIW_R4	2948s = 0.8hr	23.1	2.5E-01	1.6E-06	8.8E-01	2.5E-05
8: _nDP	T_nDP_nIN_CCIW_R4	5254s = 1.5hr	17.5	6.4E-01	1.5E-04	8.2E-01	1.3E-02
9: EVE	T_nIN_nD_EVE_R1	2362s = 0.7hr	7.4	8.3E-01	2.8E-02	8.3E-01	1.5E-01
10: FR	T-AT_nIN_nCHR_FR_R4c	1632s = 0.5hr	24.7	0.0	0.0	9.9E-01	3.3E-05
11:OPVB	T_nDP_nIN_VB_R4c_wltinj	4498s = 1.2hr	10.4	5.4E-01	3.7E-04	9.0E-01	8.7E-03
12: _DP	T_nIN_VB_R4c	2399s = 0.7hr	11.9	6.5E-01	2.8E-04	9.9E-01	7.8E-04
13:OPW 1	T_nDP_nIN_nCHR_W1_R4c_wltinj	5251s = 1.5hr	32.9	0.0	0.0	9.9E-01	1.2E-02
14:OPW 2	T_nDP_nIN_nCHR_W2_R4c_wltinj	5254s = 1.5hr	48.9	0.0	0.0	9.8E-01	2.0E-04
15: TSL	T_AT_nIN_TSL2x_R4c	1604s = 0.4hr	0.3	2.5E-03	1.5E-04	2.6E-03	1.5E-04

Table 11.3-53a**Radionuclide Source Terms (Release Fraction 24 hours after onset of core damage) for PRA Revision 4**

Release Category	Xe/Kr	CsI	TeO ₂	SrO	MoO ₂	CsOH	BaO	La ₂ O ₃	CeO ₂	Sb	Te ₂	UO ₂
1: BOC	9.7E-01	7.0E-01	4.6E-01	1.3E-02	1.7E-01	3.6E-01	3.1E-02	2.5E-04	1.2E-03	4.6E-01	6.4E-04	3.0E-06
2: dr	2.4E-01	1.1E-01	1.2E-01	4.5E-04	1.6E-02	3.3E-02	2.0E-03	3.1E-05	1.4E-04	5.7E-02	1.1E-06	1.0E-06
3: BYP	9.5E-01	2.1E-01	1.3E-01	4.6E-03	6.2E-02	1.0E-01	1.3E-02	1.8E-04	8.5E-04	1.9E-01	5.1E-04	5.5E-06
4: nDP	5.3E-01	3.3E-02	2.0E-03	4.1E-02	2.3E-02	1.2E-02	4.0E-02	4.1E-02	4.1E-02	7.2E-02	3.6E-04	3.4E-06
5: CCID	7.5E-01	1.3E-03	1.3E-04	6.6E-08	3.8E-07	8.2E-04	6.6E-07	4.0E-09	1.0E-08	2.7E-02	5.0E-07	5.3E-09
6: nDP	9.1E-01	6.8E-02	4.1E-02	7.6E-07	3.9E-07	2.3E-02	6.9E-06	3.2E-07	4.4E-07	9.4E-02	1.9E-06	1.8E-07
7: CCIW	2.5E-01	1.6E-06	6.6E-07	2.7E-08	1.8E-07	1.3E-06	9.2E-08	1.8E-09	1.0E-08	8.8E-04	4.9E-08	1.4E-10
8: nDP	6.4E-01	1.5E-04	2.2E-05	3.5E-06	2.9E-06	5.5E-05	3.7E-06	3.4E-06	3.4E-06	1.9E-04	2.6E-07	1.0E-09
9: EVE	8.3E-01	2.8E-02	7.0E-02	1.7E-03	6.5E-05	1.3E-01	7.2E-04	4.9E-05	6.6E-04	1.9E-01	4.9E-04	3.3E-06
10: FR	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
11: OPVB	4.5E-01	6.7E-05	6.1E-06	2.6E-06	2.8E-06	7.2E-06	2.9E-06	2.5E-06	2.5E-06	1.3E-04	1.7E-06	2.8E-10
12: DP	7.8E-01	3.3E-03	1.1E-04	1.8E-05	9.3E-06	7.0E-04	1.1E-05	1.8E-06	1.3E-05	4.3E-02	5.1E-06	1.2E-07
13: OPW1	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
14: OPW2	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
15: TSL	2.7E-03	1.6E-04	9.9E-05	2.6E-06	6.2E-05	5.9E-05	1.3E-05	1.1E-07	3.7E-07	1.6E-04	7.5E-10	3.3E-10

Table 11.3-53b

Radionuclide Source Terms (Release Fraction 24 hours after onset of core damage) with CCI

Release Category	Xe/Kr	CsI	TeO ₂	SrO	MoO ₂	CsOH	BaO	La ₂ O ₃	CeO ₂	Sb	Te ₂	UO ₂
1: BOCsd	9.8E-01	7.2E-01	4.8E-01	1.0E-02	1.5E-01	3.6E-01	2.9E-02	2.6E-04	9.6E-04	4.1E-01	1.1E-04	1.3E-06
2: BOCdr	3.3E-01	1.1E-01	1.2E-01	4.2E-04	1.8E-02	3.7E-02	2.3E-03	2.7E-05	9.5E-05	6.2E-02	6.2E-07	4.5E-07
3: BYP	9.4E-01	2.5E-01	1.2E-01	6.5E-03	6.4E-02	1.5E-01	2.0E-02	2.6E-04	5.9E-04	1.4E-01	5.4E-05	1.5E-06
4: nDP	8.3E-01	7.6E-02	5.3E-03	5.3E-02	2.1E-02	1.5E-02	5.1E-02	5.3E-02	5.3E-02	1.5E-01	1.8E-03	4.0E-06
5: CCID	7.5E-01	1.3E-03	1.3E-04	6.6E-08	3.8E-07	8.2E-04	6.6E-07	4.0E-09	1.0E-08	2.7E-02	5.0E-07	5.3E-09
6: nDP	9.1E-01	6.8E-02	4.1E-02	7.6E-07	3.9E-07	2.3E-02	6.9E-06	3.2E-07	4.4E-07	9.4E-02	1.9E-06	1.8E-07
7: CCIW	2.5E-01	1.6E-06	6.6E-07	2.7E-08	1.8E-07	1.3E-06	9.2E-08	1.8E-09	1.0E-08	8.8E-04	4.9E-08	1.4E-10
8: nDP	6.4E-01	1.5E-04	2.2E-05	3.5E-06	2.9E-06	5.5E-05	3.7E-06	3.4E-06	3.4E-06	1.9E-04	2.6E-07	1.0E-09
9: EVE	8.3E-01	2.8E-02	7.0E-02	1.7E-03	6.5E-05	1.3E-01	7.2E-04	4.9E-05	6.6E-04	1.9E-01	4.9E-04	3.3E-06
10: FR	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
11:OPVB	5.4E-01	3.7E-04	3.3E-05	8.1E-06	7.6E-06	7.2E-05	8.4E-06	8.0E-06	8.0E-06	2.5E-04	4.2E-06	6.7E-10
12: DP	6.5E-01	2.8E-04	7.9E-06	9.6E-07	1.0E-06	9.9E-05	7.6E-07	1.3E-07	8.5E-07	5.7E-02	9.2E-08	8.3E-09
13:OPW1	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
14:OPW2	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
15:TSL	2.5E-03	1.5E-04	7.4E-05	1.6E-06	2.8E-05	5.2E-05	7.2E-06	5.3E-08	2.8E-07	8.4E-05	1.0E-07	8.1E-10

Table 11.3-54a**Radionuclide Source Terms (Release Fraction 72 hours after onset of core damage) for PRA Rev 4**

Release Category	Xe/Kr	CsI	TeO ₂	SrO	MoO ₂	CsOH	BaO	La ₂ O ₃	CeO ₂	Sb	Te ₂	UO ₂
1: BOC	9.8E-01	7.0E-01	4.6E-01	1.3E-02	1.7E-01	3.7E-01	3.1E-02	2.5E-04	1.2E-03	5.0E-01	6.5E-04	3.0E-06
2: dr	2.6E-01	1.3E-01	1.2E-01	4.5E-04	1.6E-02	3.6E-02	2.0E-03	3.1E-05	1.4E-04	6.0E-02	1.3E-06	1.0E-06
3: BYP	9.7E-01	3.0E-01	1.3E-01	4.6E-03	6.2E-02	1.2E-01	1.3E-02	1.8E-04	8.5E-04	3.1E-01	5.1E-04	5.5E-06
4: nDP	6.8E-01	3.5E-02	6.1E-03	4.1E-02	2.3E-02	2.5E-02	4.0E-02	4.1E-02	4.1E-02	7.5E-02	3.8E-04	3.4E-06
5:CCID	9.0E-01	1.7E-01	1.6E-01	2.0E-07	4.6E-07	2.4E-01	3.9E-06	1.3E-08	2.2E-08	2.8E-01	7.9E-07	8.6E-08
6: nDP	9.4E-01	3.4E-01	7.4E-02	7.8E-07	4.9E-07	5.8E-02	1.1E-05	3.2E-07	4.4E-07	1.7E-01	1.9E-06	2.0E-07
7:CCIW	8.8E-01	2.5E-05	1.2E-06	5.2E-08	3.4E-07	3.8E-05	1.9E-07	3.5E-09	1.9E-08	4.9E-02	7.5E-07	5.7E-10
8: nDP	8.2E-01	1.3E-02	1.3E-02	3.5E-06	3.0E-06	3.1E-02	3.8E-06	3.4E-06	3.5E-06	7.0E-03	4.7E-07	1.4E-09
9: EVE	8.3E-01	1.5E-01	1.5E-01	1.7E-03	6.5E-05	2.3E-01	7.5E-04	4.9E-05	6.6E-04	2.8E-01	4.9E-04	3.4E-06
10: FR	1.0E+00	7.3E-03	3.1E-04	1.2E-08	5.6E-08	4.8E-03	6.0E-08	8.8E-10	3.7E-09	1.7E-01	2.5E-05	2.6E-11
11:OPVB	9.7E-01	4.8E-03	9.2E-03	2.6E-06	2.8E-06	1.3E-02	2.9E-06	2.5E-06	2.5E-06	7.7E-02	3.2E-06	2.8E-10
12: DP	9.9E-01	8.1E-03	1.8E-04	1.8E-05	9.3E-06	2.9E-03	1.1E-05	1.8E-06	1.3E-05	3.5E-01	6.6E-06	1.2E-07
13:OPW1	9.9E-01	8.4E-04	2.3E-03	7.9E-08	1.3E-07	1.5E-02	1.0E-07	7.7E-08	7.7E-08	3.6E-03	1.7E-07	8.1E-13
14:OPW2	9.7E-01	1.4E-04	5.5E-05	1.5E-08	1.0E-08	1.0E-03	1.5E-08	1.5E-08	1.5E-08	6.7E-03	7.4E-08	4.7E-13
15: TSL	2.7E-03	1.6E-04	9.9E-05	2.6E-06	6.2E-05	5.9E-05	1.3E-05	1.1E-07	3.7E-07	1.7E-04	7.6E-10	3.3E-10

Table 11.3-54b**Radionuclide Source Terms (Release Fraction 72 hours after onset of core damage) with CCI**

Release Category	Xe/Kr	CsI	TeO₂	SrO	MoO₂	CsOH	BaO	La₂O₃	CeO₂	Sb	Te₂	UO₂
1: BOCsd	9.8E-01	7.2E-01	4.8E-01	1.0E-02	1.5E-01	3.6E-01	2.9E-02	2.6E-04	9.6E-04	4.3E-01	1.1E-04	1.3E-06
2: BOCdr	4.1E-01	1.4E-01	1.2E-01	4.2E-04	1.8E-02	4.0E-02	2.3E-03	2.7E-05	9.5E-05	6.8E-02	6.7E-07	4.5E-07
3: BYP	9.4E-01	2.5E-01	1.2E-01	6.5E-03	6.4E-02	1.5E-01	2.0E-02	2.6E-04	5.9E-04	1.5E-01	5.9E-05	1.5E-06
4: nDP	8.4E-01	7.6E-02	5.3E-03	5.3E-02	2.1E-02	1.5E-02	5.1E-02	5.3E-02	5.3E-02	1.5E-01	1.8E-03	4.0E-06
5:CCID	9.0E-01	1.7E-01	1.6E-01	2.0E-07	4.6E-07	2.4E-01	3.9E-06	1.3E-08	2.2E-08	2.8E-01	7.9E-07	8.6E-08
6: nDP	9.4E-01	3.4E-01	7.4E-02	7.8E-07	4.9E-07	5.8E-02	1.1E-05	3.2E-07	4.4E-07	1.7E-01	1.9E-06	2.0E-07
7:CCIW	8.8E-01	2.5E-05	1.2E-06	5.2E-08	3.4E-07	3.8E-05	1.9E-07	3.5E-09	1.9E-08	4.9E-02	7.5E-07	5.7E-10
8: nDP	8.2E-01	1.3E-02	1.3E-02	3.5E-06	3.0E-06	3.1E-02	3.8E-06	3.4E-06	3.5E-06	7.0E-03	4.7E-07	1.4E-09
9: EVE	8.3E-01	1.5E-01	1.5E-01	1.7E-03	6.5E-05	2.3E-01	7.5E-04	4.9E-05	6.6E-04	2.8E-01	4.9E-04	3.4E-06
10: FR	9.9E-01	3.3E-05	5.8E-07	8.9E-09	1.9E-07	3.3E-05	4.3E-08	6.9E-10	3.9E-09	4.7E-03	1.1E-05	3.4E-11
11:OPVB	9.0E-01	8.7E-03	7.7E-03	8.1E-06	7.6E-06	1.7E-02	8.4E-06	8.0E-06	8.0E-06	5.2E-02	9.6E-06	6.7E-10
12: DP	9.9E-01	7.8E-04	8.8E-06	9.6E-07	1.0E-06	3.7E-04	7.6E-07	1.3E-07	8.5E-07	1.2E-01	1.8E-07	8.3E-09
13:OPW1	9.9E-01	1.2E-02	6.6E-04	2.2E-07	1.6E-07	6.4E-03	2.2E-07	2.2E-07	2.2E-07	1.5E-02	7.5E-07	1.2E-12
14:OPW2	9.8E-01	2.0E-04	5.2E-06	1.4E-08	1.1E-08	1.1E-04	1.4E-08	1.4E-08	1.4E-08	1.0E-03	3.5E-07	3.1E-13
15:TSL	2.6E-03	1.5E-04	7.4E-05	1.6E-06	2.8E-05	5.2E-05	7.2E-06	5.3E-08	2.8E-07	8.5E-05	1.1E-07	8.1E-10

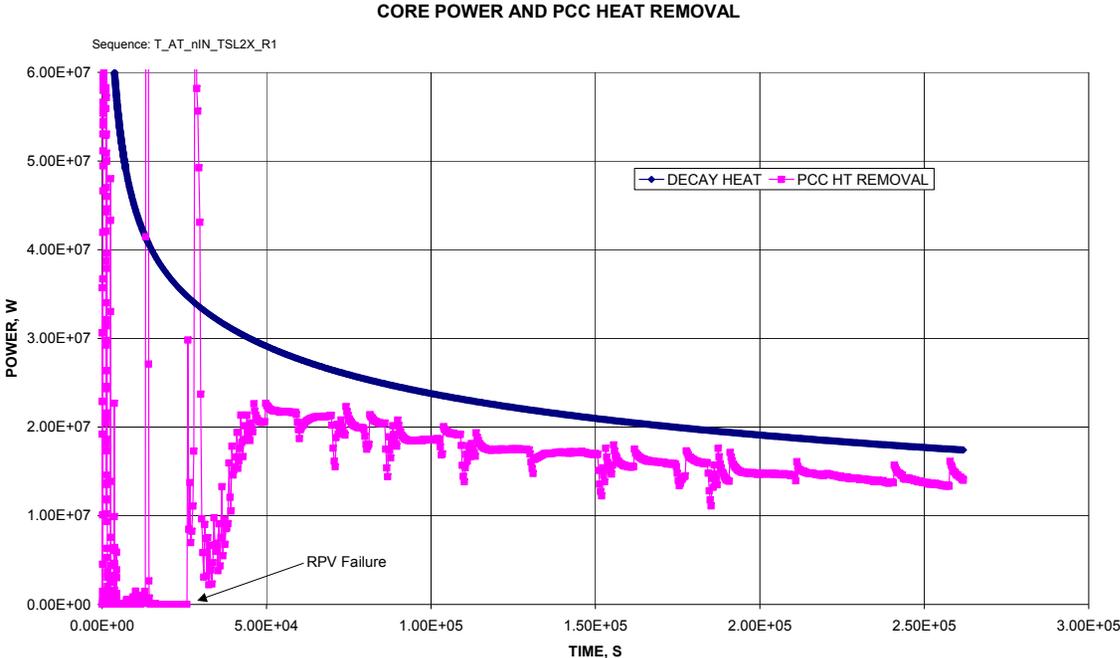


Figure 11.3-1. PCCS Heat Removal without BiMAC CCI

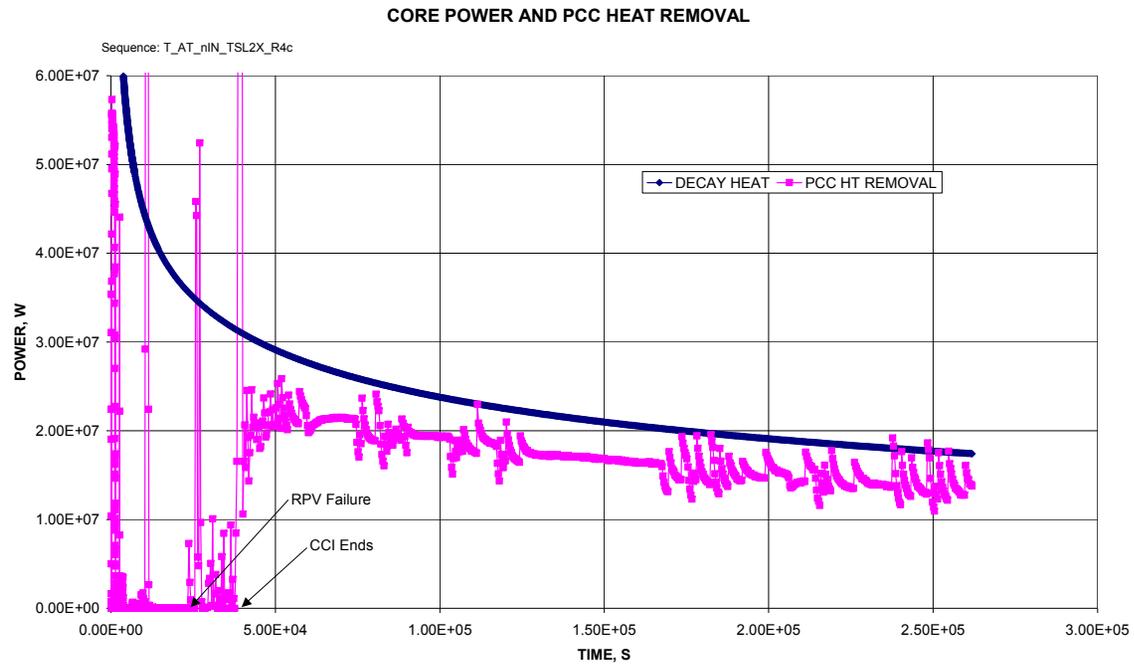


Figure 11.3-2. PCCS Heat Removal with BiMAC CCI Assumed

11.4 OTHER SENSITIVITIES

In addition to the sensitivities provide here in Section 11, several other sensitivities were conducted. Table 11.4-1 provides a listing and location for these additional sensitivities.

**Table 11.4-1
Other Sensitivities**

Sensitivity Title	NEDO-33201 Section
Shutdown LOCA Frequency	Section 16
Shutdown DW Hatch – 50% Failure Rate	Section 16
Shutdown DW Hatch – 1% Failure Rate	Section 16
Shutdown DW Hatch – Closed M5	Section 16
Shutdown Operator Actions True	Section 16
Shutdown Operator Actions Equal 1.00E-3	Section 16
Shutdown RPV Draindown Initiating Event Frequency	Section 16
Shutdown ICS Operability with elevated water level	Section 16

11.5 UNCERTAINTY ANALYSIS

Uncertainty analyses have been conducted for the L1 and L2 PRA models. The purpose of the uncertainty analyses is to show point estimate CDF or LRF is an appropriate representation of the plant risk given the input.

These results show that the CDF distribution is below the NRC goals of $1E-04$ /year for CDF and $1E-6$ /year for LRF and that numerical uncertainty presents no impact to the L1 and L2 PRA models.

The Monte Carlo sampling method was used to perform the calculation and generate a probability density function and a cumulative probability function for both CDF and LRF. The uncertainty distribution and error factors are captured in the type code (TC) table of the modified L1/L2 PRA database. The database was modified so that common cause failure events can be associated with the corresponding failure rate in the type code table of the database. A sample size of 100,000 was used to generate these functions and associated results. The point estimate CDF of $1.69E-08$ /year and LRF of $1.51E-9$ /year were generated based on the sample size. Graphical results, as well as the uncertainty values (mean, 5%, 50%, 95%) for the uncertainty are shown in Figures 11.5-1 through 11.5-4.

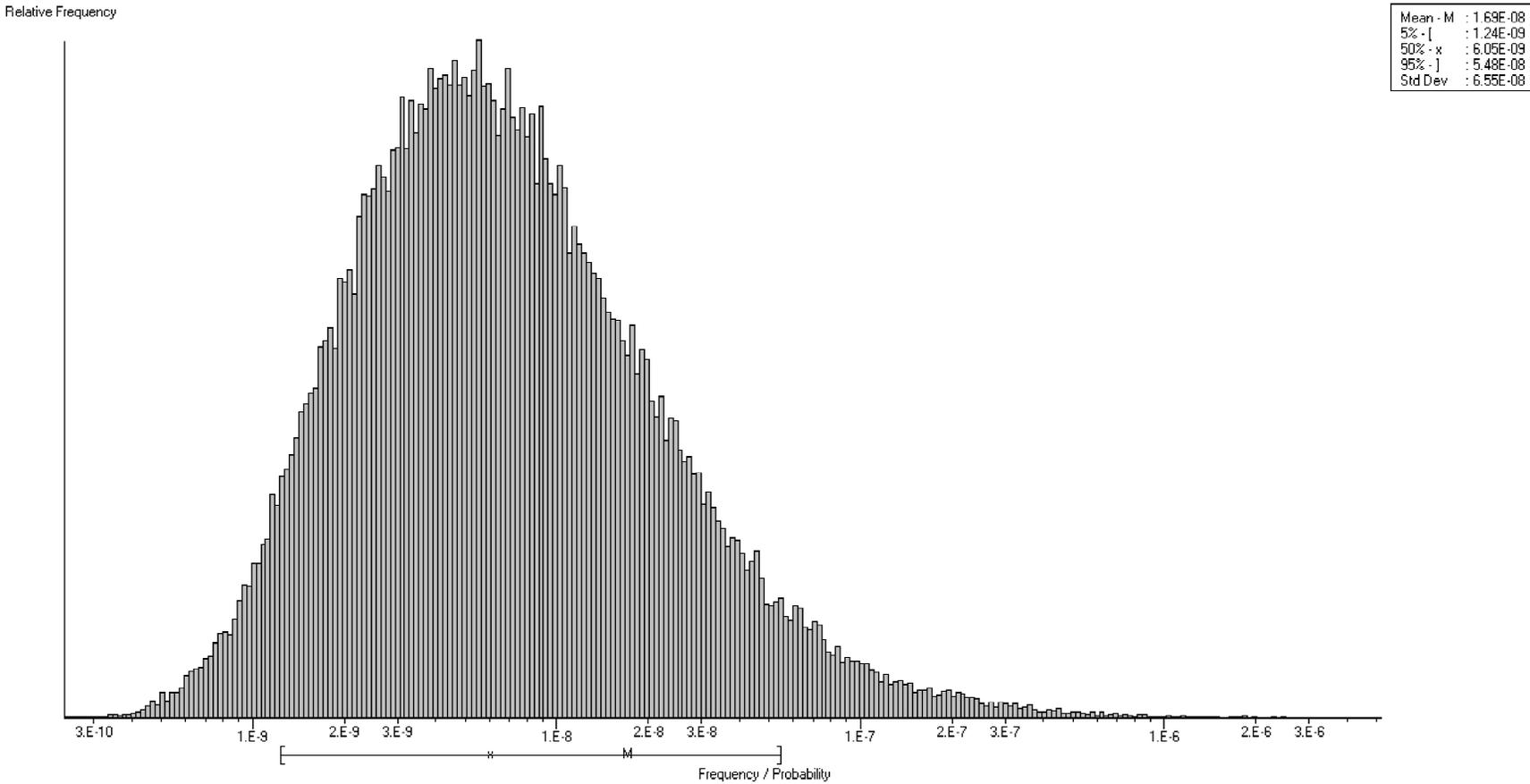


Figure 11.5-1. CDF Uncertainty Analysis – Density Function

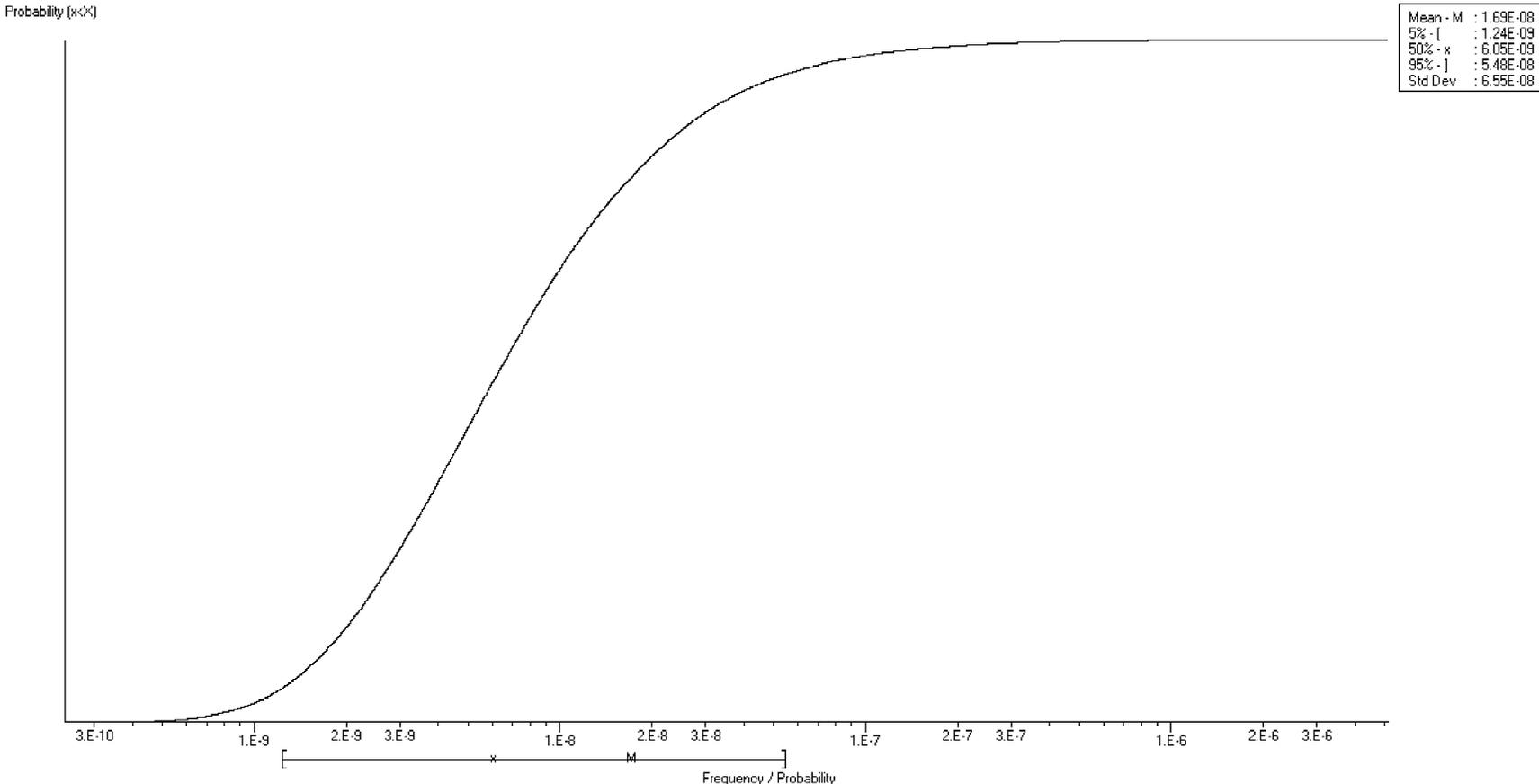


Figure 11.5-2. CDF Uncertainty Analysis – Cumulative Function

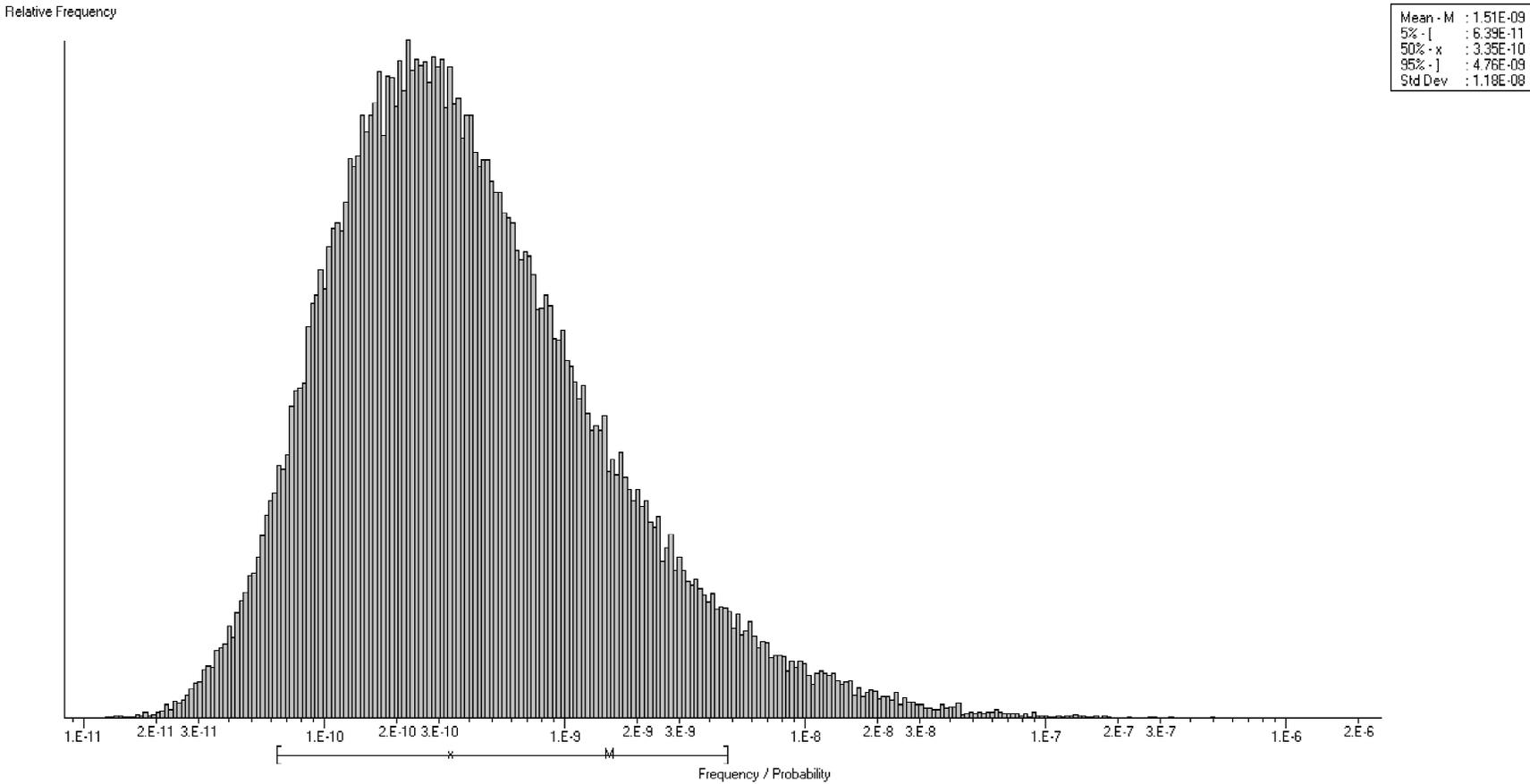


Figure 11.5-3. LRF Uncertainty Analysis – Density Function

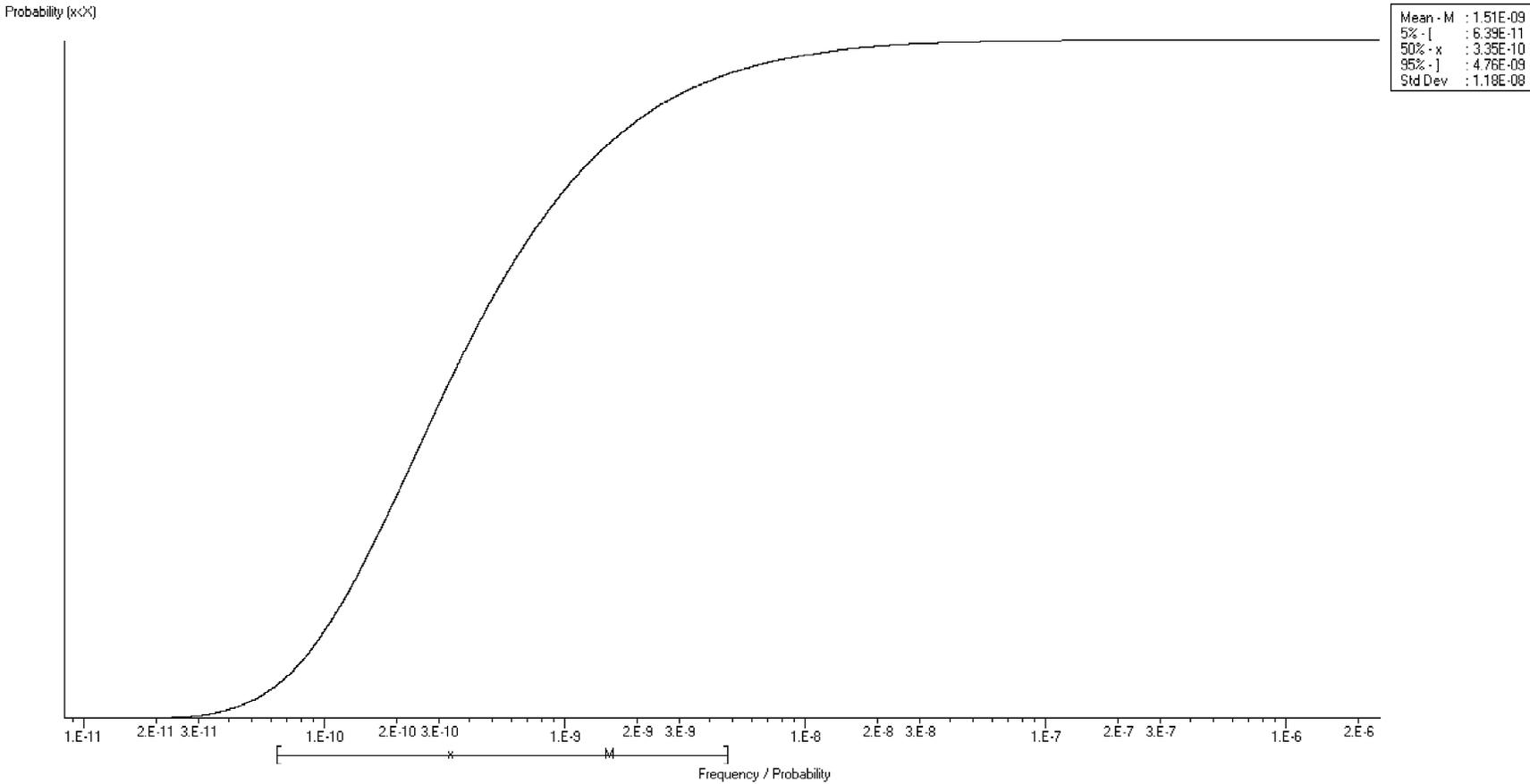


Figure 11.5-4. LRF Uncertainty Analysis – Cumulative Function

11.6 CONCLUSIONS & INSIGHTS

- The ESBWR core damage frequency (CDF) is dominated by common cause failure (CCF). The non-CCF CDF is primarily a result of irrecoverable vessel or line failures, or break outside containment RWCU combined with failure of low-pressure injection.
- The PRA model conservatively assumes that a single failure on either train of SLCS caused core damage if the control rods fail to insert (ATWS). The CDF would be reduced significantly if either train of SLCS are singularly capable of mitigating ATWS scenarios.
- Accumulator failures can significantly increase the CDF, which warrants future consideration for providing alarm/indication for the accumulator pressure and operator response to low pressure to mitigate the risk of accumulator failures.
- Pre-initiators have more significant impact on the RAW value than post initiators. This is primarily due to the large number of potential latent failures. The post-initiator HRA screening values are relatively high. As expected, the post-initiator HRA values have a high FV, but a relatively lower impact on RAW
- Changes to squib valve failure data, particularly when used for the ADS and GDSCS functions, have significant impact due to their contribution to passive safety features.
- Relocation of the CIS node to the first position in the Containment Event Trees (CET) has a negligible impact on L2 results.
- Vacuum breaker and back-up valve failure rates do not have significant impact on CDF, but have significant impact on L2 results. Steam suppression failures generally lead to core damage states against which mitigation is not credited in the PRA.
- The risk associated with accidents in nearby facilities including industrial accidents, military accidents, pipeline or hydrogen storage, and transportation accident is low and does not warrant further evaluation. The risk is low primarily due to robust design of the ESBWR, and the passive nature of the highly redundant systems.
- The ESBWR L1 PRA core damage frequency is significantly impacted if the nonsafety-related systems are not credited. If credit is taken for all the RTNSS systems, the focused L1 PRA results can be reduced significantly. Crediting the DPS as the only nonsafety-related system, the impact to CDF can also be significantly minimized.
- Crediting the DPS and ARI functions along with the safety-related systems, the ESBWR LRF can be significantly reduced to satisfy the NRC goal of 1E-06/year for LRF in the internal events, fire, and flooding L2 PRA models.
- The ESBWR High Wind CDF is dominated by hurricanes in all cases (Baseline, Focus, and RTNSS). Even if all nonsafety-related systems credited in the L1 high winds PRA are assumed to be unavailable, the results from the sensitivities show the NRC goal of 1E-04/year for CDF is still met.

- The ESBWR L1 full-power fire PRA CDF is significantly impacted if non-safety-related systems are not credited. The CDF exceeds the NRC goal of less than 1E-04/year for CDF. However, the fire analysis is very conservative in that it takes no credit for fire suppression and fire severity factors. The fire CDF without credit for the nonsafety-related systems will meet the threshold value by removing some of these conservatisms.
- The ESBWR L2 PRA results are significantly impacted if nonsafety-related systems are not credited. The LRF does not meet the NRC goal of 1E-06/year and CCFP < 10%. The DPS and ARI system can significantly reduce LRF as part of the RTNSS program.
- The ESBWR L2 flooding PRA results are significantly impacted if nonsafety-related systems are not credited. The LRF NRC goal of 1E-06/year and CCFP < 10%. If credit is taken for RTNSS systems, the flooding L2 results can nearly meet the ESBWR design goals.
- Modeling CCI of the concrete used to cover the BiMAC results in small changes to the containment failure times and release fractions calculated by MAAP406. The performance of PCCS is not significantly changed when modeling this CCI.

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11A THERMAL HYDRAULIC SENSITIVITY

The purpose of this appendix is to provide the results of the thermal hydraulic sensitivity of the ESBWR model using the thermal hydraulic code developed by EPRI Modular Accident Analysis Program (MAAP) 4.0.6. The thermal hydraulic sensitivity was performed to address issues and further knowledge related to the function and operation of the ESBWR passive systems. Because of the limiting nature of the LOCA scenarios, the thermal hydraulic sensitivities were performed for large break LOCA (LLOCA), medium break LOCA (MLOCA) and inadvertently open relief valve (IORV) scenarios to provide the greatest challenge to the passive system analyses.

The MAAP runs conducted for the thermal hydraulic sensitivity analysis were evaluated for success against one primary criteria, peak clad temperature. The peak clad temperature is calculated to be the single peak centerline fuel clad temperature within one of 65 cladding nodes in the ESBWR MAAP model. Additionally, the reactor water level was used to establish the timing and extent of core uncover. The thermal hydraulic sensitivity analyses were grouped based on scope and are discussed in the remaining sections.

11A.1 LOCA ANALYSIS

LOCA scenarios were identified from Table 2.2-3 from NEDO-33201. For the purpose of the TH sensitivity, small LOCA scenarios were not included in the LOCA analysis, because these scenarios are bounded by the larger break LOCA. Types of scenarios considered in the LOCA sensitivity analyses include large break LOCA, medium break LOCA and inadvertently opened relief valves.

11A.1.1 Large Break LOCA

For the ESBWR, large break LOCA scenarios are considered to be 12-inches in diameter or greater. Five LLOCA were identified and evaluated for this portion of the TH sensitivity. It should be noted that analysis of a feedwater (FW) line break as identified in Table 2.2-3 from NEDO-33201 was not included in the LLOCA analysis. Due to the size and location of this break, the RWCU break bounds the FW break. Included in the LLOCA analysis are breaks associated with the safety relief valves (SRVs) and differential pressure valves (DPVs). It should be noted that a single SRV or DPV break is not considered a LLOCA. However, for the purpose of this analysis, both single and multiple breaks in the SRVs and DPVs were considered.

The LLOCA analysis was conducted for a success scenario (LL-S003) where GDCS injection provides inventory control and a combination of the PCCS and vacuum breakers are available for heat removal. The results of the LLOCA sensitivity analysis are shown in Table 11A-1.

The LLOCA resulting from a break in the RWCU line was identified as the limiting LLOCA case. The selection of the RWCU LLOCA as the limiting case was based on the early core uncover and challenge to both RPV and shroud water levels. Figures 11A-1 through 11A-12 graphically depict the LLOCA results. Future LLOCA analyses were all based on the large break of the RWCU line.

11A.1.2 Medium Break LOCA

Based on Table 2.3-2 from NEDO-33201, five medium break LOCA scenarios (MLOCA) were considered. For the ESBWR, MLOCA are considered less than 12 inches in diameter and greater than 1 inch in diameter for liquid breaks.

The MLOCA analysis was conducted for a success scenario (ML-S003) where GDCS injection provides inventory control and a combination of the ADS valves, PCCS and vacuum breakers are available for heat removal. The results of the MLOCA sensitivity analysis are shown in Table 11A-2.

The MLOCA resulting from a break in the SLCS line was identified as the limiting MLOCA case. The selection of the SLCS MLOCA as the limiting case was based on the early core uncover and challenge to both RPV and shroud water levels. Figures 11A-13 through 11A-20 graphically depict the MLOCA results. Future MLOCA analyses were all based on the medium break of the SLCS line.

11A.2 PASSIVE SYSTEM PERFORMANCE

A passive system performance evaluation was conducted to test the operational performance of the passive systems with the ESBWR MAAP code and to evaluate potential margin for the existing system.

Passive systems evaluated as part of the TH sensitivity included the short-term gravity drainage cooling system (GDCS) for injection, the long-term GDCS for equalization, automatic depressurization system (ADS), isolation condenser system (ICS) and passive containment cooling system (PCCS). The sensitivities conducted for each of the passive systems are discussed in the following sections.

11A.2.1 GDCS Injection

The GDCS injection was evaluated for LLOCA and MLOCA to determine the number and size of injection lines required to meet the TH objectives. Because IORVs act as LOCAs, GDCS injection was evaluated for an IORV success scenario as well.

The LLOCA and MLOCA GDCS injection sensitivity analysis was conducted using the limiting LOCA cases identified in Section 11A.2. A scenario (T-IORV017), similar to the scenarios used for the LLOCA and MLOCA, was selected for the IORV GDCS Injection sensitivity. The IORV scenario for GDCS injection provides inventory control and a combination of the ADS valves, PCCS and vacuum breakers are available for heat removal. The results of the GDCS Injection sensitivity analysis are shown in Table 11A-1 for LLOCA, Table 11A-2 for MLOCA and 11A-3 for IORV.

The results from the GDCS injection sensitivity showed that a single GDCS injection line was successful in maintaining core coverage and peak clad temperatures within acceptable limits. Figures 11A-21 through 11A-25 graphically depict the GDCS injection results for LLOCA, Figures 11A-26 through 11A-30 for MLOCA and 11A-31 through 11A-35 for IORV.

To further evaluate the limits of the GDCS injection system, additional MAAP runs were performed to evaluate the size limitations of the GDCS injection line with respect to maintaining peak clad temperatures within acceptable limits. Results from these analyses show that a single

GDCS injection line with a flow capacity of about 66% for LLOCA, 75% for MLOCA and 66% for IORV is capable of meeting the peak clad temperature limits.

The results of the GDCS injection sensitivity show that a single GDCS valve capable of delivering more than 75% of its design flow as per the MAAP TH model is successful in maintaining core coverage and peak clad temperature with acceptable limits.

11A.2.2 GDCS Equalization

A sensitivity of the GDCS equalization was evaluated for LLOCA and MLOCA to determine the number and size of injection lines required to meet the TH objectives. Because IORV act as LOCA, GDCS equalization was evaluated for an IORV success scenario as well.

The LLOCA and MLOCA GDCS equalization sensitivity analysis was conducted using the limiting LOCA cases identified in Section 11A.2. A scenario (T-IORV017), similar to the scenarios used for the LLOCA and MLOCA, was selected for the IORV GDCS Injection sensitivity. The IORV scenario for GDCS equalization provides inventory control from GDCS and a combination of the ADS valves, PCCS and vacuum breakers are available for heat removal. The results of the GDCS equalization sensitivity analysis are shown in Table 11A-1 for LLOCA, Table 11A-2 for MLOCA and Table 11A-3 for IORV.

The GDCS equalization results showed that GDCS equalization did not impact the LOCA scenarios from the selected scenario. It should be noted that for the scenario analyzed, both GDCS injection and PCCS were also available. The availability of these systems would likely facilitate recirculation of steam generated by decay heat. Figures 11A-36 through 11A-39 graphically depict the GDCS equalization results for LLOCA, Figures 11A-40 through 11A-43 for MLOCA and 11A-44 through 11A-47 for IORV.

11A.2.3 Automatic Depressurization System

The GDCS injection was evaluated for MLOCA to determine the number and size of ADS valves lines required to meet the TH objectives. Because of the nature of LLOCA breaks, additional depressurization via the ADS valves is not required. Because IORV act as LOCA, ADS was evaluated for an IORV success scenario as well.

The MLOCA and IORV ADS sensitivity analysis was conducted using the limiting LOCA cases identified in Section 11A.2. A scenario (T-IORV017), similar to the scenarios used for the MLOCA, was selected for the IORV ADS sensitivity. The IORV scenario for ADS provides inventory control and a combination of the ADS valves, PCCS and vacuum breakers are available for heat removal. The results of the ADS sensitivity analysis are shown in Table 11A-2 for MLOCA and Table 11A-3 for IORV.

The results from the ADS sensitivity showed that three ADS valves were successful in maintaining core coverage and peak clad temperatures within acceptable limits. Figures 11A-48 through 11A-51 graphically depict the ADS results for MLOCA and Figures 11A-52 through 11A-55 for IORV.

To further evaluate the limits of the ADS system, additional MAAP runs were performed to evaluate the size limitations of the ADS valves with respect to maintaining peak clad temperatures within acceptable limits. Results from these analyses show that three ADS valves each with a flow capacity of about 75% MLOCA were capable of meeting the peak clad

temperature limits. The IORV was able to meet the peak clad temperature with only two ADS valve with a flow capacity of about 85% each.

The results of the ADS sensitivity show that a three ADS valves capable of delivering more than 75% of its design flow as per the MAAP TH model is successful in maintaining core coverage and peak clad temperature with acceptable limits.

11A.2.4 Isolation Condenser System

A sensitivity of the ICS was evaluated for LLOCA and MLOCA to determine the number of units required to meet the TH objectives.

The LLOCA and MLOCA ICS sensitivity analysis was conducted using the limiting LOCA cases identified in Section 11A.2. The results of the ICS sensitivity analysis are shown in Table 11A-1 for LLOCA and 11A-2 for MLOCA.

The ICS results showed that the number of ICS of units did not impact the success in meeting the peak clad temperature limits. A review of the data does indicate that challenges to water levels in the RPV and clad temperatures decrease inversely with increased number of ICS units. Figures 11A-56 through 11A-59 graphically depict the ICS results for LLOCA and Figures 11A-60 through 11A-63 for MLOCA.

11A.2.5 Passive Containment Cooling System

A sensitivity of the PCCS was evaluated for LLOCA and MLOCA to determine the number of units required to meet the TH objectives.

The LLOCA and MLOCA PCCS sensitivity analysis was conducted using the limiting LOCA cases identified in Section 11A.2. The results of the PCCS sensitivity analysis are shown in Table 11A-1 for LLOCA and Table 11A-2 for MLOCA.

The PCCS results showed that the number of PCCS of units did not impact the success in meeting the peak clad temperature limits. A review of the data does indicate that challenges to water levels in the RPV and clad temperatures are increased proportionally with increased number of PCCS units. The effect is the result of higher drywell pressures associated with the operation of more PCCS units which delay the GDCS injection. Figures 11A-64 through 11A-67 graphically depict the PCCS results for LLOCA and Figures 11A-68 through 11A-71 for MLOCA.

11A.3 MAAP PARAMETER ANALYSIS

An evaluation was conducted to test selected parameters in the MAAP code on the passive ESBWR systems. The MAAP parameters evaluated as part of the TH sensitivity included break LOCA parameters and natural circulation parameters. The sensitivities of each parameter are discussed in the following sections.

11A.3.1 Break LOCA Parameters

Break LOCA parameters in the MAAP code evaluated as part of the MAAP parameter analysis include:

- FCDBRK - discharge coefficient for flows through BWR generalized openings and BWR vessel failures.
- FELOCA - fraction of water break flow entrained as suspended water into containment atmosphere.

The break LOCA parameter sensitivity analysis was conducted using the limiting LOCA cases identified in Section 11A.2. The results of the break LOCA sensitivity parameter analysis are shown in Table 11A-1 for LLOCA.

For the break flow sensitivity, the success in meeting the peak clad temperature limits were shown to be impacted by changes in these break flow parameter FCDBRK. The current ESBWR parameter file uses a value of 0.75 for FCDBRK. Results indicate that the peak clad temperature limits are challenged with lower values of the FCDBRK discharge coefficient. This impact was shown to be 0.66 for LLOCA. Figures 11A-72 through 11A-75 graphically depict the break flow sensitivity results.

11A.3.2 NATURAL CIRCULATION PARAMETERS

Natural circulation parameters in the MAAP code evaluated as part of the MAAP parameter analysis include:

- FFRICX - gas cross-flow friction coefficient in the core for the in-vessel natural circulation model.
- FNCCBP - reactor vessel natural circulation flow path selection for return to outer assembly or down to outer bypass.

The natural circulation parameter sensitivity analysis was conducted using the limiting large break LOCA case identified in Section 11A.2. The results of the natural circulation break parameter analysis are shown in Table 11A-1 for LLOCA.

For the natural circulation sensitivity, changes in these natural circulation parameters for the LLOCA scenarios did not impact the success in meeting the peak clad temperature limits. Figures 11A-76 through 11A-79 graphically depict the break flow results.

11A.4 THERMAL HYDRAULIC SENSITIVITY INSIGHTS

The following insights were obtained from results generated from the TH sensitivity.

- The large break LOCA is bounded by a 12-inch liquid break of one of two RWCU lines.
- The medium break LOCA is bounded by a 2-inch liquid break of one of two SLCS lines.
- GDCS Injection was found to be successful with 1 of 8 GDCS valves open at 75% of the flow capacity; current GDCS injection success criteria requires 2 of 8 GDCS valves for success.
- ADS was found to be successful with 3 of 8 ADS valves open at 75% of the flow capacity; current ADS success criteria requires 4 of 8 ADS valves for success.
- The break flow parameter FCDBRK has the potential to impact the TH results of values less than 0.66; the current value of FDCBRK is 0.75.

Table 11A-1
LLOCA – Thermal Hydraulic Sensitivity Results

Parameter	Run Name	Minimum RPV Water Level (m)		Max Fuel Clad Temp (K)	Time to Blowdown (sec)		Time to Core Uncovery (sec)	Time of Core Recovery (sec)	RPV Failure (sec)	Containment Failure (sec)	Comments
		Core ¹	Shroud ²		INJ ³	EQU ⁴					
Type of LOCA	LL_RWCU ⁵	5.24	4.57	795	320	1971	1619	2036	---	---	LLOCA at RWCU tap
	LL_MSL	21.82	6.54	< 750	270	---	---	---	---	---	LLOCA on main steam line
	LL_DPVIC	10.91	6.14	< 750	287	1937	---	---	---	---	LLOCA at DPV common line
	LL_DPV1	4.10	4.07	2700	585	2235	2340	4482	---	---	LLOCA at DPV
	LL_DPV2	4.38	4.30	2784	464	2113	2049	3000	---	---	LLOCA at 2 DPVs
	LL_DPV3	4.83	4.54	852	377	2028	1948	2471	---	---	LLOCA at 3 DPVs
	LL_DPV4	6.81	4.92	< 750	337	1988	1888	2099	---	---	LLOCA at 4 DPVs
	LL_SRV1	4.11	4.11	2403	671	2321	2810	---	---	---	LLOCA at SRV
	LL_SRV2	4.10	4.05	2426	581	2232	2329	4430	---	---	LLOCA at 2 SRVs
	LL_SRV4	4.40	4.32	2787	459	2109	2044	2961	---	---	LLOCA at 4 SRVs
	LL_SRV6	4.87	4.53	826	374	2024	1944	2434	---	---	LLOCA at 6 SRVs
	LL_SRV8	7.05	4.99	< 750	335	1985	1884	2118	---	---	LLOCA at 8 SRVs
	LL_SRV10	8.57	5.71	< 750	311	1961	---	---	---	---	LLOCA at 10 SRVs
	LL_SRV12	9.51	5.96	< 750	298	1948	---	---	---	---	LLOCA at 12 SRVs
	LL_SRV14	10.51	6.09	< 750	289	1940	---	---	---	---	LLOCA at 14 SRVs
	LL_SRV16	10.99	6.18	< 750	284	1934	---	---	---	---	LLOCA at 16 SRVs
LL_SRV18	10.92	6.18	< 750	280	1930	---	---	---	---	LLOCA at 18 SRVs	
LL_RWCU2	8.83	5.69	< 750	259	1909	---	---	---	---	LLOCA at RWCU tap x2	
LL_MSL2	9.42	5.77	< 750	230	---	---	---	---	---	LLOCA on main steam line x2	
LL_DPVIC2	21.82	6.51	< 750	270	---	---	---	---	---	LLOCA at DPV common line x2	
Break Parameters; FCDBRK, FELOCA	LL_BF1a	3.96	3.94	> 7500	523	2173	2144	4296	---	---	FCDBRK = 0.25
	LL_BF1b	4.41	4.34	3117	395	2045	1787	2605	---	---	FCDBRK = 0.50
	LL_BF1c	4.50	4.42	1020	341	1991	1670	2222	---	---	FCDBRK = 0.66
	LL_BF1d	6.98	4.94	677	290	1941	1507	1714	---	---	FCDBRK = 0.99
	LL_BF1e	7.07	4.96	677	289	1939	1504	1661	---	---	FCDBRK = 1.00
	LL_BF1f	4.71	4.50	830	331	1982	1647	2106	---	---	FCDBRK = 0.70
	LL_BF1g	5.61	4.66	764	313	1964	1594	1976	---	---	FCDBRK = 0.80
	LL_BF2a	5.24	4.57	793	321	1971	1619	2034	---	---	FELOCA = 0.1
GDCS Injection: AGO(1), N_GDCS_VALVES	LL_VI1	4.71	4.49	1075	320	1971	1619	2169	---	---	1 of 8 GDCS valves
	LL_VI1a	4.57	4.43	1102	320	1971	1619	2192	---	---	1 GDCS valve @ 0.95 flow area
	LL_VI1b	4.59	4.42	1333	320	1971	1619	2306	---	---	1 GDCS valve @ 0.75 flow area
	LL_VI1c	4.35	4.28	4373	320	1971	1619	2364	---	---	1 GDCS valve @ 0.50 flow area
	LL_VI1d	4.06	4.00	> 7500	320	1971	1619	2522	---	---	1 GDCS valve @ 0.25 flow area
	LL_VI1e	4.49	4.39	1462	320	1971	1619	2186	---	---	1 GDCS valve @ 0.66 flow area
	LL_VI2	5.24	4.57	795	320	1971	1619	2036	---	---	2 of 8 GDCS valves
	LL_VI4	5.37	4.59	< 750	320	1971	1619	1994	---	---	4 of 8 GDCS valves
LL_VI6	5.40	4.60	< 750	320	1971	1619	1982	---	---	6 of 8 GDCS valves	
LL_VI8	5.39	4.60	< 750	320	1971	1619	1977	---	---	8 of 8 GDCS valves	
GDCS Equalization: N_EQU_VALVES	LL_VE0	5.24	4.57	< 750	273	---	1619	2036	---	---	0 of 4 EQU valves
	LL_VE1	5.24	4.57	< 750	273	1923	1619	2036	---	---	1 of 4 EQU valves
	LL_VE2	5.24	4.57	< 750	273	1923	1619	2036	---	---	2 of 4 EQU valves
	LL_VE3	5.24	4.57	< 750	273	1923	1619	2036	---	---	3 of 4 EQU valves
	LL_VE4	5.24	4.57	< 750	273	1923	1619	2036	---	---	4 of 4 EQU valves

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Parameter	Run Name	Minimum RPV Water Level (m)		Max Fuel Clad Temp (K)	Time to Blowdown (sec)		Time to Core Uncovery (sec)	Time of Core Recovery (sec)	RPV Failure (sec)	Containment Failure (sec)	Comments
		Core ¹	Shroud ²		INJ ³	EQU ⁴					
Passive Containment Cooling System: NIC(2)	LL_WP0	4.76	4.51	< 750	322	1971	1580	1582	---	---	NIC(2)=0
	LL_WP1	5.27	4.57	778	321	1971	1618	2016	---	---	NIC(2)=1
	LL_WP2	5.26	4.57	782	320	1971	1618	2020	---	---	NIC(2)=2
	LL_WP3	5.26	4.57	786	321	1971	1619	2026	---	---	NIC(2)=3
	LL_WP4	5.24	4.57	794	320	1971	1619	2036	---	---	NIC(2)=4
	LL_WP5	4.80	4.52	807	321	1971	1619	2051	---	---	NIC(2)=5
	LL_WP6	4.77	4.51	822	321	1970	1619	2068	---	---	NIC(2)=6
Isolation Condenser System: NIC(1)	LL_IC0	5.24	4.57	795	320	1971	1619	2036	---	---	NIC(1)=0
	LL_IC1	8.92	6.23	< 750	563	2213	---	---	---	---	NIC(1)=1
	LL_IC2	10.24	6.60	< 750	577	2227	---	---	---	---	NIC(1)=2
	LL_IC3	11.49	6.95	< 750	592	2241	---	---	---	---	NIC(1)=3
	LL_IC4	21.14	7.45	< 750	610	2260	---	---	---	---	NIC(1)=4
Natural Circulation Parameters; FFRICX, FNCBP	LL_NC1a	5.24	4.57	795	320	1971	1619	2036	---	---	FFRICX = 0
	LL_NC1b	5.24	4.57	795	320	1971	1619	2036	---	---	FFRICX = 1.0
	LL_NC2a	5.24	4.57	795	320	1971	1619	2036	---	---	FNCBP = 0
	LL_NC2b	5.24	4.57	795	320	1971	1619	2036	---	---	FNCBP = 1.0

- 1 The core minimum RPV water level represents the MAAP parameter, XWCOR. The value shown in this column reflects the minimum value derived from the data plotfile, D86.
- 2 The minimum water level in the shroud is represented by the MAAP parameter, XWSH. The value shown in this column reflects the minimum value derived from the data plotfile, D86.
- 3 The timing indicated in this column represents the time for the GDSC injection area to become positive.
- 4 The timing indicated in this column represents the time for the GDSC equalization area to become positive.
- 5 All subsequent runs were based on the selection of this scenario as the limiting LLOCA

Table 11A-2
MLOCA – Thermal Hydraulic Sensitivity Results

Sensitivity	Parameter	Run Name	Minimum RPV Water Level (m)		Max Fuel Clad Temp (K)	Time to Blowdown (sec)		Time to Core Uncovery (sec)	Time of Core Recovery (sec)	RPV Failure (sec)	Containment Failure (sec)	Comments
			Core ¹	Shroud ²		INJ ³	EQU ³					
LOCA - Medium Break	Type of LOCA	ML_EQU	4.41	4.35	< 750	381	---	693	941	---	---	MLOCA at equalization line
		ML_GDCS	5.51	4.59	< 750	278	---	772	954	---	---	MLOCA at GDCS injection line
		ML_IC	10.83	5.82	< 750	384	---	---	---	---	---	MLOCA at IC return tap
		ML_RWCU	4.41	4.33	754	497	---	865	1097	---	---	MLOCA at RWCU tap
		ML_SLCS ⁴	5.39	4.58	< 750	510	---	994	1206	---	---	MLOCA at SLCS inlet
		ML_EQU2	8.50	5.34	< 750	287	---	---	---	---	---	MLOCA at equalization line x2
		ML_GDCS2	8.64	5.42	< 750	289	---	---	---	---	---	MLOCA at GDCS injection line x2
		ML_IC2	11.23	5.79	< 750	293	---	---	---	---	---	MLOCA at IC return tap x2
	ML_RWCU2	8.23	5.17	< 750	361	---	---	---	---	---	MLOCA at RWCU tap x2	
	ML_SLCS2	4.77	4.44	< 750	383	---	787	1013	---	---	MLOCA at SLCS inlet x2	
	GDCS Injection: AGO(1), N_GDCS_VALVES	ML_V10	3.96	3.95	3920	---	2164	995	2361	---	---	0 of 8 GDCS valves
		ML_V11	4.50	4.39	1084	510	2161	995	1356	---	---	1 of 8 GDCS valves
		ML_V12	4.95	4.50	< 750	510	2160	995	1243	---	---	2 of 8 GDCS valves
		ML_V14	5.38	4.53	< 750	510	2160	995	1224	---	---	4 of 8 GDCS valves
		ML_V16	5.38	4.56	< 750	510	---	995	1213	---	---	6 of 8 GDCS valves
		ML_V18	4.47	4.37	< 750	510	---	995	1207	---	---	8 of 8 GDCS valves
		ML_V11a	4.47	4.37	1101	510	2161	994	1369	---	---	Flow area of 90%
		ML_V11b	4.38	4.30	1394	510	2160	995	1463	---	---	Flow area of 75%
	ML_V11c	4.36	4.30	3116	510	2161	995	1547	---	---	Flow area of 50%	
	ML_V11d	4.05	4.00	>7500	510	2162	995	1607	---	---	Flow area of 25%	
	ML_V11e	4.40	4.31	1525	510	2161	995	1492	---	---	Flow area of 70%	
	GDCS Equalization: AGO(2), N_EQU_VALVES	ML_VE4	4.93	4.49	< 750	511	2162	996	1243	---	---	4 of 4 EQU valves
		ML_VE3	4.93	4.49	< 750	511	2162	996	1243	---	---	3 of 4 EQU valves
		ML_VE2	4.93	4.49	< 750	511	2162	996	1243	---	---	2 of 4 EQU valves
		ML_VE1	4.93	4.49	< 750	511	2162	996	1243	---	---	1 of 4 EQU valves
	ADS Parameters: #_DPV	ML_VE0	4.93	4.49	< 750	511	---	996	1243	---	---	0 of 4 EQU valves
		ML_XD1	3.96	3.94	> 7500	510	2161	1218	2738	---	---	1 of 8 DPVs
		ML_XD2	4.29	4.24	1513	511	2160	1089	1759	---	---	2 of 8 DPVs
		ML_XD3	4.42	4.36	1086	510	2161	1022	1407	---	---	3 of 8 DPVs
		ML_XD3a	4.35	4.30	1427	511	2161	1069	1623	---	---	Flow area of 75%
		ML_XD3b	4.34	4.30	1175	511	2161	1029	1446	---	---	Flow area of 95%
	Passive Containment Cooling System: NIC(2)	ML_XD4	4.95	4.50	< 750	510	2160	995	1243	---	---	4 of 8 DPVs
		ML_WP0	4.89	4.51	< 750	515	2168	964	965	---	---	NIC(2)=0 w/ Pool 1
		ML_WP1	4.89	4.49	< 750	510	2160	994	1230	---	---	NIC(2)=1 w/ Pool 1
		ML_WP2	4.90	4.49	< 750	511	2161	995	1237	---	---	NIC(2)=2 w/ Pool 1
		ML_WP3	4.94	4.50	< 750	511	2161	994	1242	---	---	NIC(2)=3 w/ Pool 1
		ML_WP4	4.95	4.50	< 750	510	2160	995	1243	---	---	NIC(2)=4 w/ Pool 1
		ML_WP5	4.94	4.49	< 750	511	2161	994	1244	---	---	NIC(2)=5 w/ Pool 1
	Isolation Condenser System: NIC(1)	ML_WP6	4.93	4.49	< 750	510	2160	994	1244	---	---	NIC(2)=6 w/ Pool 1
		ML_IC0	4.95	4.50	< 750	510	2160	995	1243	---	---	NIC(1)=0 w/ Pool 1
ML_IC1		8.22	5.45	< 750	712	2361	---	---	---	---	NIC(1)=1 w/ Pool 1	
ML_IC2		8.87	5.88	< 750	743	2393	---	---	---	---	NIC(1)=2 w/ Pool 1	
ML_IC3	10.10	6.20	< 750	930	2580	---	---	---	---	NIC(1)=3 w/ Pool 1		
ML_IC4	12.07	6.64	< 750	1656	3306	---	---	---	---	NIC(1)=4 w/ Pool 1		

1 The core minimum RPV water level represents the MAAP parameter, XWCOR. The value shown in this column reflects the minimum value derived from the data plotfile, D86.
 2 The minimum water level in the shroud is represented by the MAAP parameter, XWSH. The value shown in this column reflects the minimum value derived from the data plotfile, D86.
 3 The timing indicated in this column represents the time for the GDCS injection area or equalization area to become positive.
 4 All subsequent runs were based on the selection of this scenario as the limiting MLOCA

Table 11A-3
IORV – Thermal Hydraulic Sensitivity Results

Sensitivity	Parameter	Run Name	Minimum RPV Water Level (m)		Max Fuel Clad Temp (K)	Time to Blowdown (sec)		Time to Core Uncovery (sec)	Time of Core Recovery (sec)	RPV Failure (sec)	Containment Failure (sec)	Comments
			Core ¹	Shroud ²		INJ ³	EQU ⁴					
IORV- Inadvertantly Stuck Open Relief Valve	GDCS Injection: AGO(1), N_GDCS_VALVES	IORV_VI0	4.04	3.98	> 7500	---	2023	926	2252	---	---	0 of 8 GDCS valves
		IORV_VI1	5.18	4.52	< 750	372	2022	926	1203	---	---	1 of 8 GDCS valves
		IORV_VI1a	4.48	4.38	1064	372	2021	926	1381	---	---	1 GDCS valve @ 0.75 flow area
		IORV_VI1b	4.40	4.31	1778	372	2022	926	1609	---	---	1 GDCS valve @ 0.50 flow area
		IORV_VI1c	4.38	4.29	1335	372	2022	926	1335	---	---	1 GDCS valve @ 0.66 flow area
		IORV_VI2	6.17	4.67	< 750	372	2022	926	1097	---	---	2 of 8 GDCS valves
		IORV_VI4	6.33	4.72	< 750	372	2022	926	1073	---	---	4 of 8 GDCS valves
		IORV_VI6	6.34	4.74	< 750	372	---	926	1058	---	---	6 of 8 GDCS valves
	IORV_VI8	6.34	4.75	< 750	372	---	926	1050	---	---	8 of 8 GDCS valves	
	GDCS Equalization: N_EQU_VALVES	IORV_VE0	6.17	4.67	< 750	372	---	926	1097	---	---	0 of 4 EQU valves
		IORV_VE1	6.17	4.67	< 750	372	2022	926	1097	---	---	1 of 4 EQU valves
		IORV_VE2	6.17	4.67	< 750	372	2022	926	1097	---	---	2 of 4 EQU valves
		IORV_VE3	6.17	4.67	< 750	372	2022	926	1097	---	---	3 of 4 EQU valves
	ADS Parameters: #_DPV	IORV_VE4	6.17	4.67	< 750	372	2022	926	1096	---	---	4 of 4 EQU valves
		IORV_XD1	4.24	4.22	> 7500	372	2022	992	1949	---	---	1 of 8 DPVs
		IORV_XD2	4.36	4.31	1294	372	2021	948	1446	---	---	2 of 8 DPVs
		IORV_XD2_75	4.33	4.28	1626	372	2022	969	1599	---	---	Flow area of 75%
		IORV_XD2_85	4.36	4.30	1449	372	2022	961	1576	---	---	Flow area of 85%
		IORV_XD2_90	4.36	4.30	1362	372	2022	954	1525	---	---	Flow area of 90%
	IORV_XD3	4.72	4.44	777	372	2022	928	1228	---	---	3 of 8 DPVs	
IORV_XD4	6.17	4.67	676	372	2022	926	1097	---	---	4 of 8 DPVs		

- 1 The core minimum RPV water level represents the MAAP parameter, XWCOR. The value shown in this column reflects the minimum value derived from the data profile, D86.
- 2 The minimum water level in the shroud is represented by the MAAP parameter, XWSH. The value shown in this column reflects the minimum value derived from the data profile, D86.
- 3 The timing indicated in this column represents the time for the GDCS injection area to become positive.
- 4 The timing indicated in this column represents the time for the GDCS equalization area to become positive.
- 5 All subsequent runs were based on the selection of this scenario as the limiting LLOCA

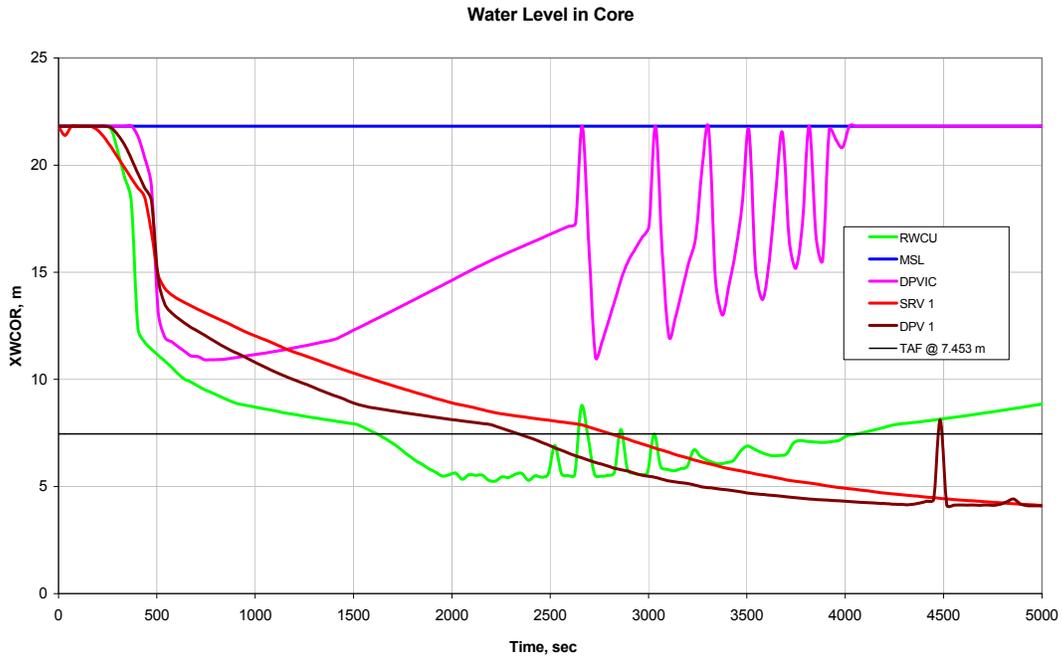


Figure 11A-1. LOCA Sensitivity – Level Profile of XWCOR for LOCA

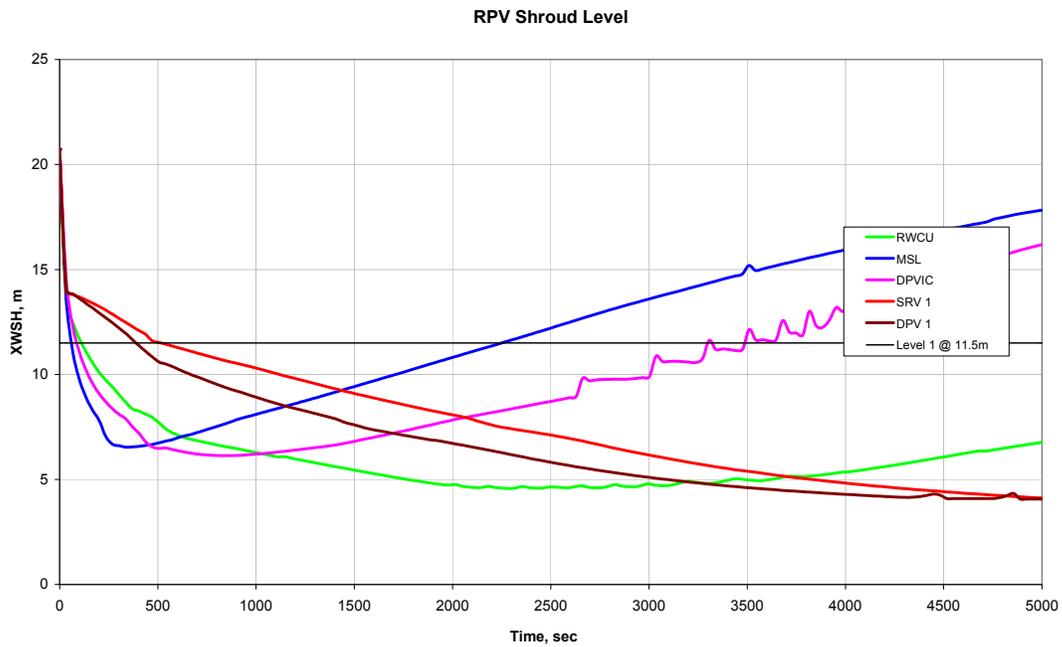


Figure 11A-2. LOCA Sensitivity – Level Profile of XWSH for LOCA

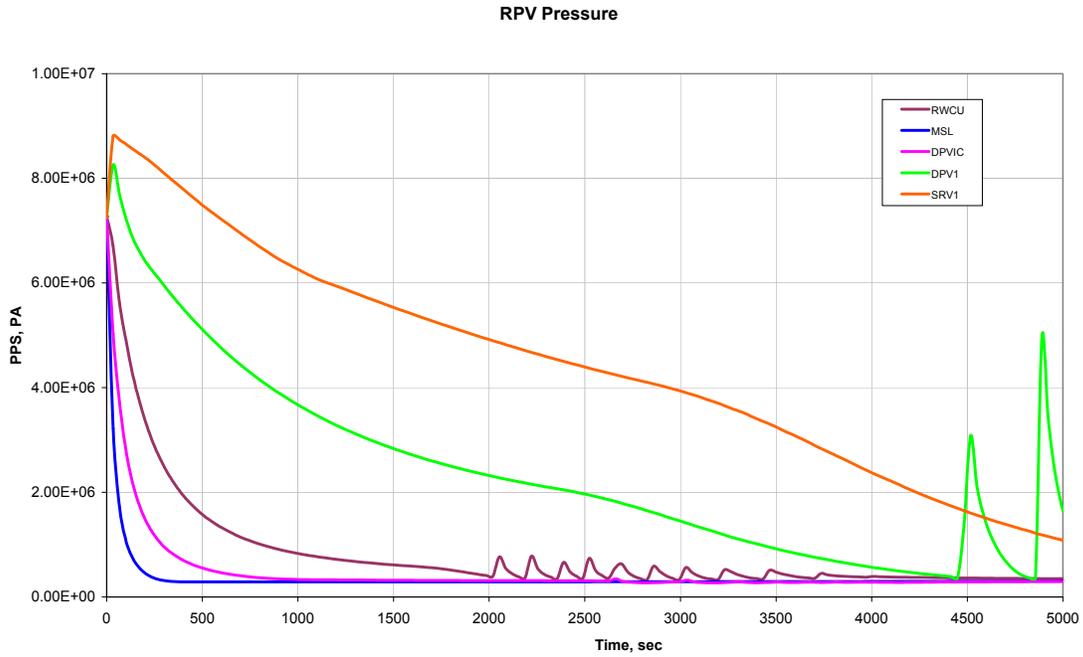


Figure 11A-3. LOCA Sensitivity – Pressure Profile of PPS for LOCA

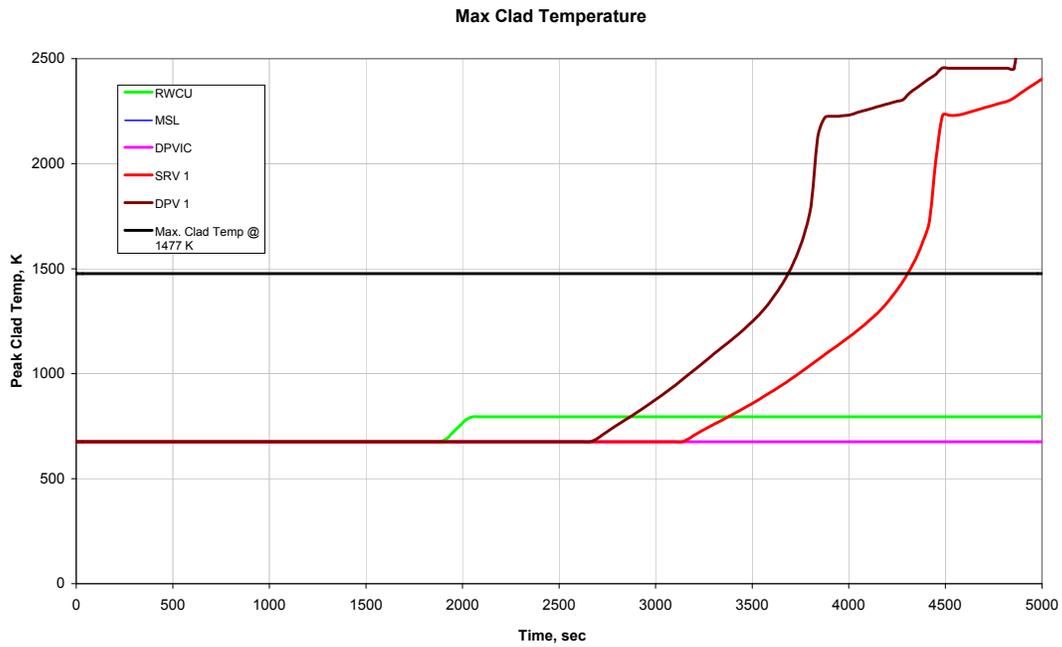


Figure 11A-4. LOCA Sensitivity – Temperature Profile of Max Clad Temp for LOCA

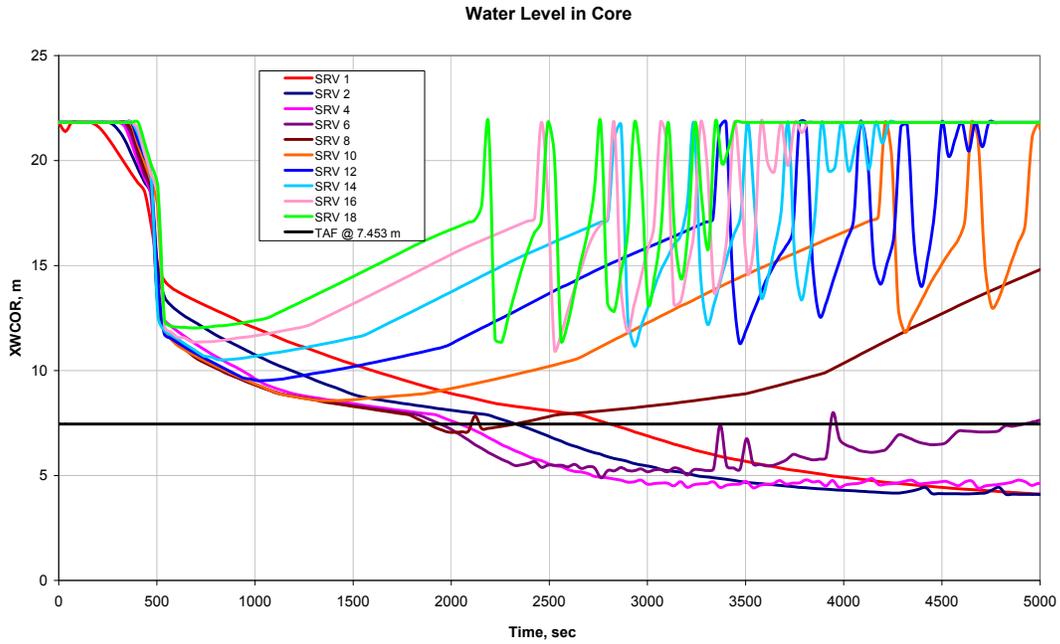


Figure 11A-5. LOCA Sensitivity – Level Profile of XWCOR for SRVs

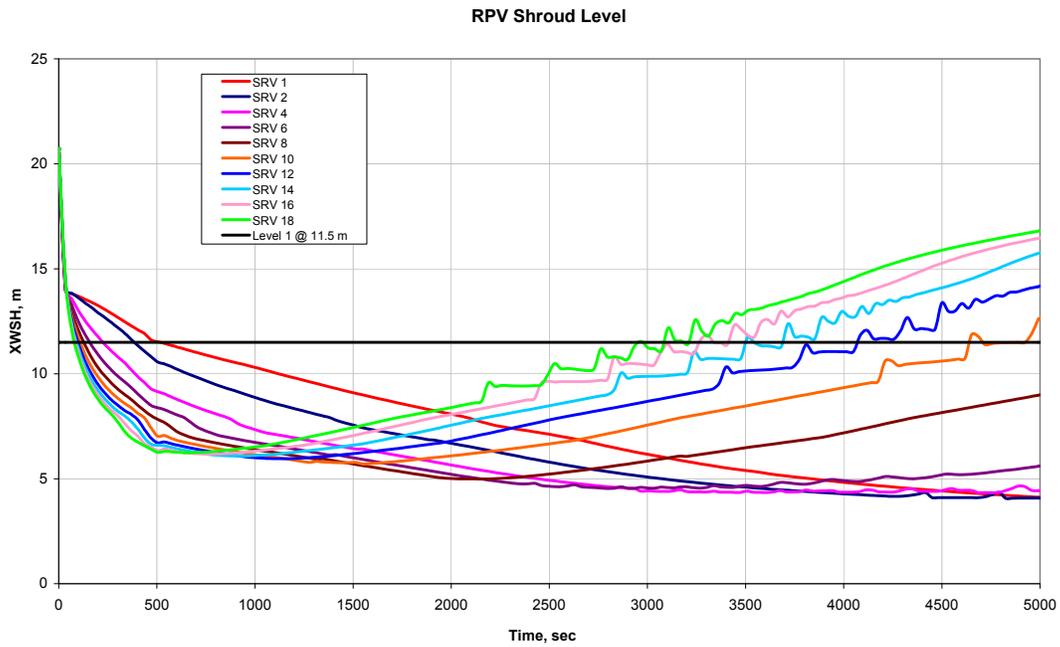


Figure 11A-6. LOCA Sensitivity – Level Profile of XWSH for SRVs

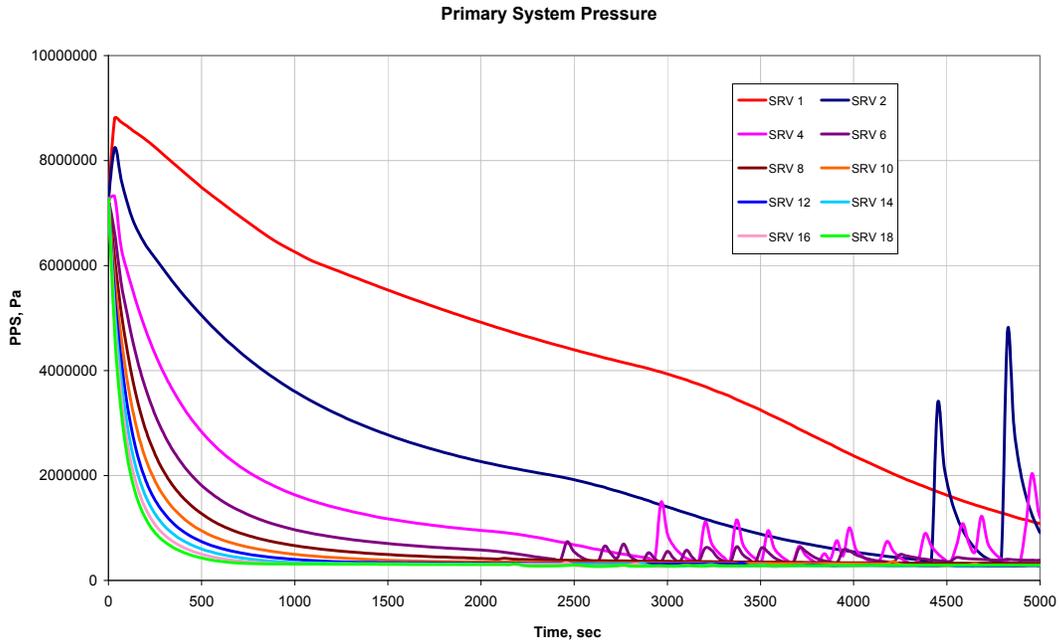


Figure 11A-7. LOCA Sensitivity – Pressure Profile of PPS for SRVs

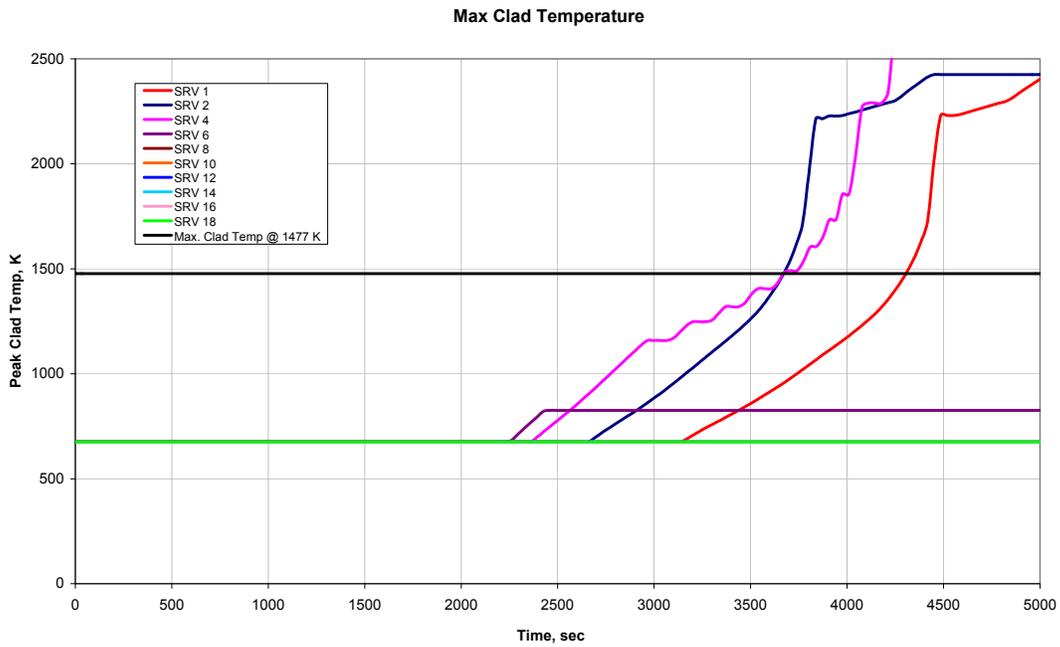


Figure 11A-8. LOCA Sensitivity – Temperature Profile of Max Clad Temp for SRVs

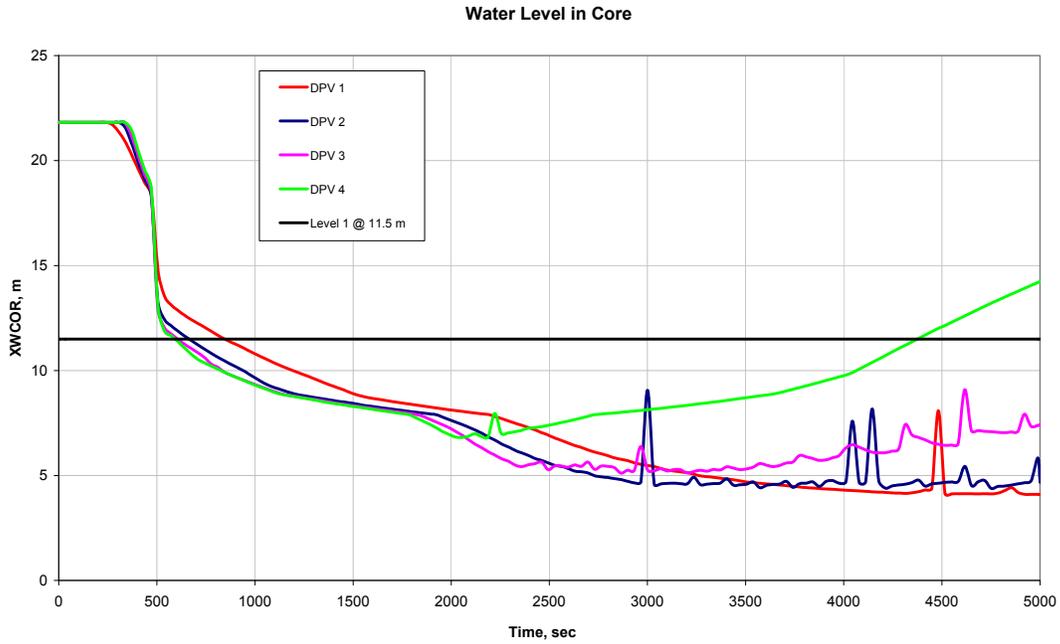


Figure 11A-9. LOCA Sensitivity – Level Profile of XWCOR for DPVs

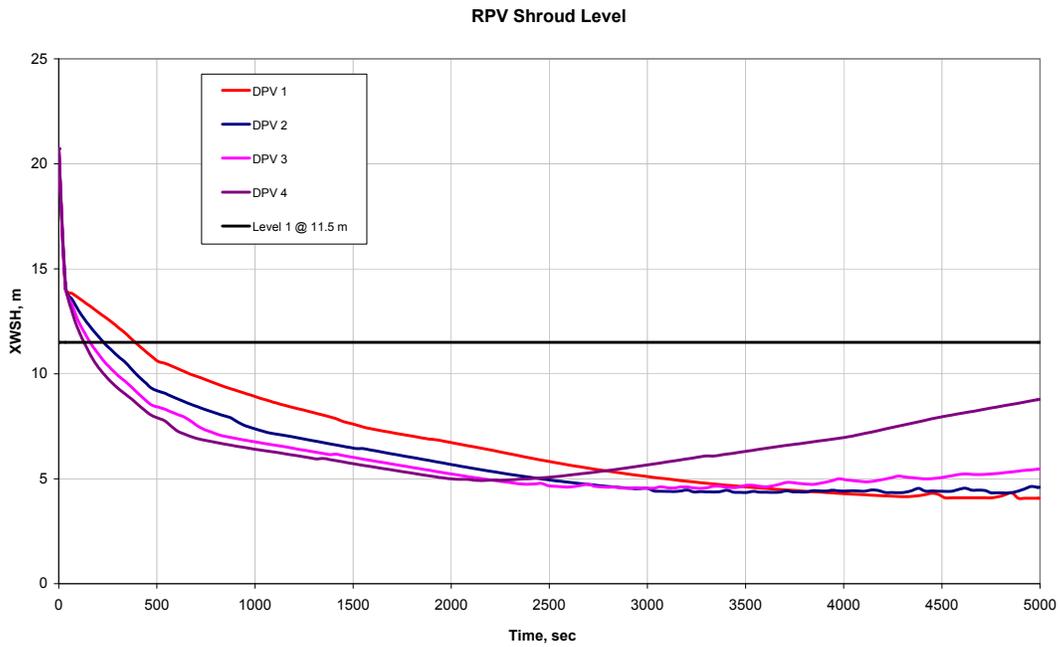


Figure 11A-10. LOCA Sensitivity – Level Profile of XWSH for DPVs

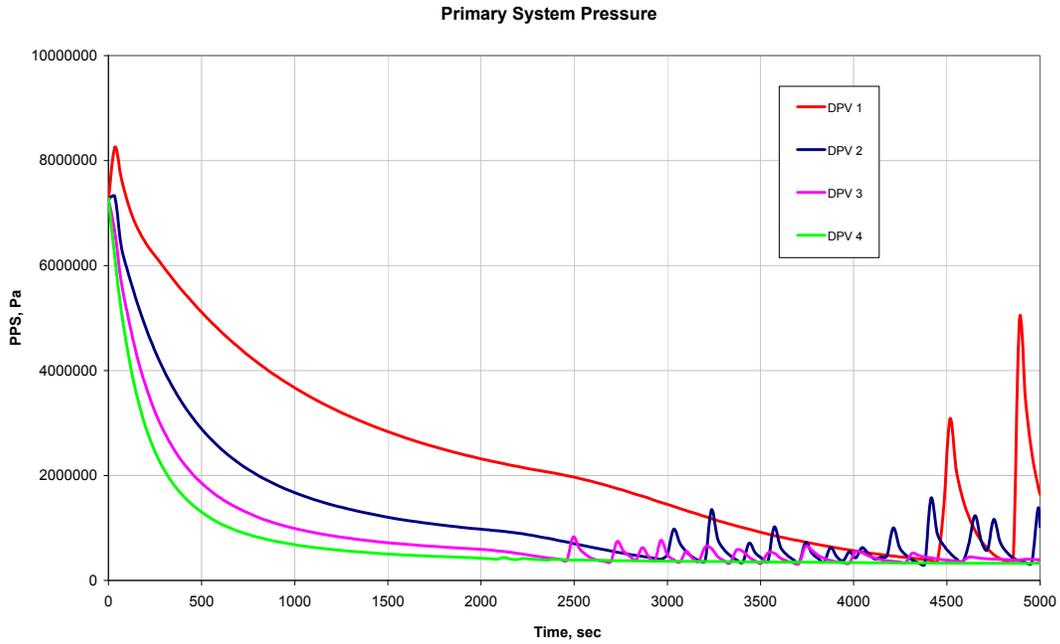


Figure 11A-11. LOCA Sensitivity – Pressure Profile of PPS for DPVs

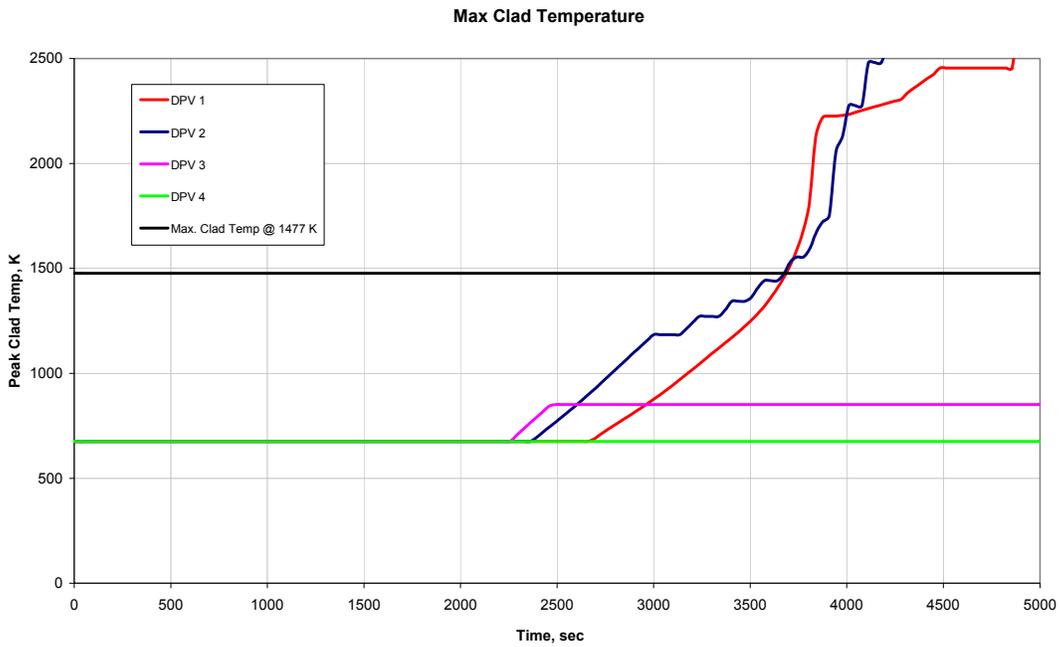


Figure 11A-12. LOCA Sensitivity – Temperature Profile of Max Clad Temp for DPVs

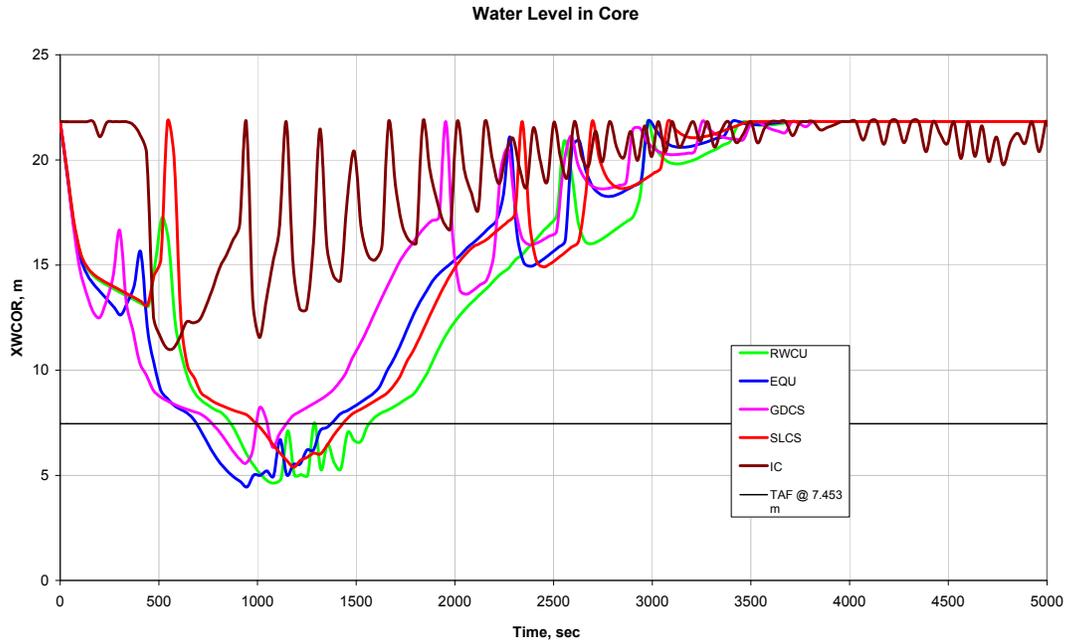


Figure 11A-13. LOCA Sensitivity – Level Profile of XWCOR for MLOCA

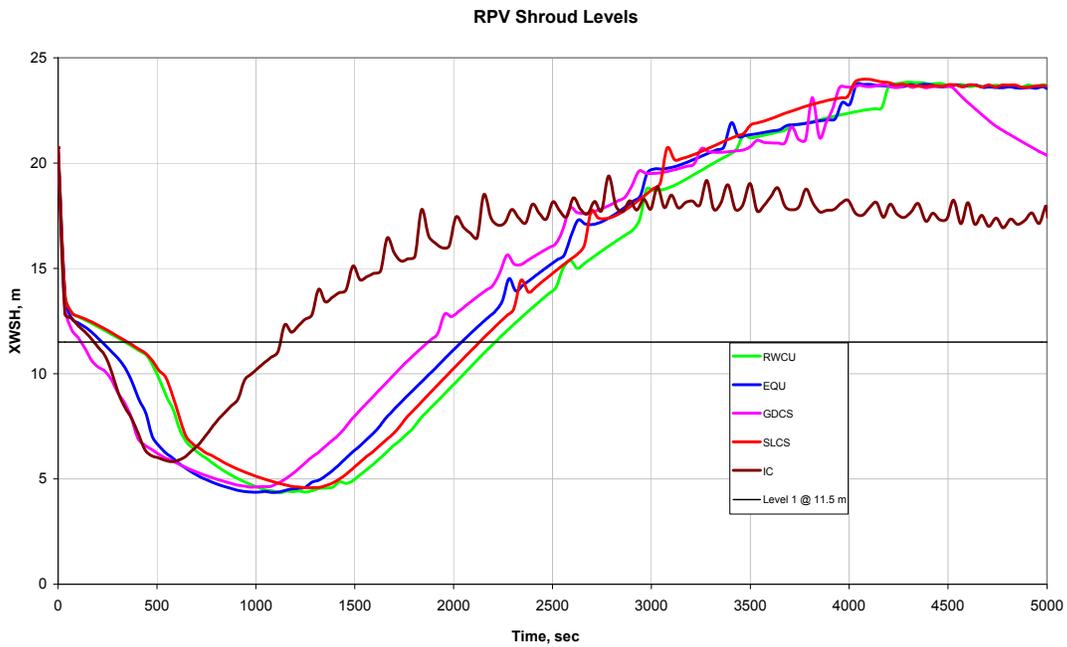


Figure 11A-14. LOCA Sensitivity – Level Profile of XWSH for MLOCA

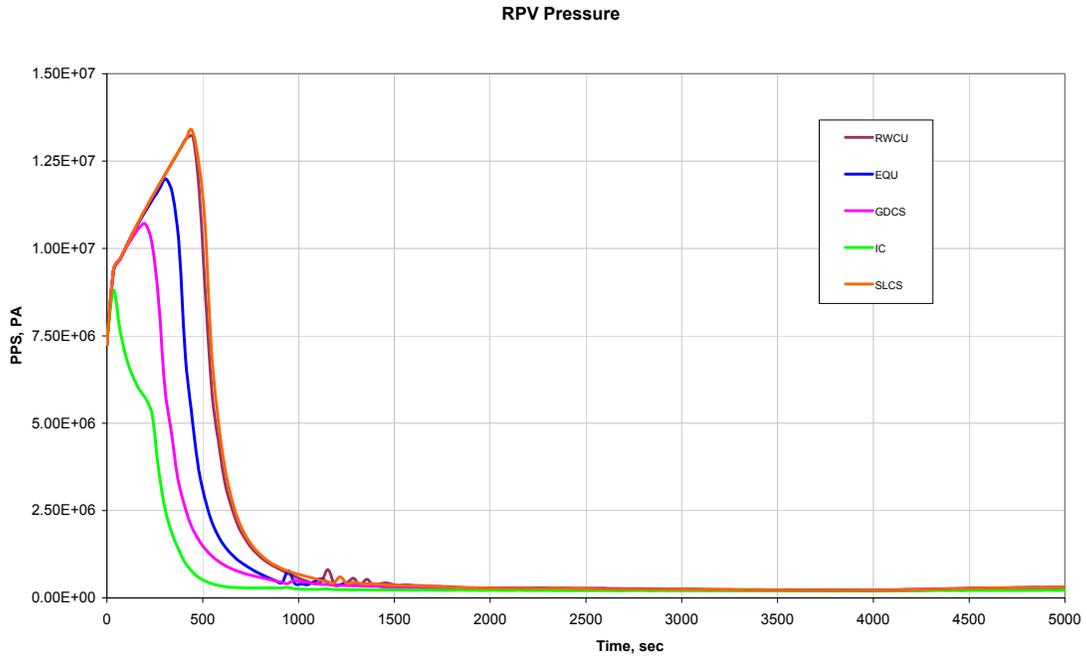


Figure 11A-15. LOCA Sensitivity – Pressure Profile of PPS for MLOCA

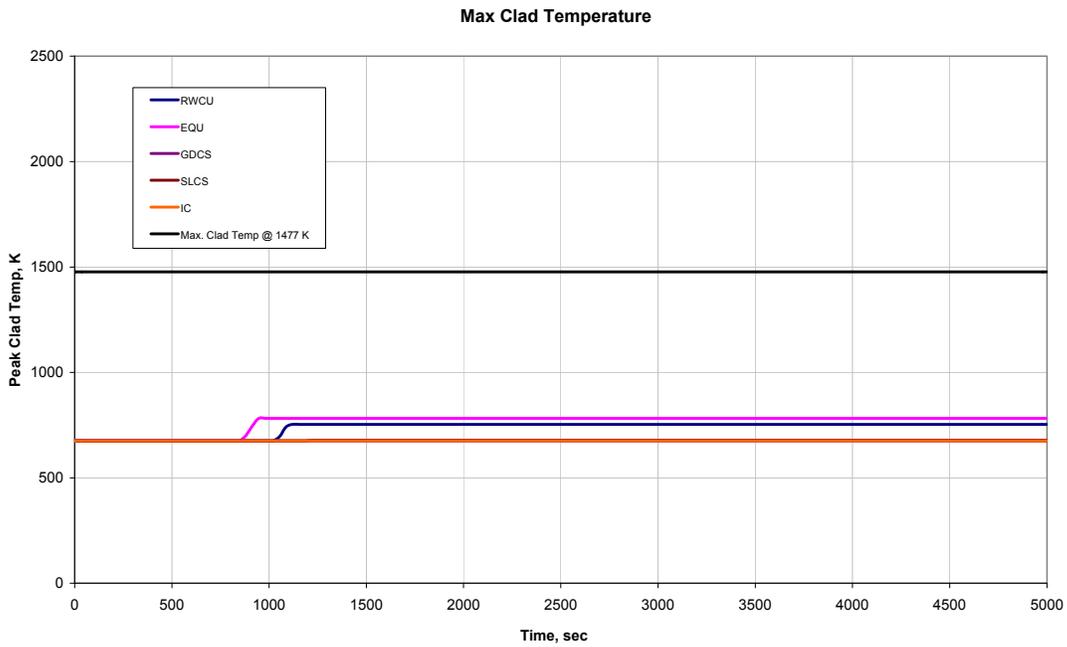


Figure 11A-16. LOCA Sensitivity – Temperature Profile of Max Clad Temp for MLOCA

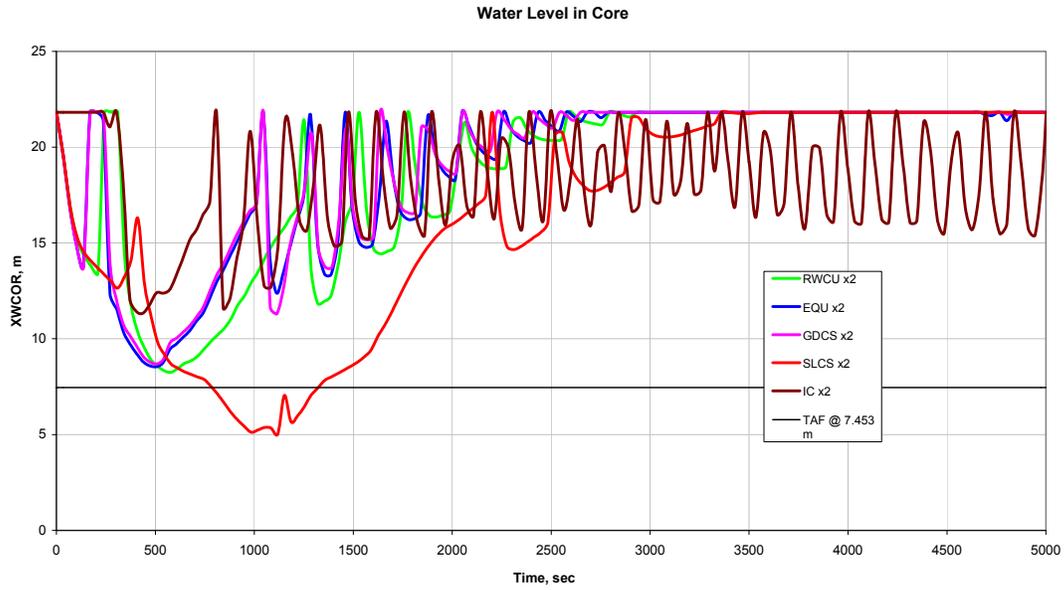


Figure 11A-17. LOCA Sensitivity – Level Profile of XWCOR for MLOCA x2

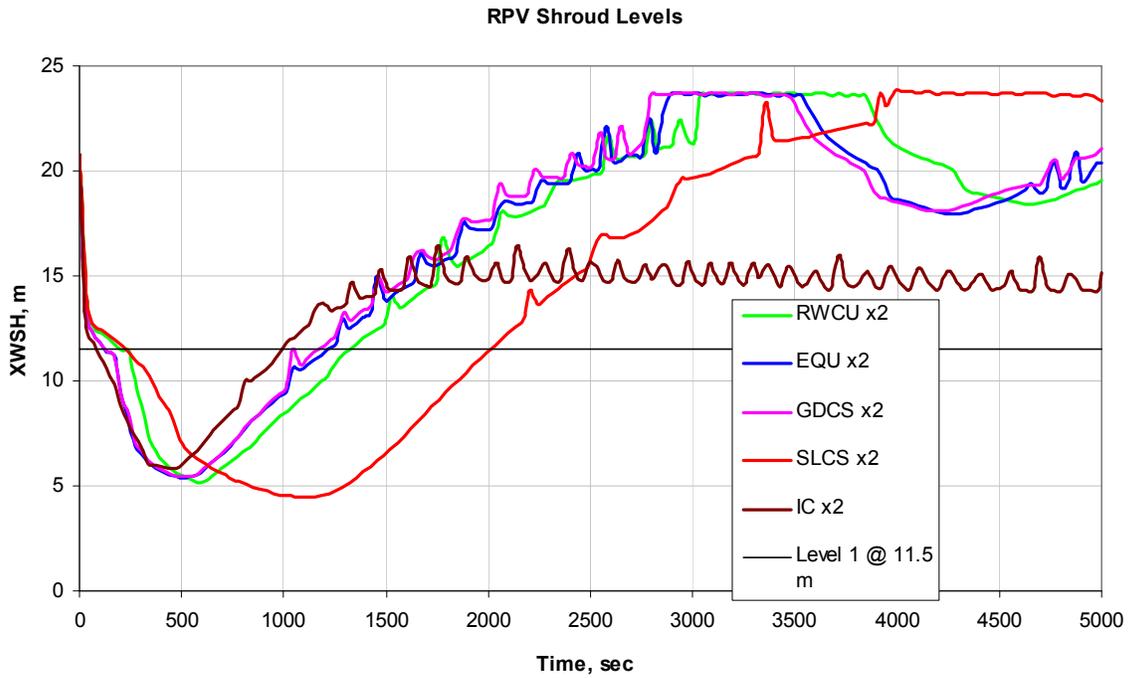


Figure 11A-18. LOCA Sensitivity – Level Profile of XWSH for MLOCA x2

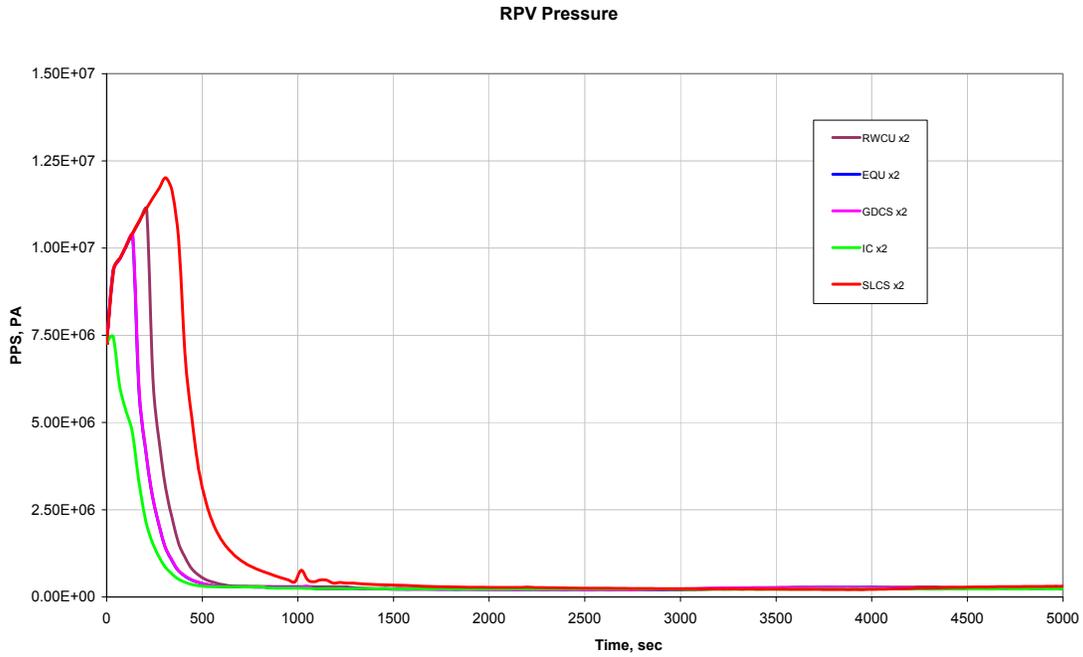


Figure 11A-19. LOCA Sensitivity – Pressure Profile of PPS for MLOCA x2

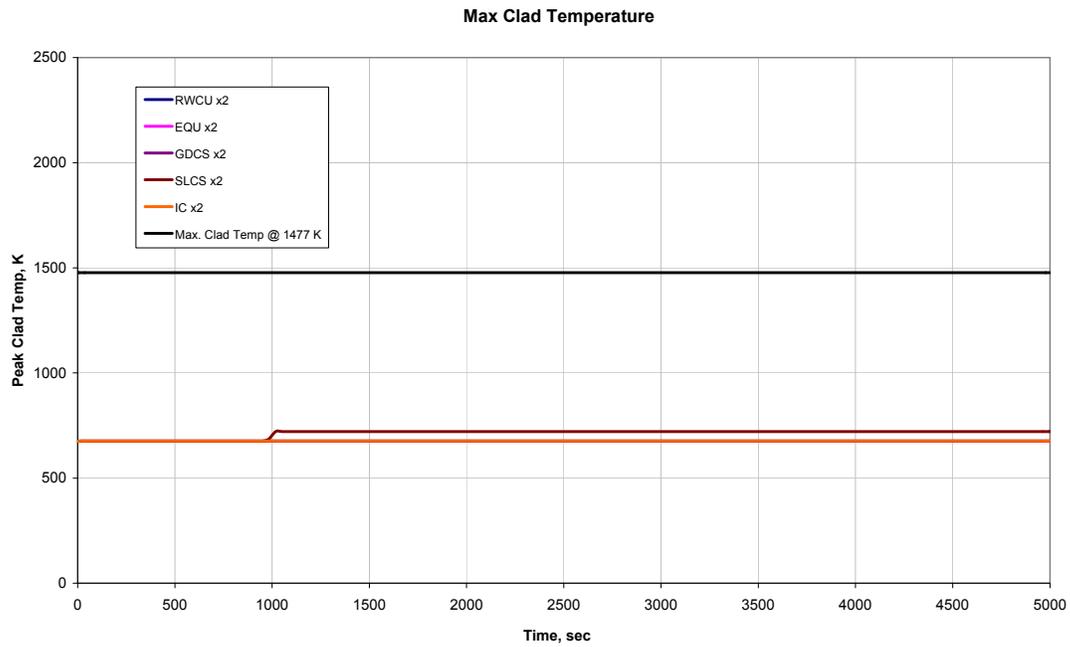


Figure 11A-20. LOCA Sensitivity – Temperature Profile of Max Clad Temp for MLOCA x2

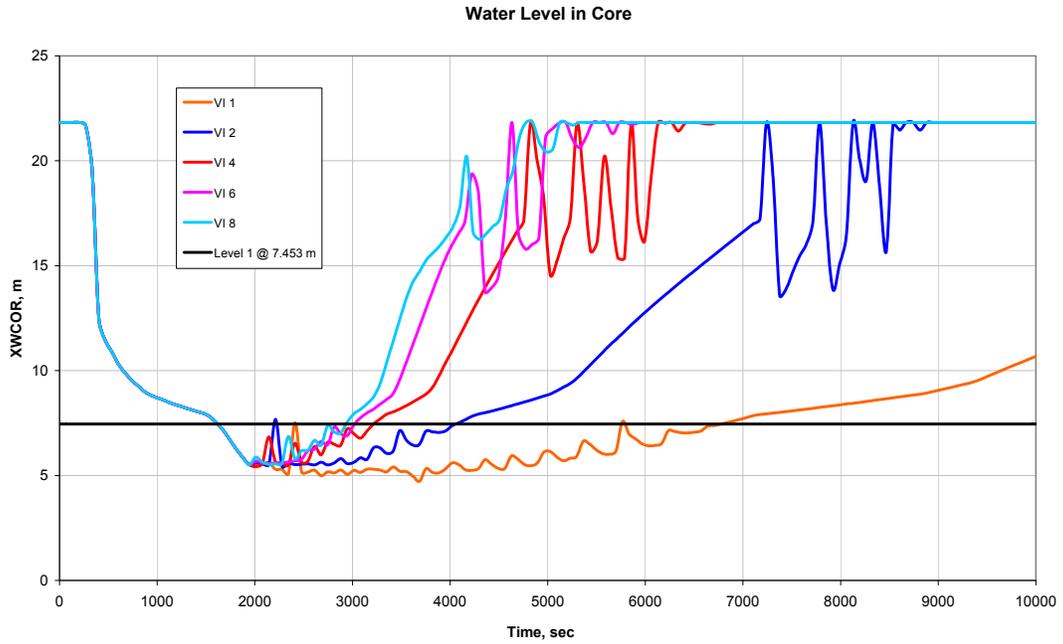


Figure 11A-21. GDCS Injection – Level Profile of XWCOR for LLOCA

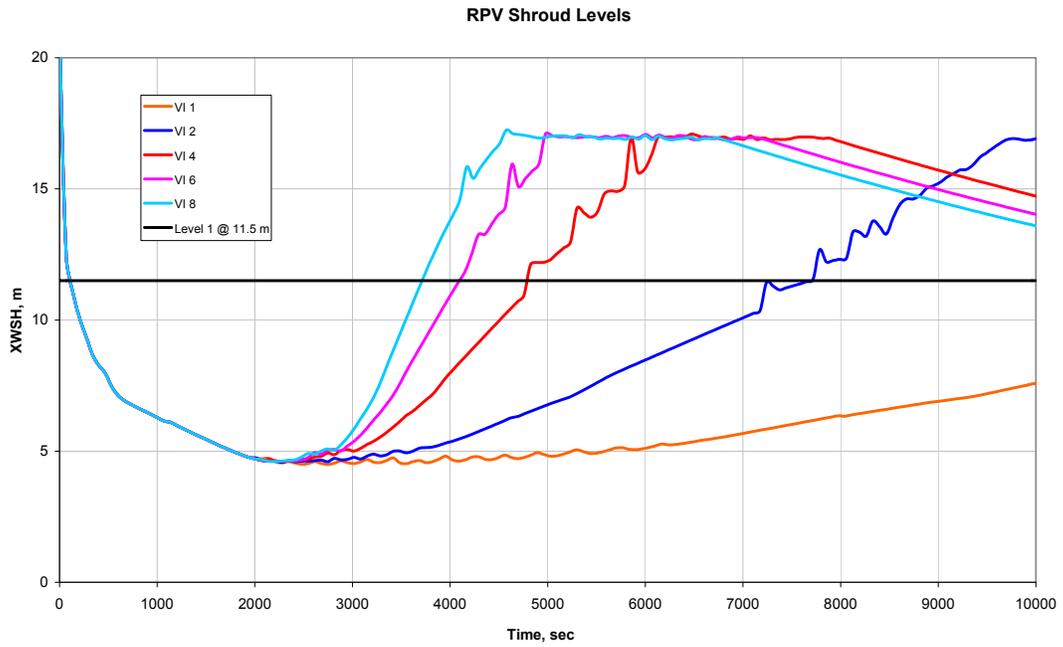


Figure 11A-22. GDCS Injection – Level Profile of XWSH for LLOCA

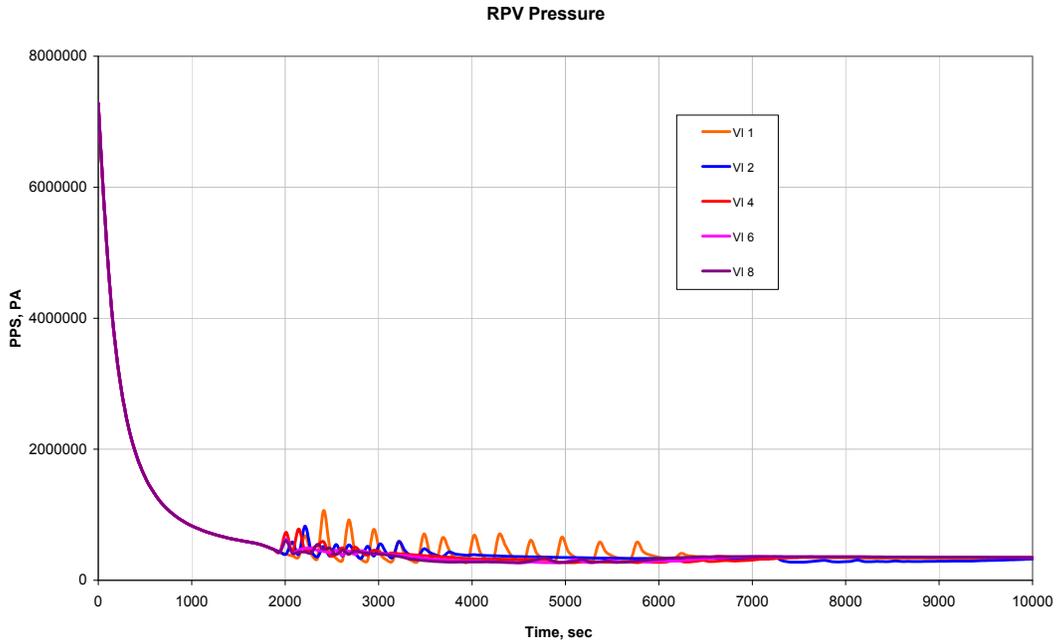


Figure 11A-23. GDCS Injection – Pressure Profile of PPS for LLOCA

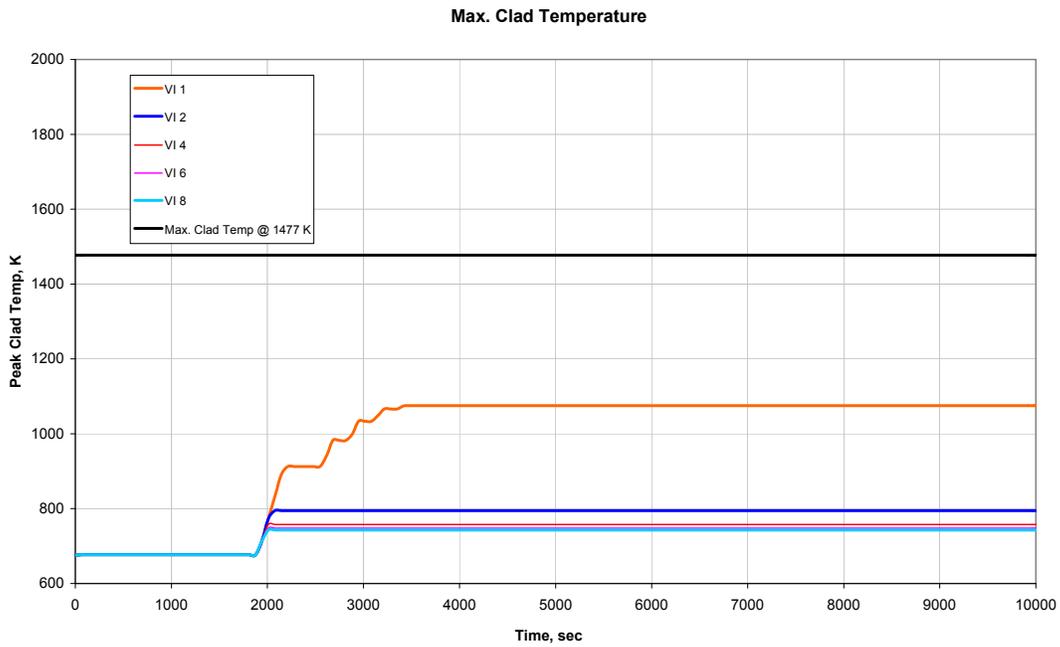


Figure 11A-24. GDCS Injection – Temperature Profile of Max Clad Temp for LLOCA

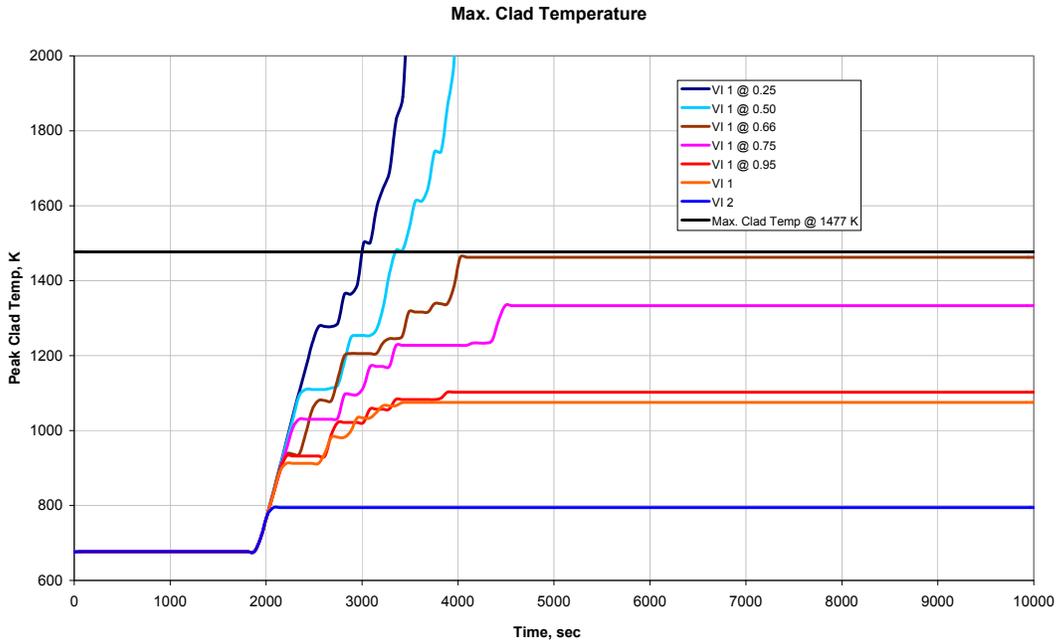


Figure 11A-25. GDCS Injection – Temperature Profile of Max Clad Temp for LLOCA – 1 GDCS Valve

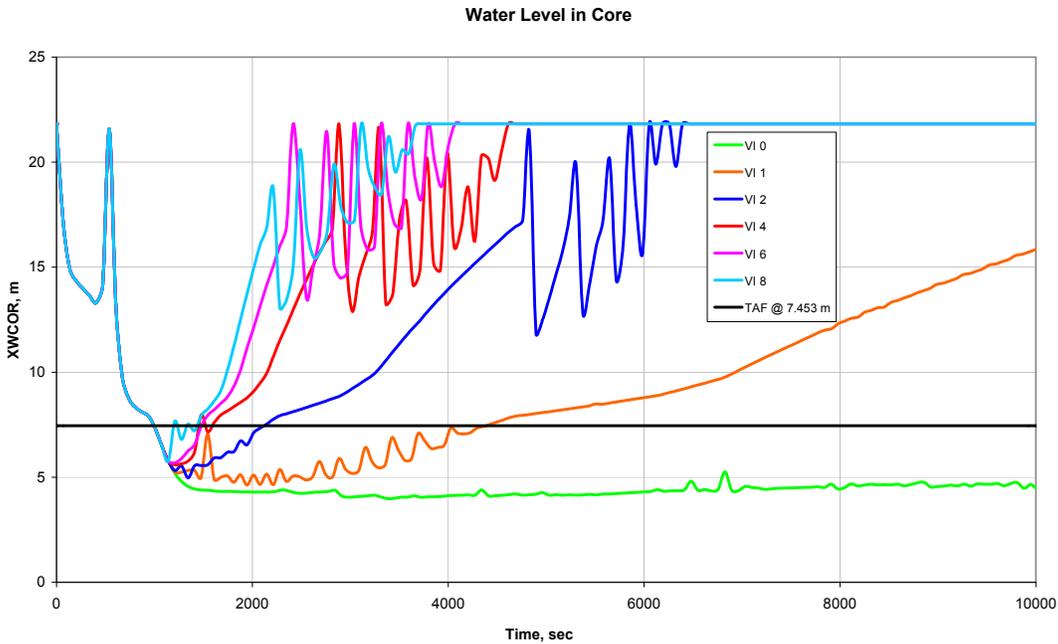


Figure 11A-26. GDCS Injection – Level Profile of XWCOR for MLOCA

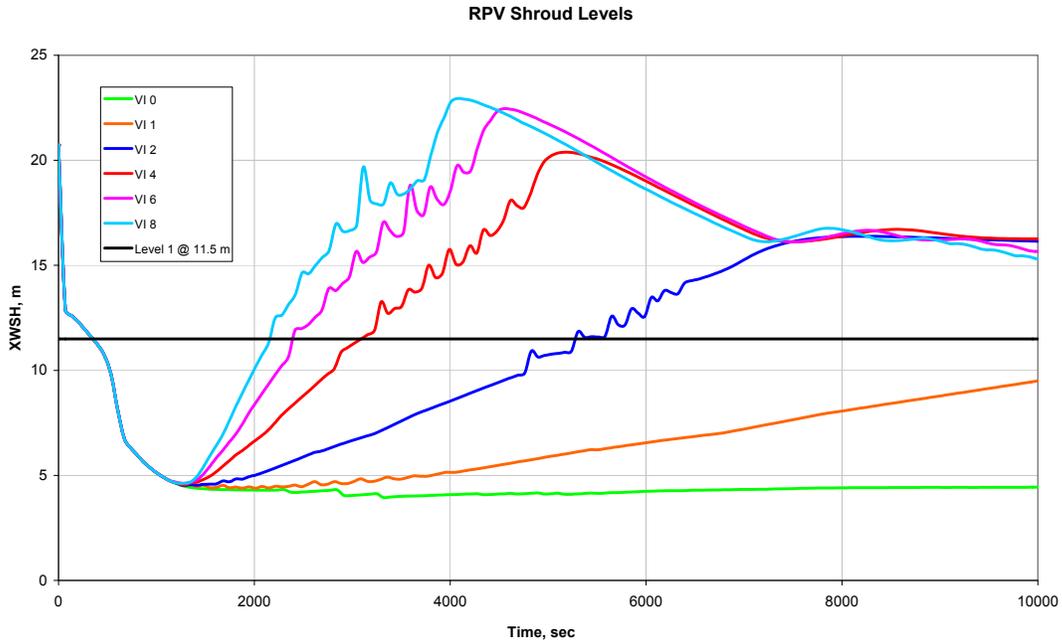


Figure 11A-27. GDCS Injection – Level Profile of XWSH for MLOCA

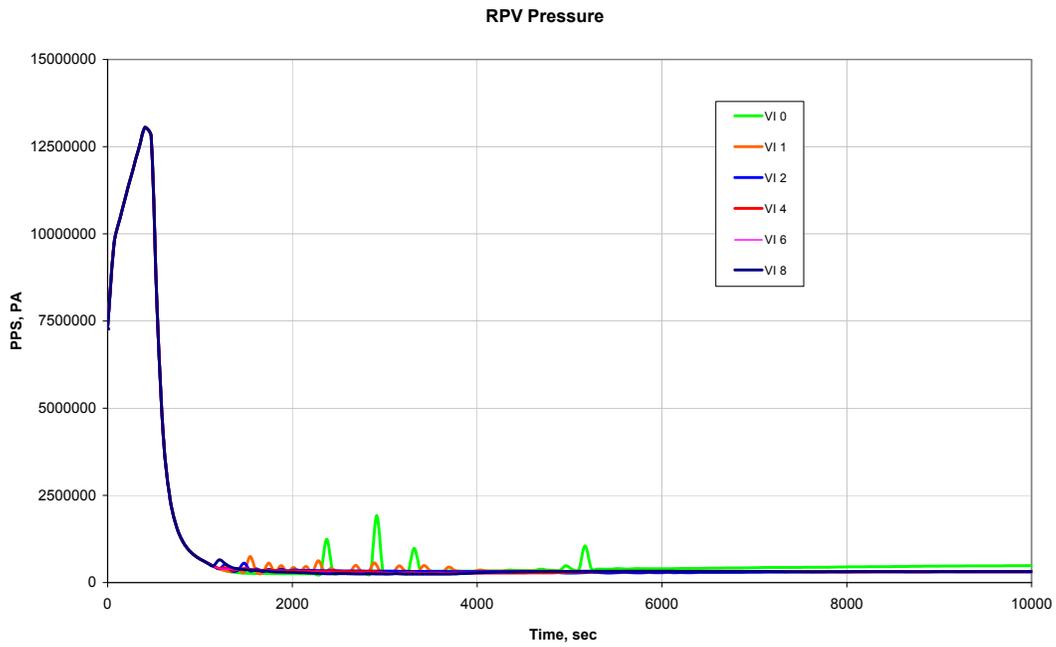


Figure 11A-28. GDCS Injection – Pressure Profile of PPS for MLOCA

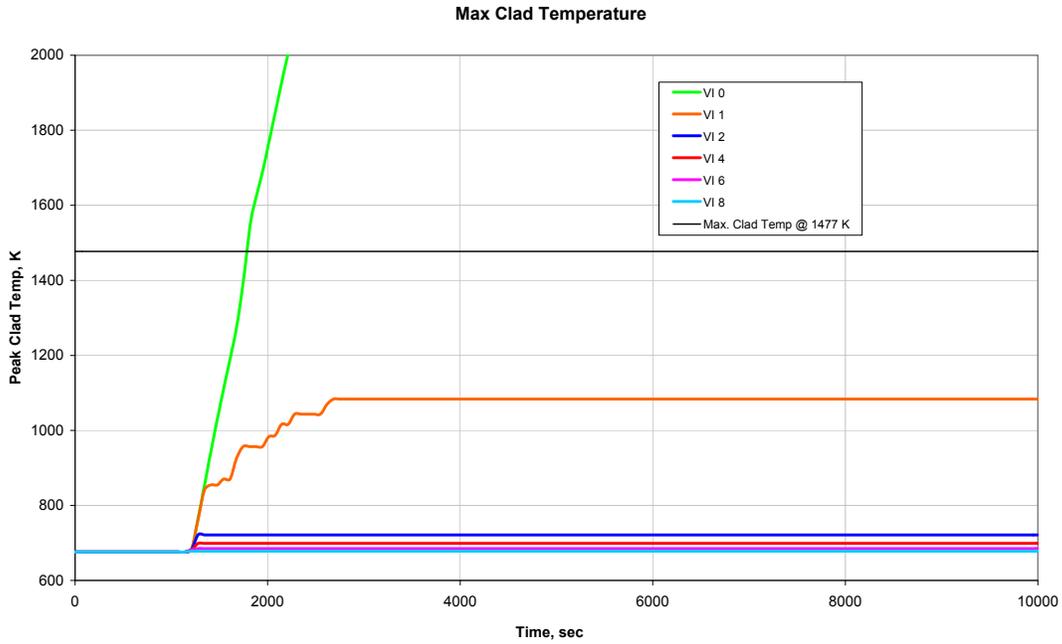


Figure 11A-29. GDCS Injection – Temperature Profile of Max Clad Temp for MLOCA

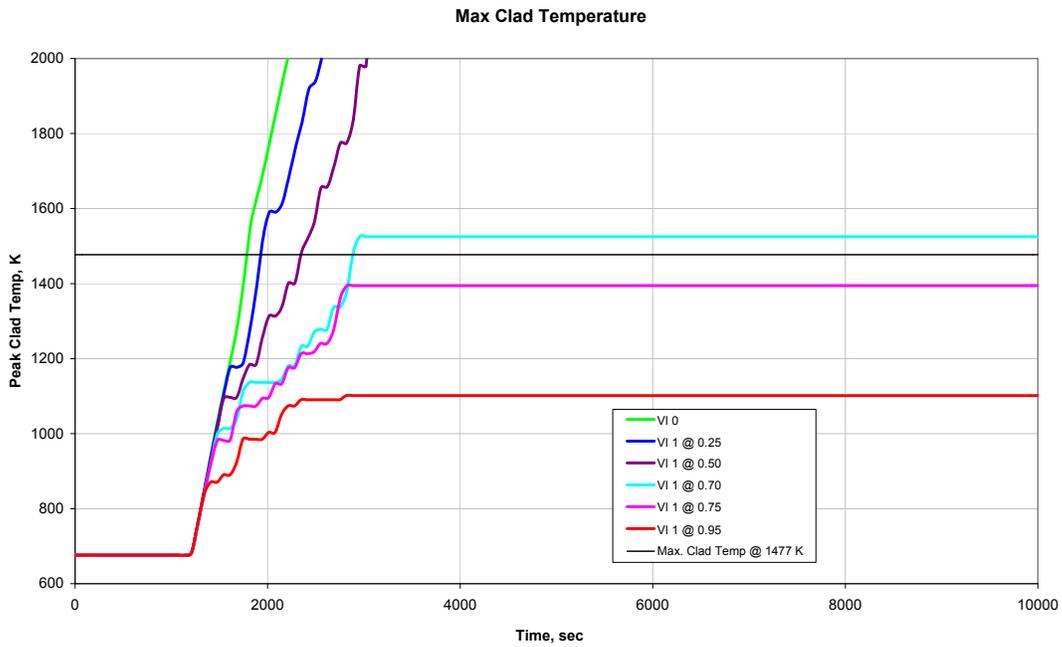


Figure 11A-30. GDCS Injection – Temperature Profile of Max Clad Temp for MLOCA -1 GDCS Valve

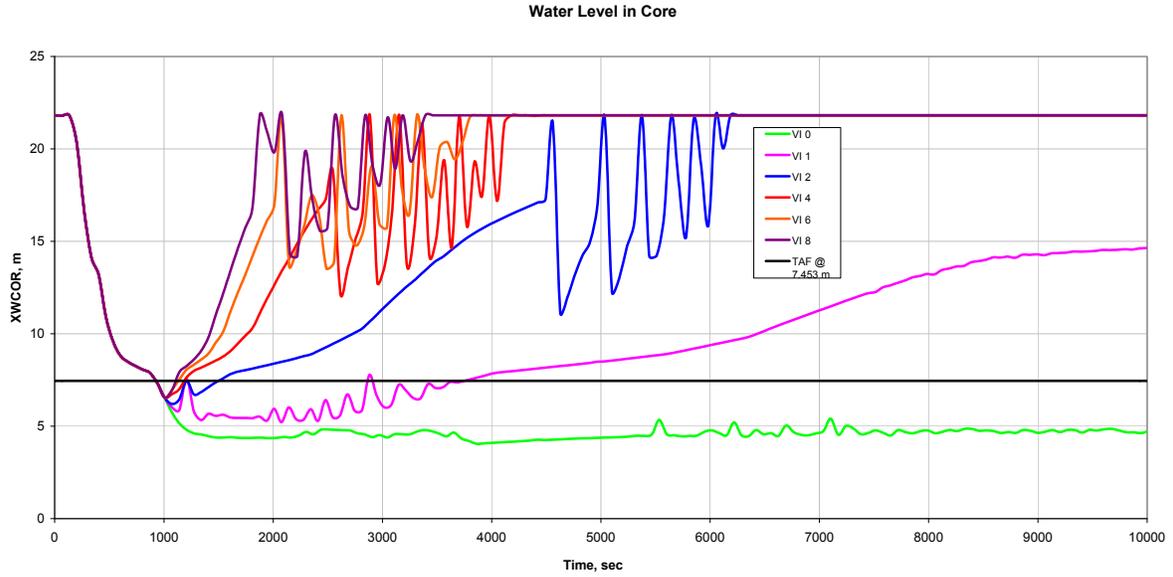


Figure 11A-31. GDCS Injection – Level Profile of XWCOR for IORV

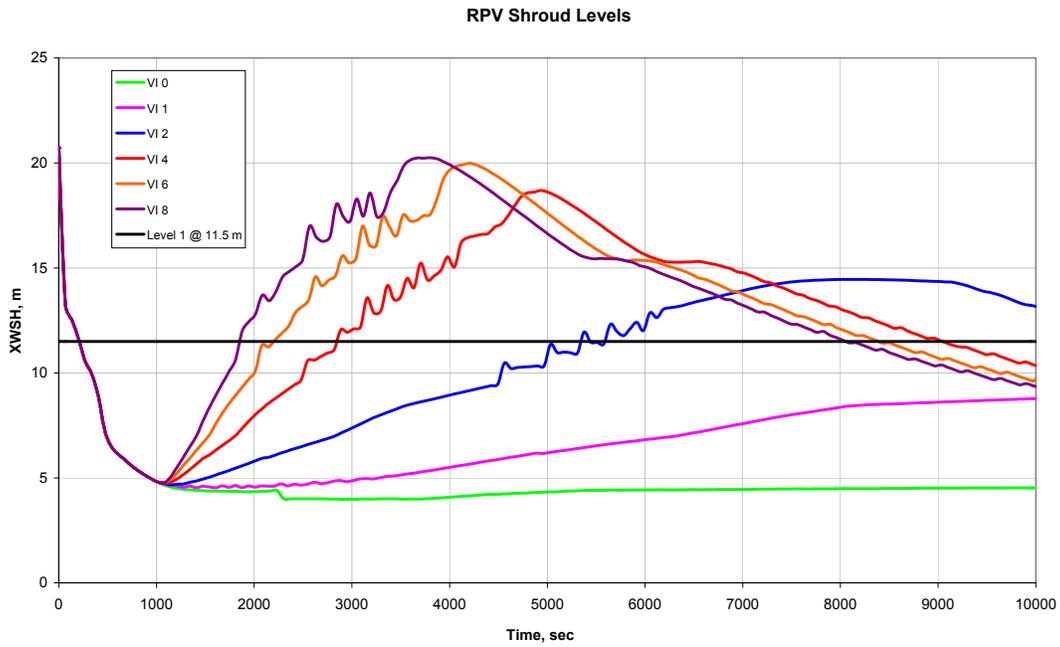


Figure 11A-32. GDCS Injection – Level Profile of XWSH for IORV

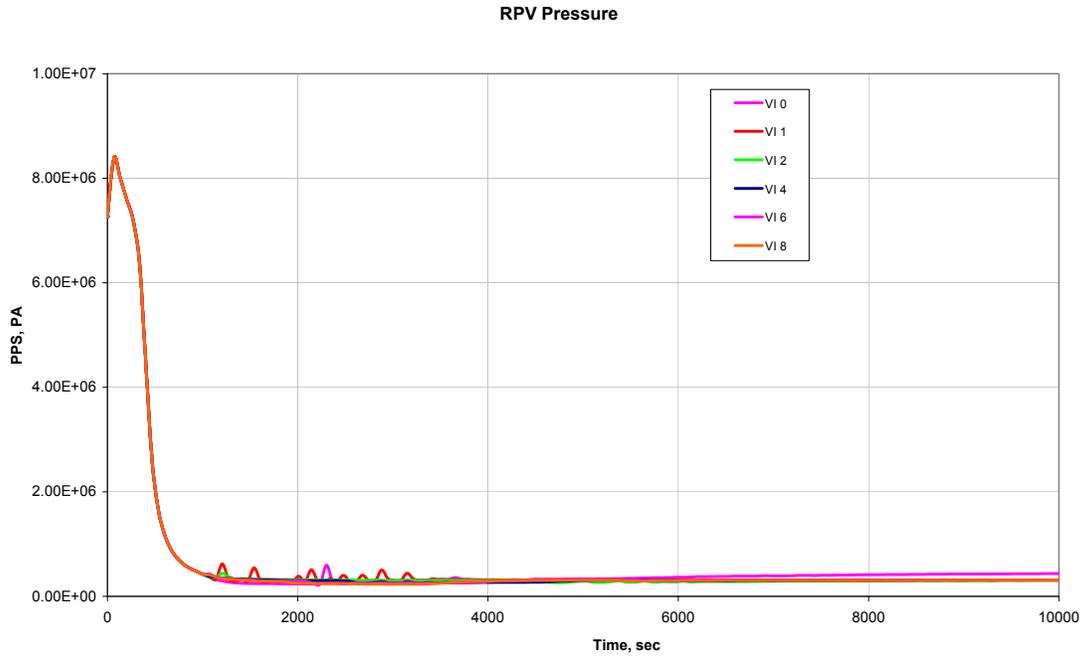


Figure 11A-33. GDCS Injection – Pressure Profile of PPS for IORV

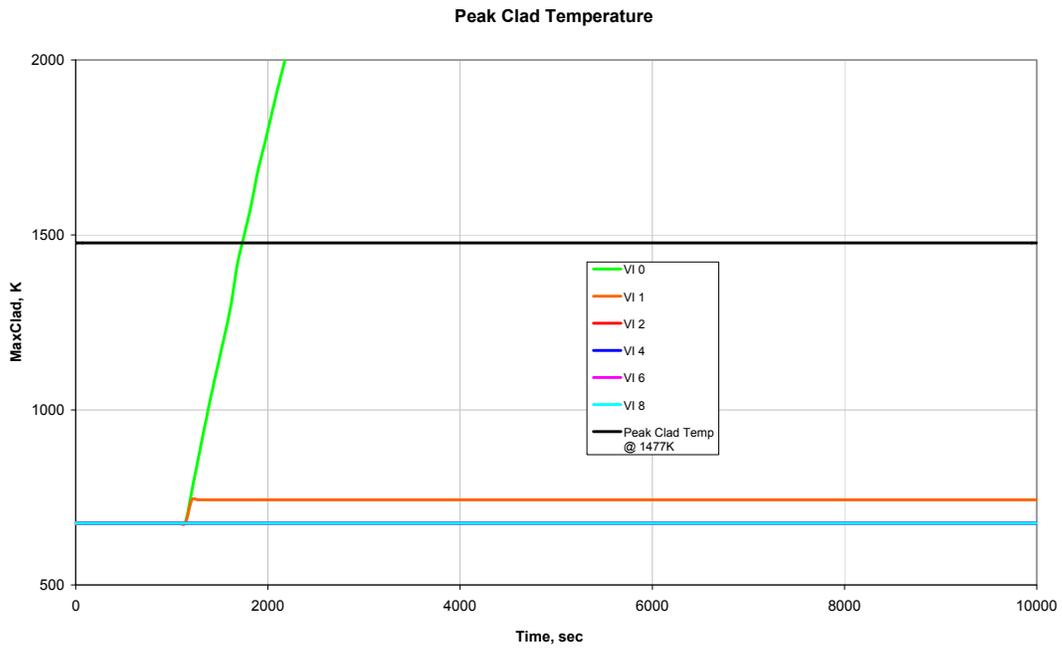


Figure 11A-34. GDCS Injection – Temperature Profile of Max Clad Temp for IORV

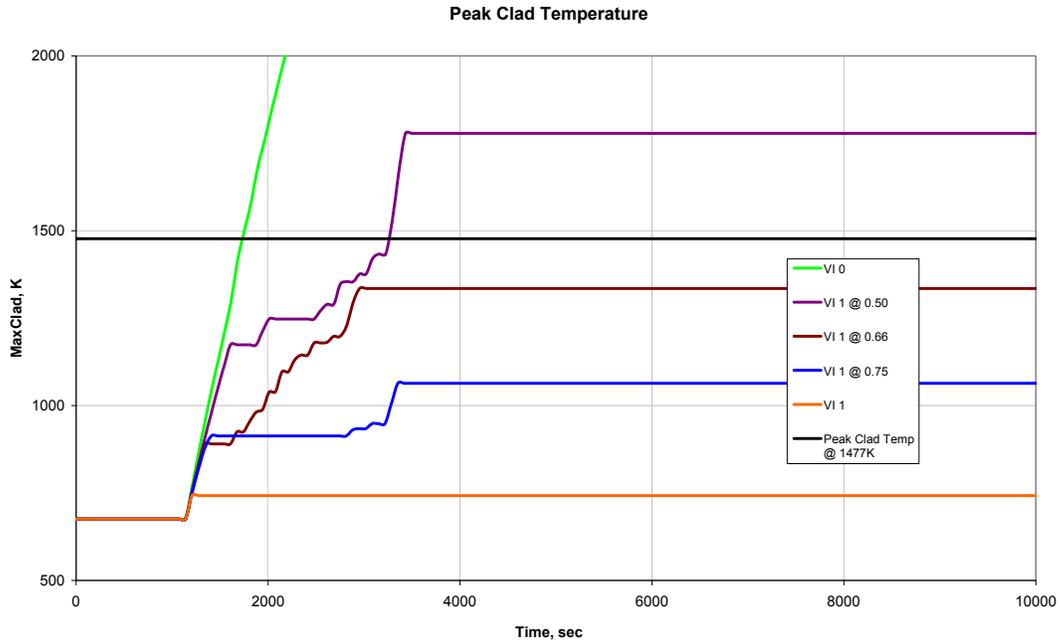


Figure 11A-35. GDCS Injection – Temperature Profile of Max Clad Temp for IORV -1 GDCS Valve

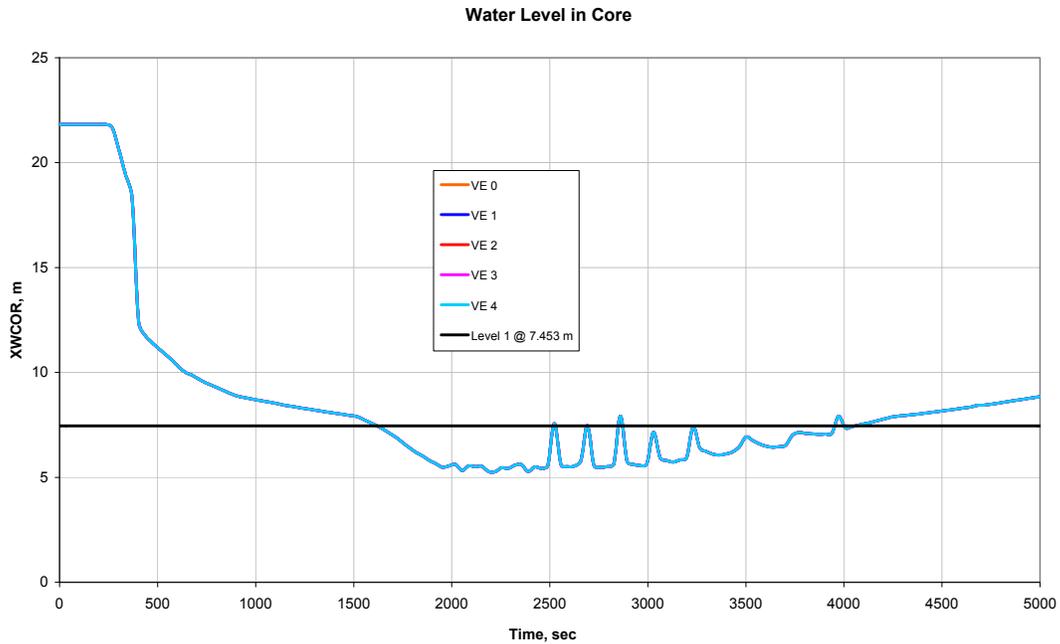


Figure 11A-36. GDCS Equalization – Level Profile of XWCOR for LLOCA

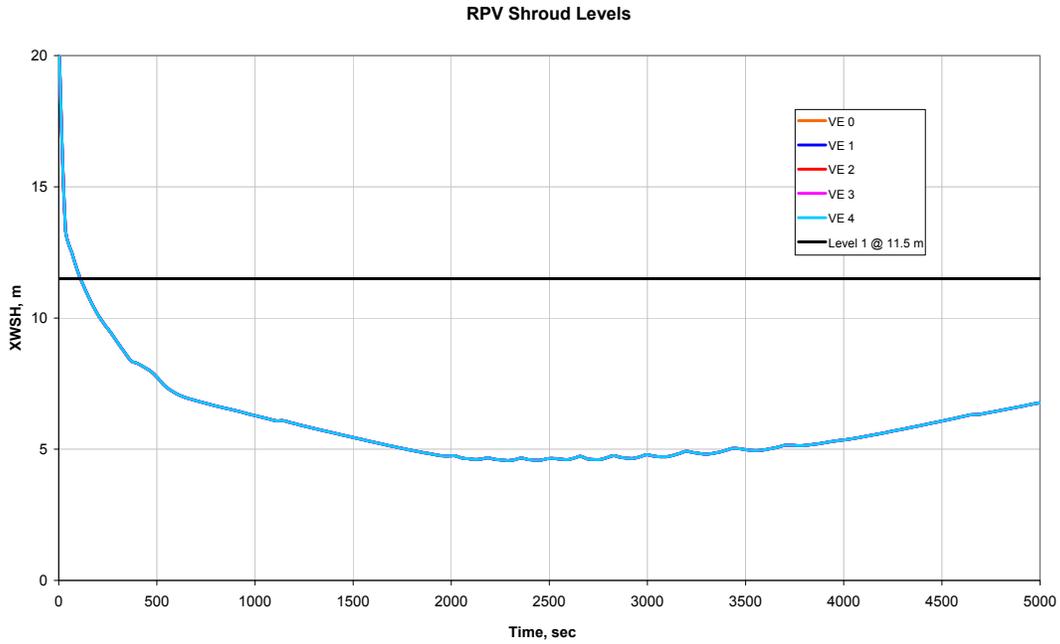


Figure 11A-37. GDCS Equalization – Level Profile of XWSH for LLOCA

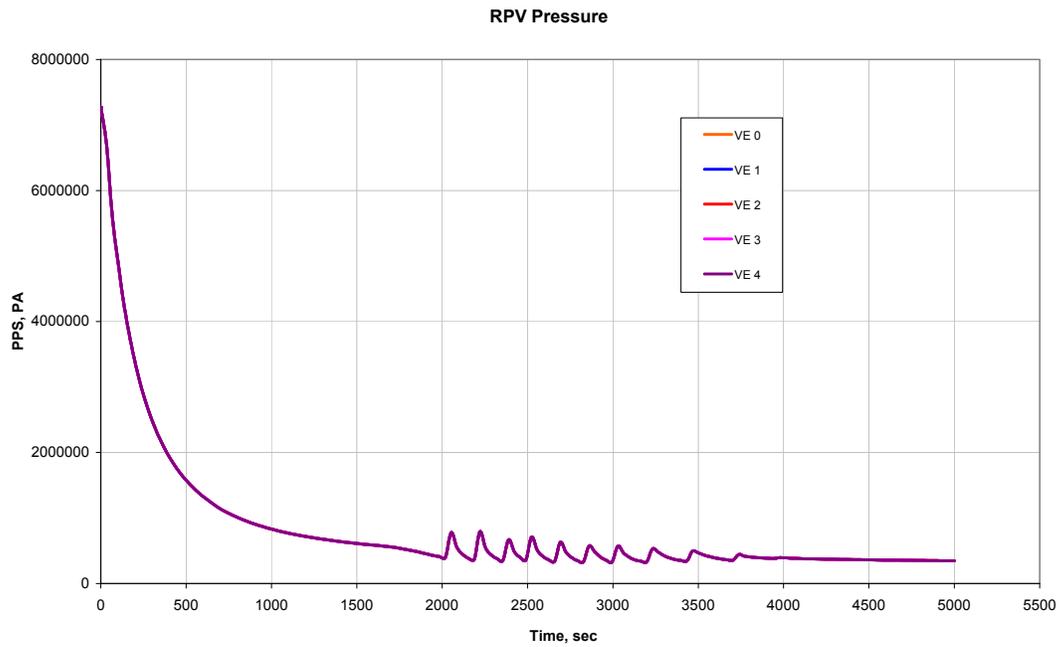


Figure 11A-38. GDCS Equalization – Pressure Profile of PPS for LLOCA

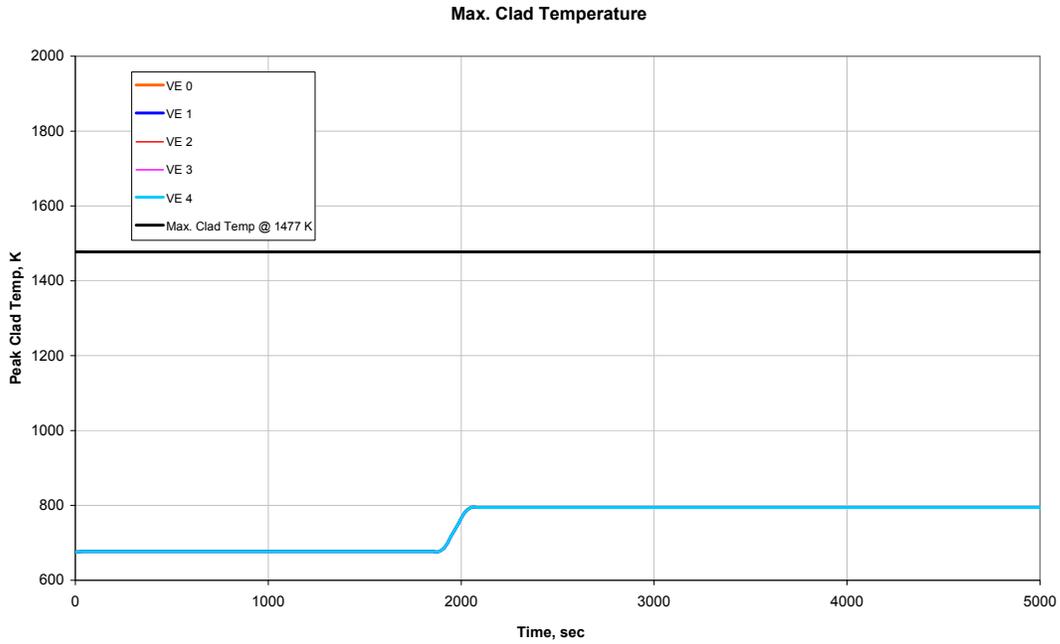


Figure 11A-39. GDCS Equalization – Temperature Profile of Max Clad Temp for LLOCA

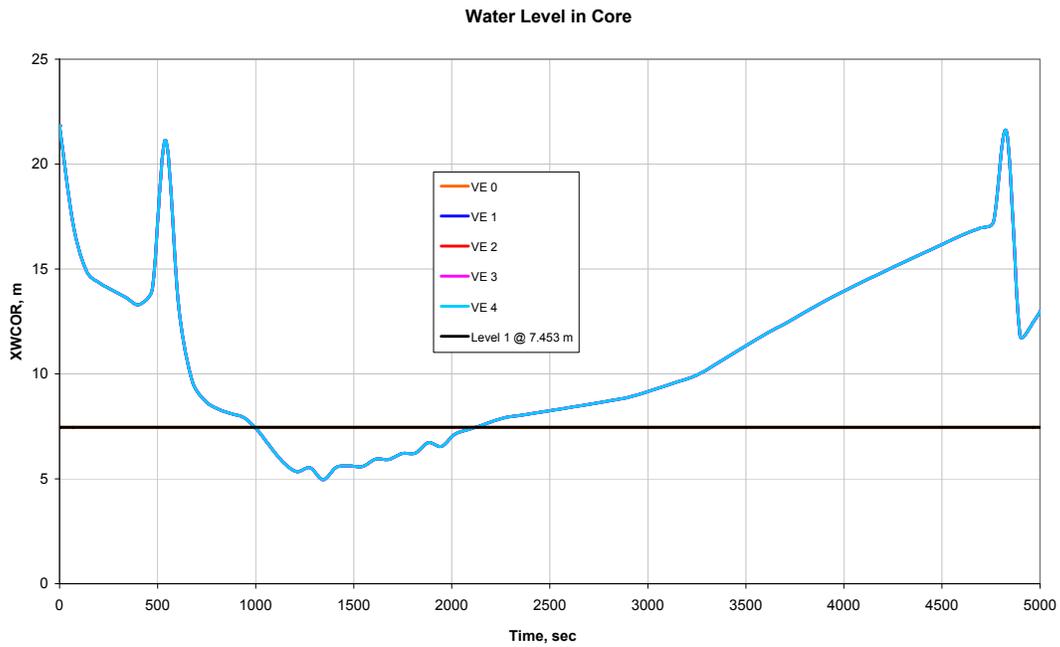


Figure 11A-40. GDCS Equalization – Level Profile of XWCOR for MLOCA

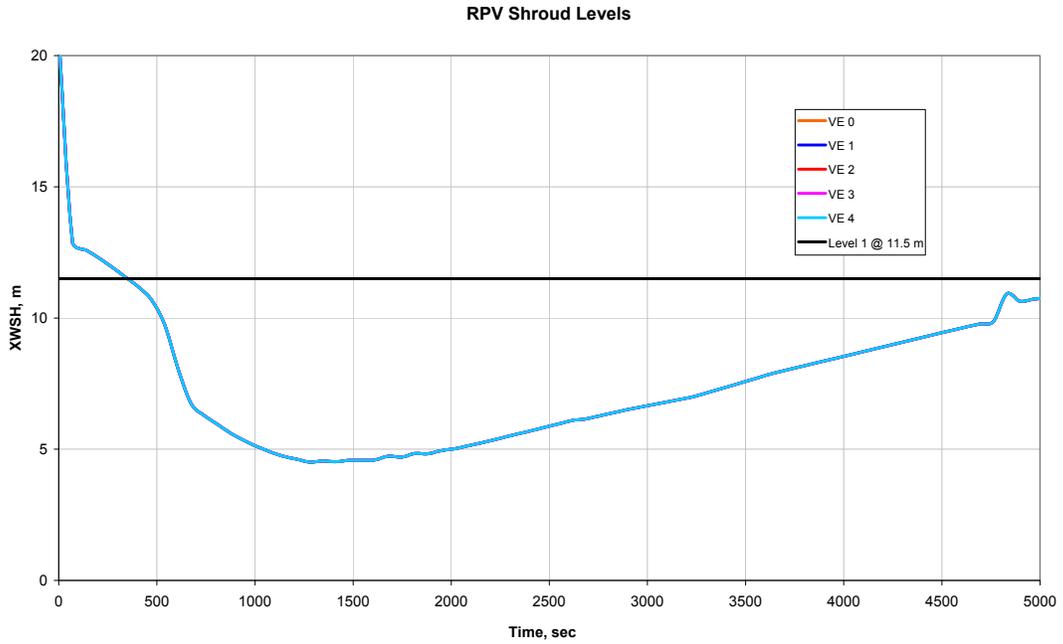


Figure 11A-41. GDCS Equalization – Level Profile of XWSH for MLOCA

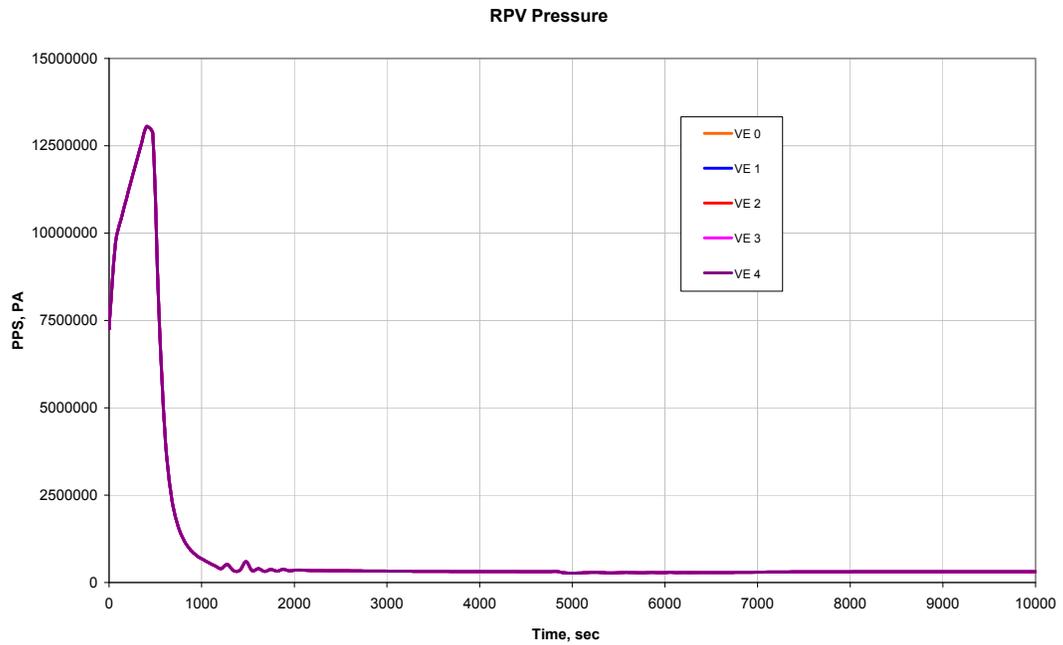


Figure 11A-42. GDCS Equalization – Pressure Profile of PPS for MLOCA

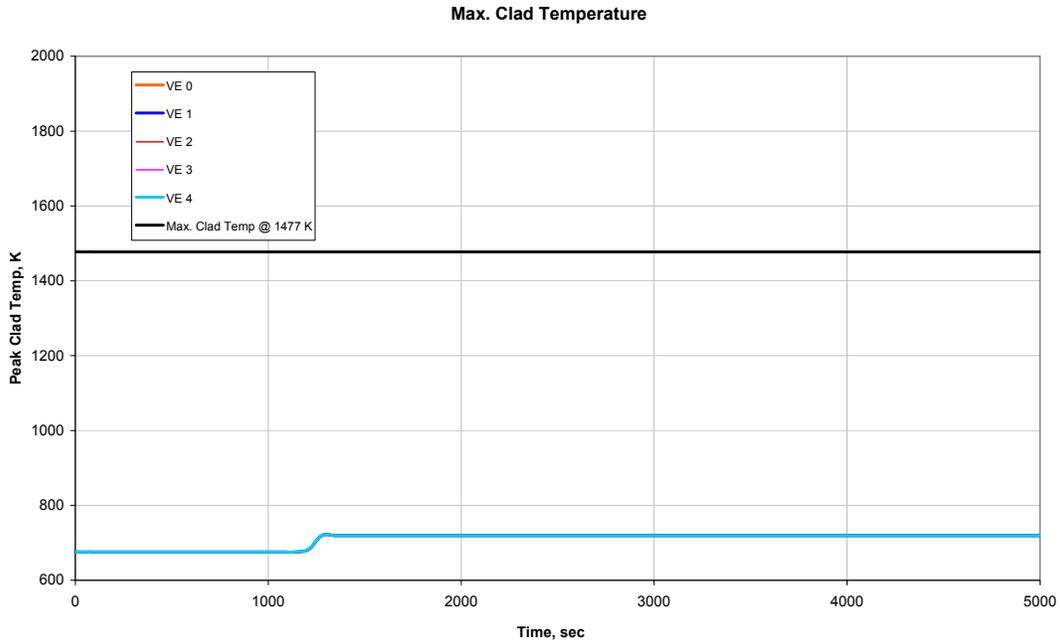


Figure 11A-43. GDCS Equalization – Temperature Profile of Max Clad Temp for MLOCA

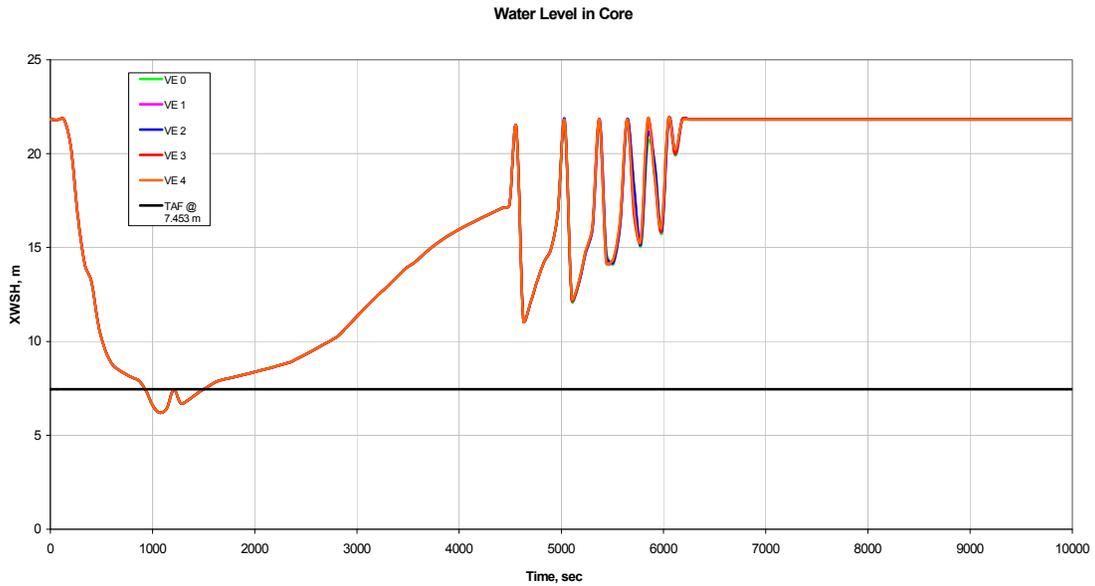


Figure 11A-44. GDCS Equalization – Level Profile of XWCOR for IORV

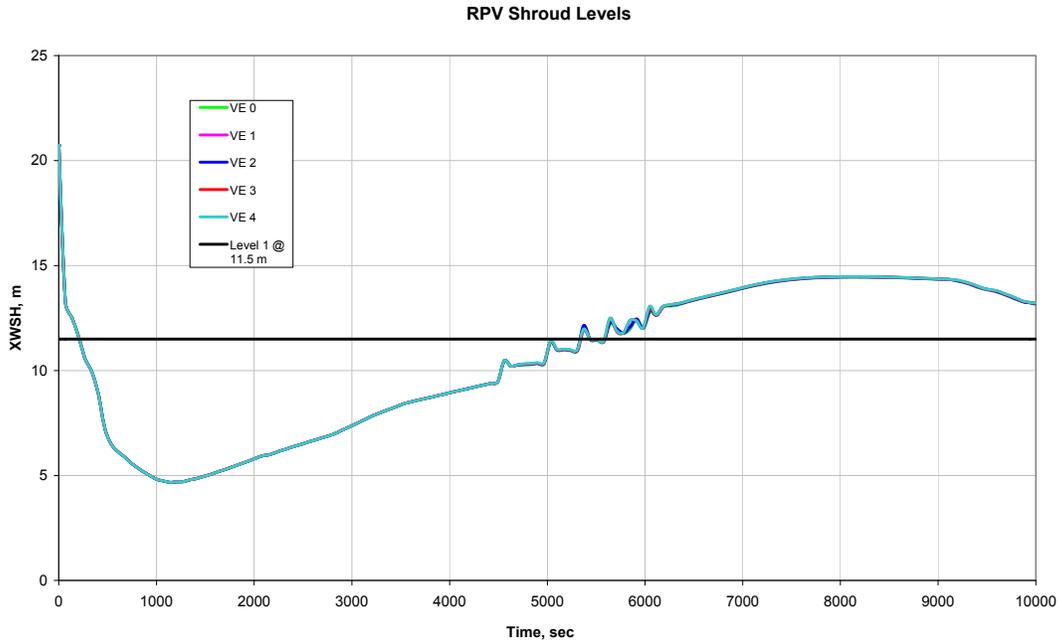


Figure 11A-45. GDCS Equalization – Level Profile of XWSH for IORV

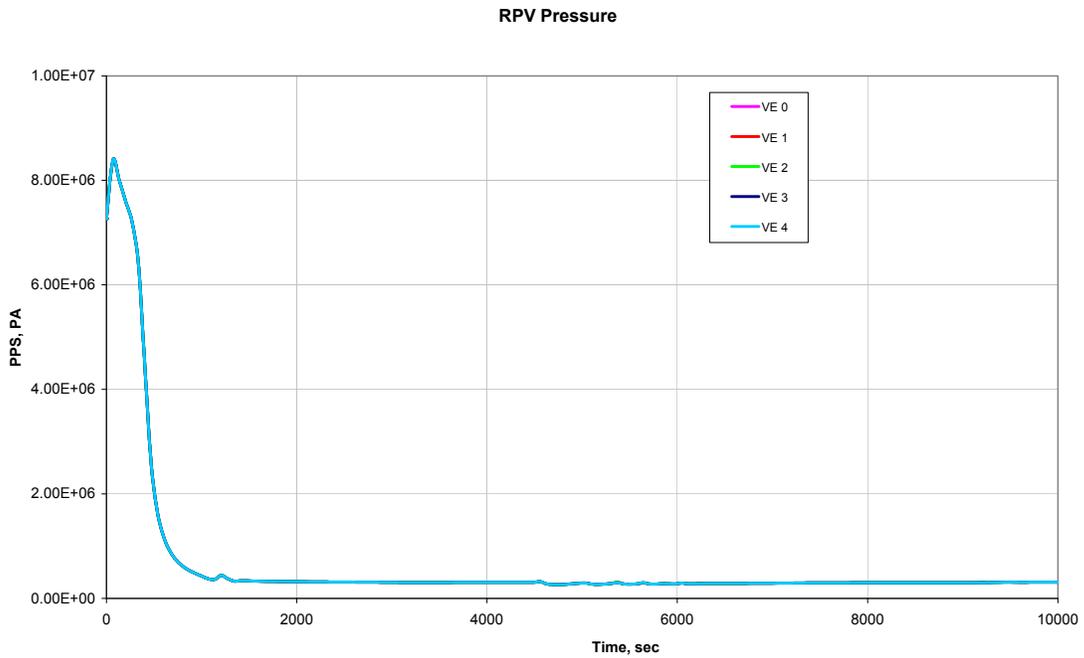


Figure 11A-46. GDCS Equalization – Pressure Profile of PPS for IORV

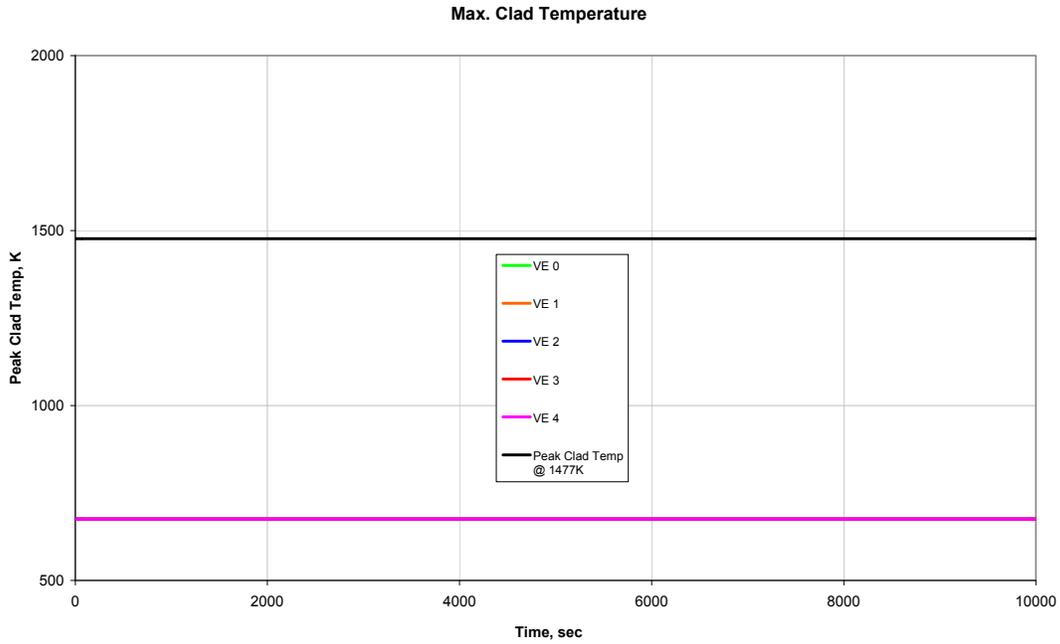


Figure 11A-47. GDCS Equalization – Temperature Profile of Max Clad Temp for IORV

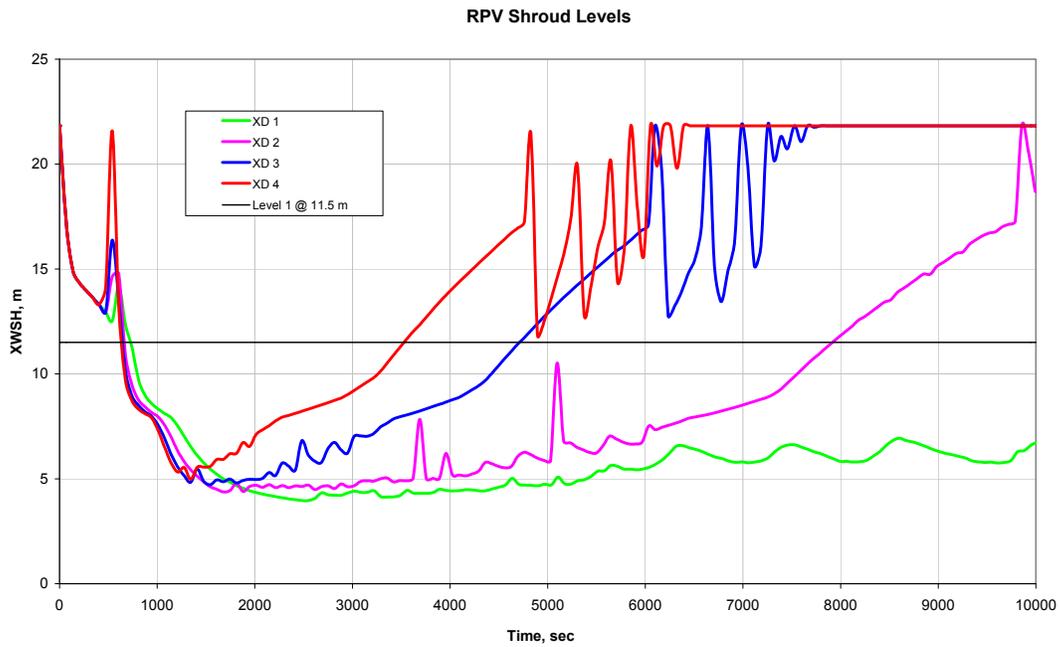


Figure 11A-48. ADS – Level Profile of XWCOR for MLOCA

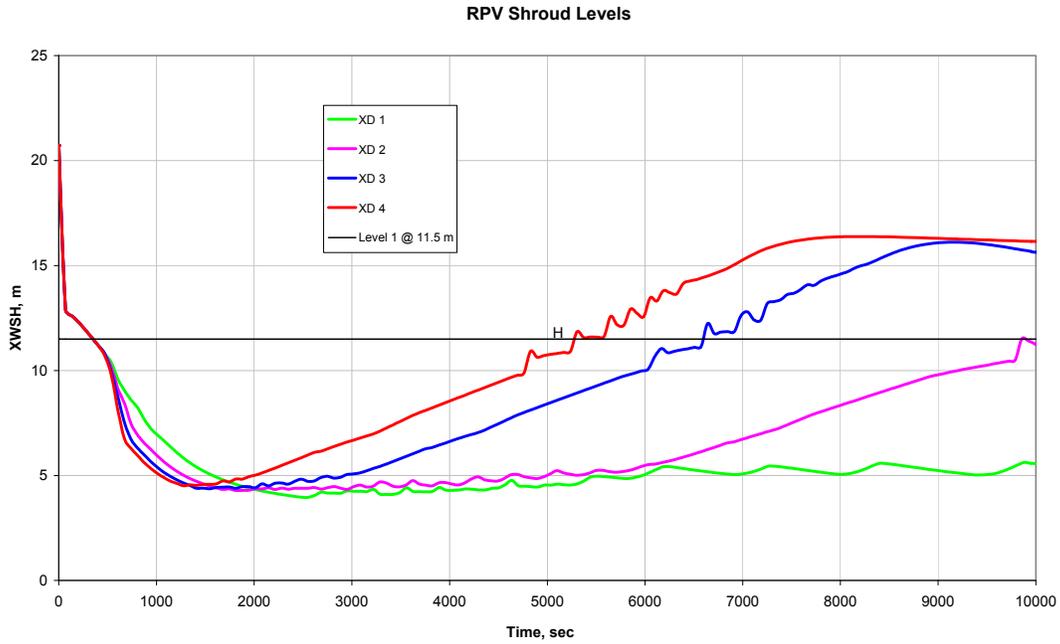


Figure 11A-49. ADS – Level Profile of XWSH for MLOCA

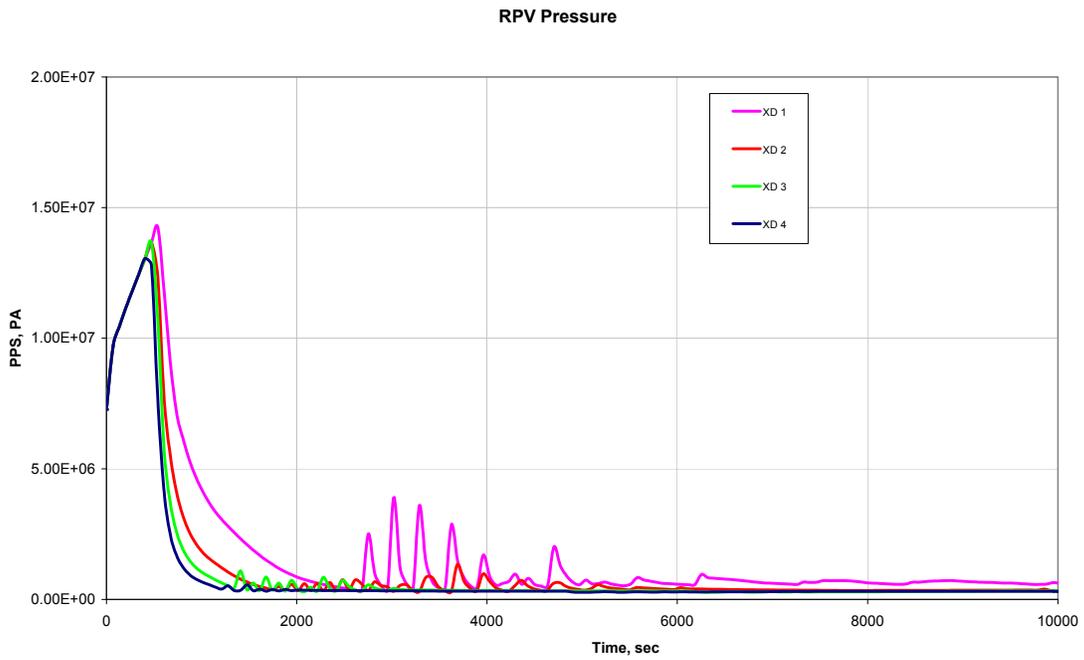


Figure 11A-50. ADS – Pressure Profile of PPS for MLOCA

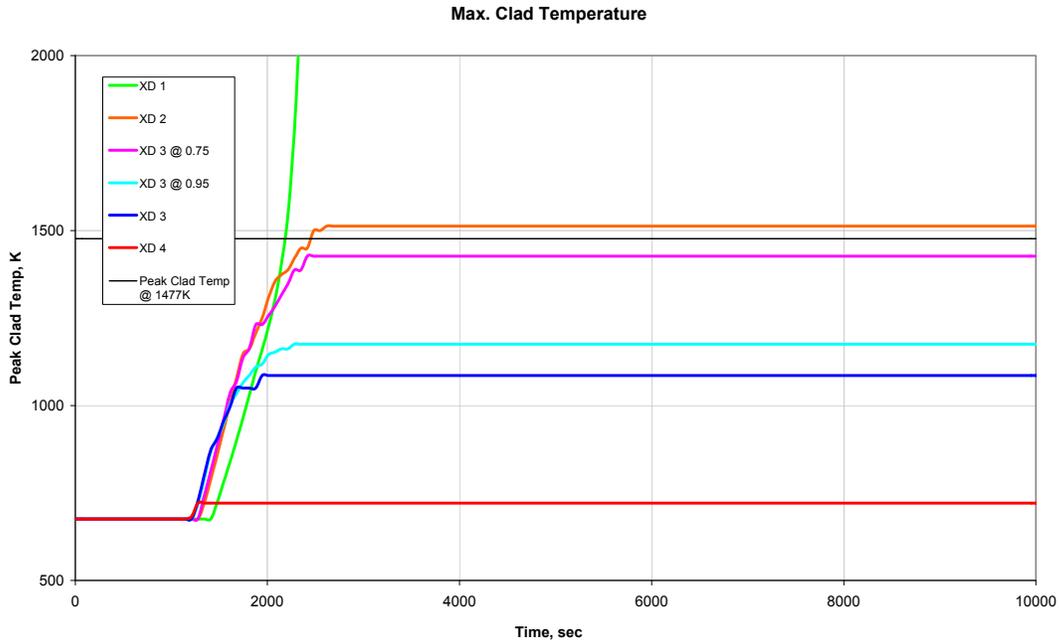


Figure 11A-51. ADS – Temperature Profile of Max Clad Temp for MLOCA

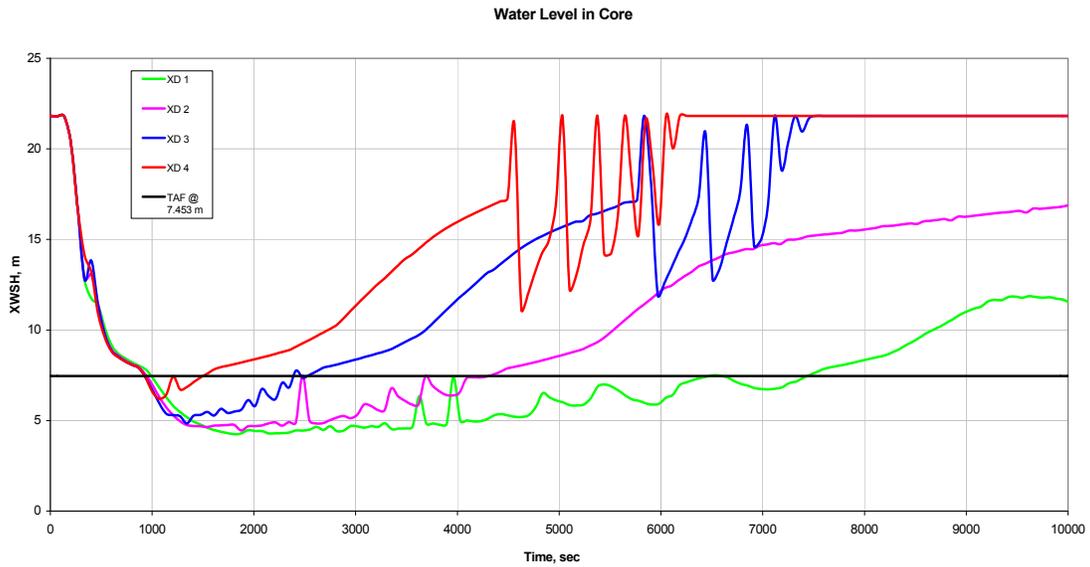


Figure 11A-52. ADS – Level Profile of XWCOR for IORV

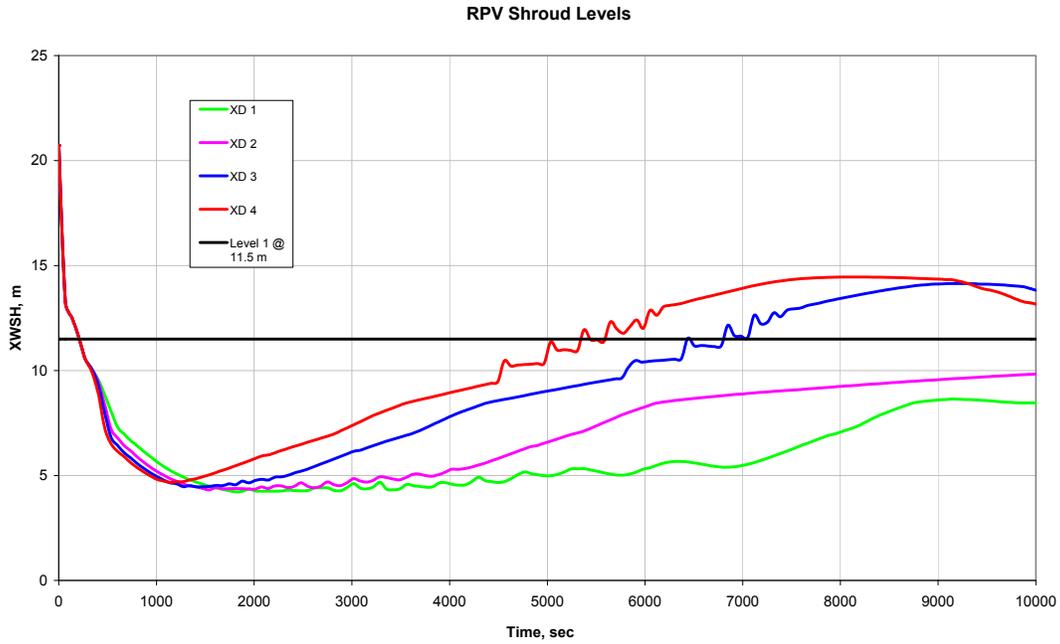


Figure 11A-53. ADS – Level Profile of XWSH for IORV

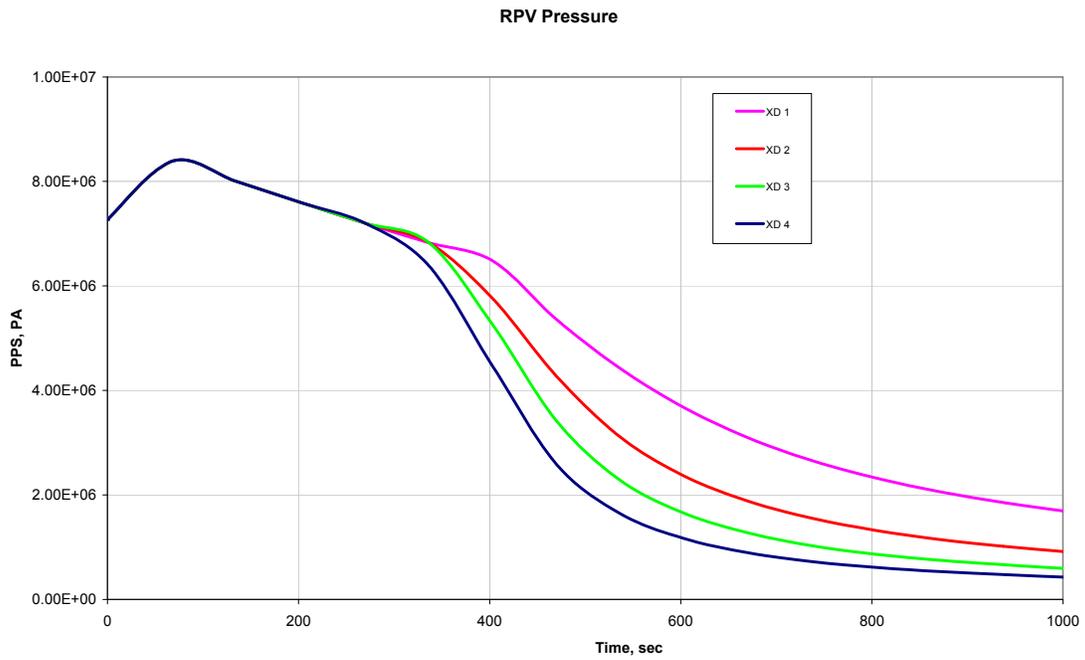


Figure 11A-54. ADS – Pressure Profile of PPS for IORV

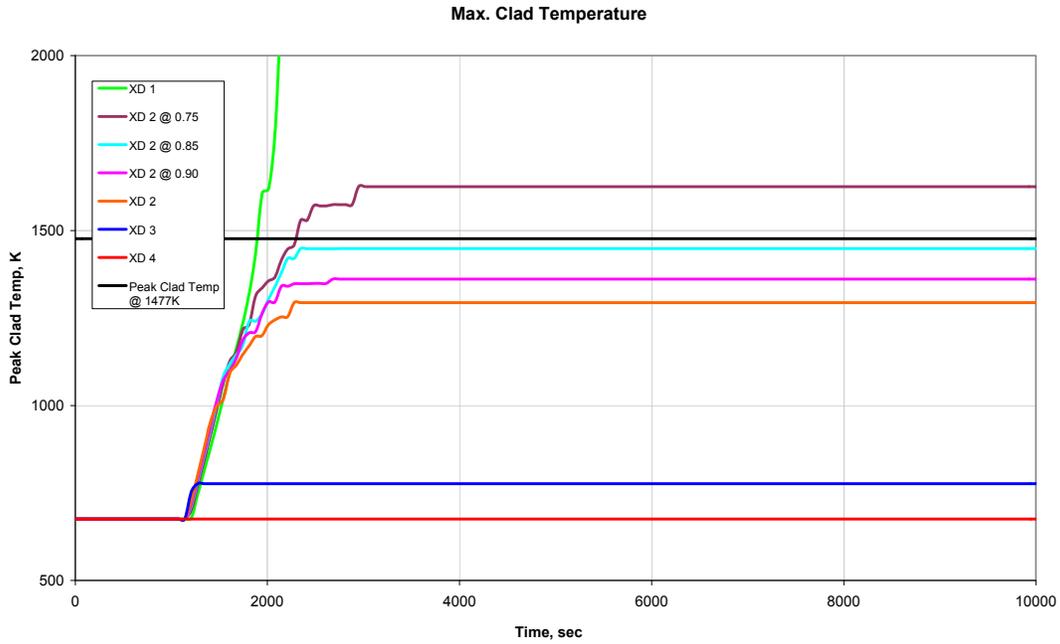


Figure 11A-55. ADS- Temperature Profile of Max Clad Temp for IORV

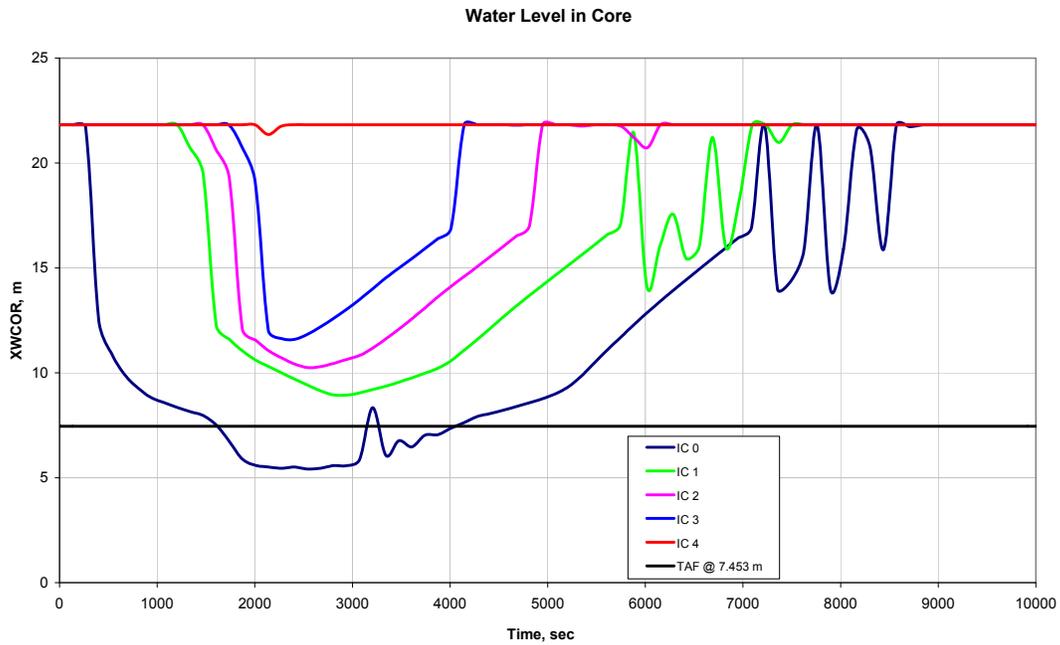


Figure 11A-56. ICS - Level Profile of XWCOR for LLOCA

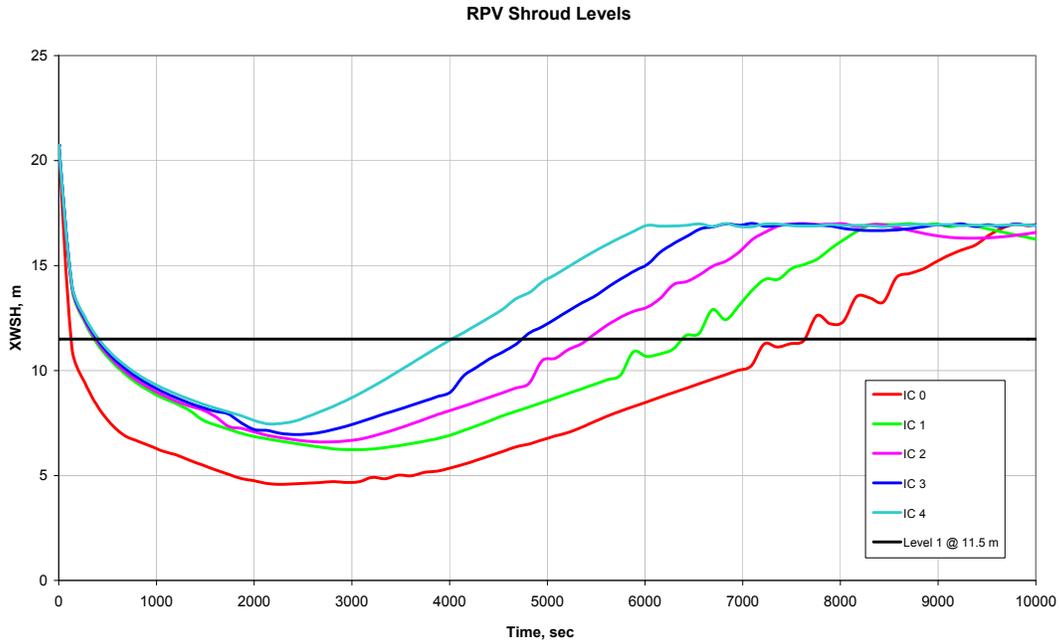


Figure 11A-57. ICS – Level Profile of XWSH for LLOCA

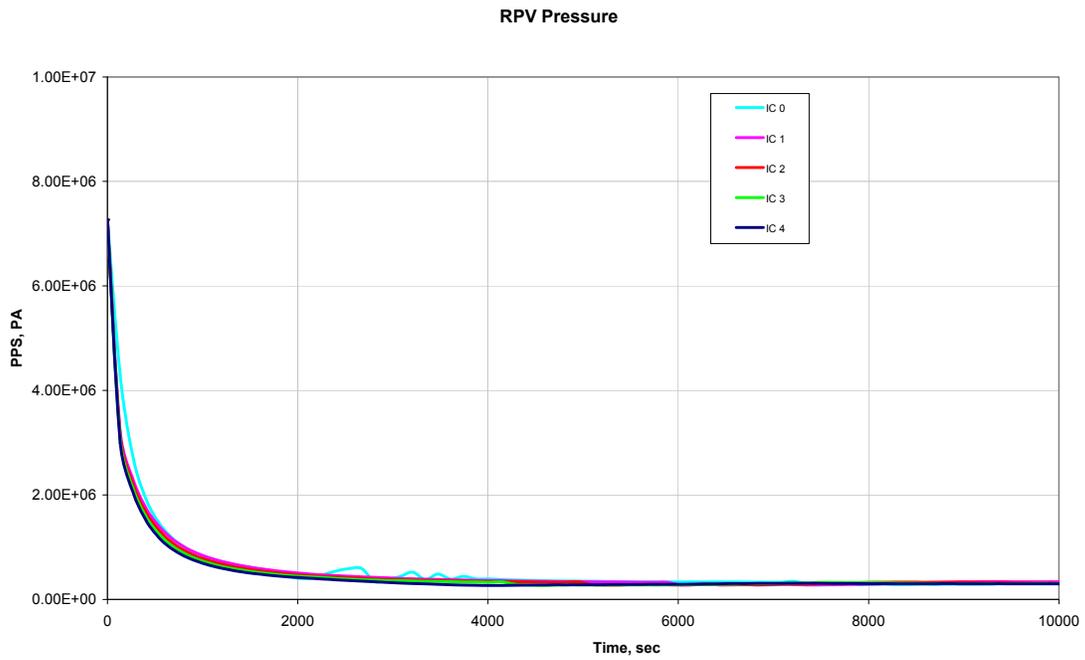


Figure 11A-58. ICS – Pressure Profile of PPS for LLOCA

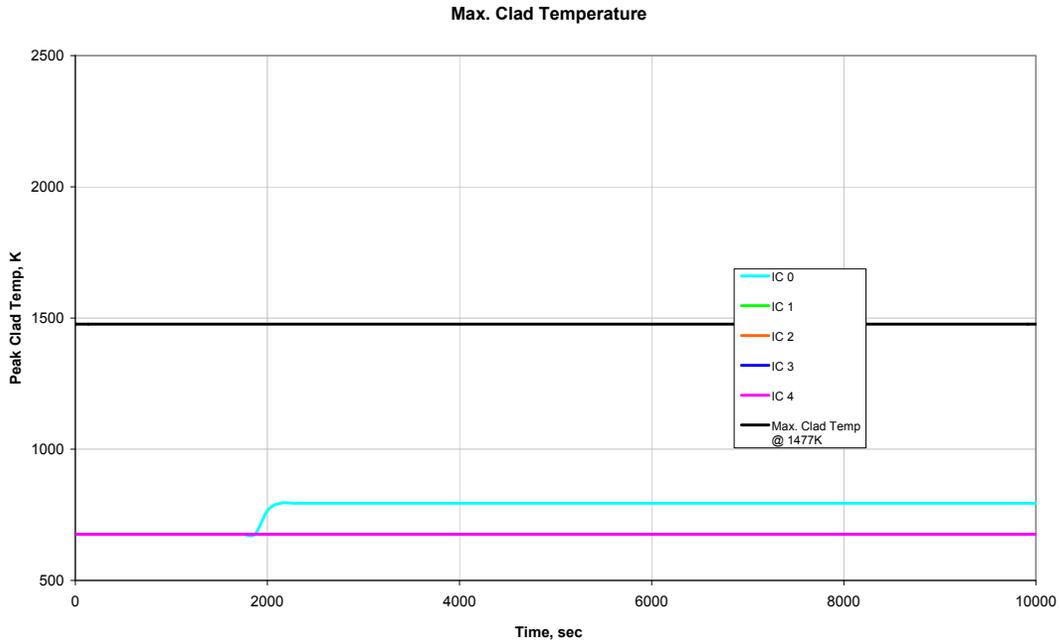


Figure 11A-59. ICS – Temperature Profile of Max Clad Temp for LLOCA

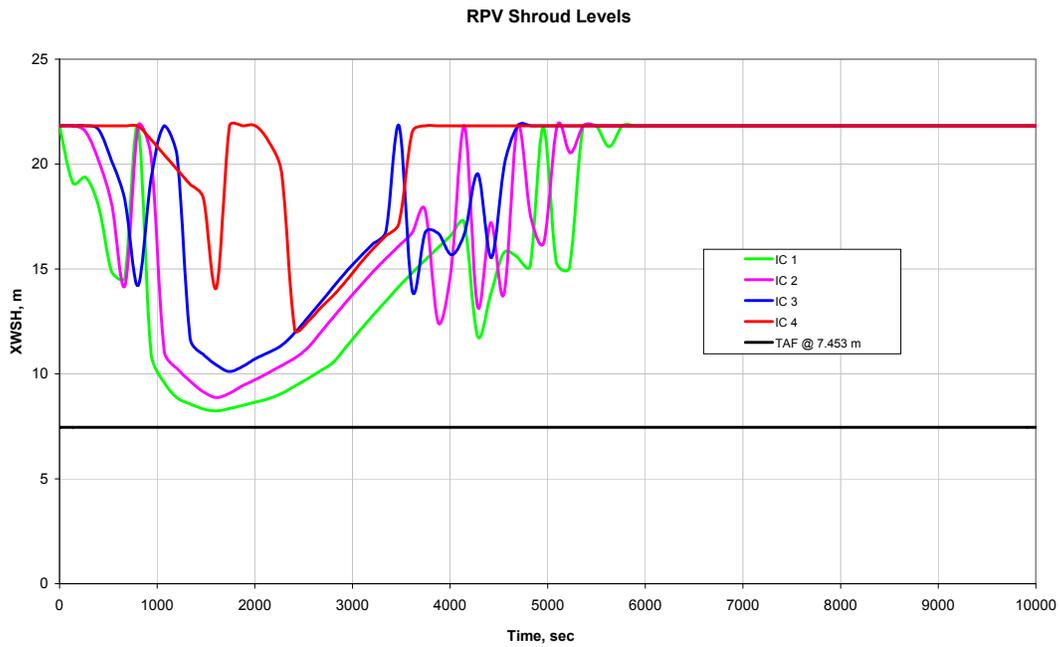


Figure 11A-60. ICS – Level Profile of XWCOR for MLOCA

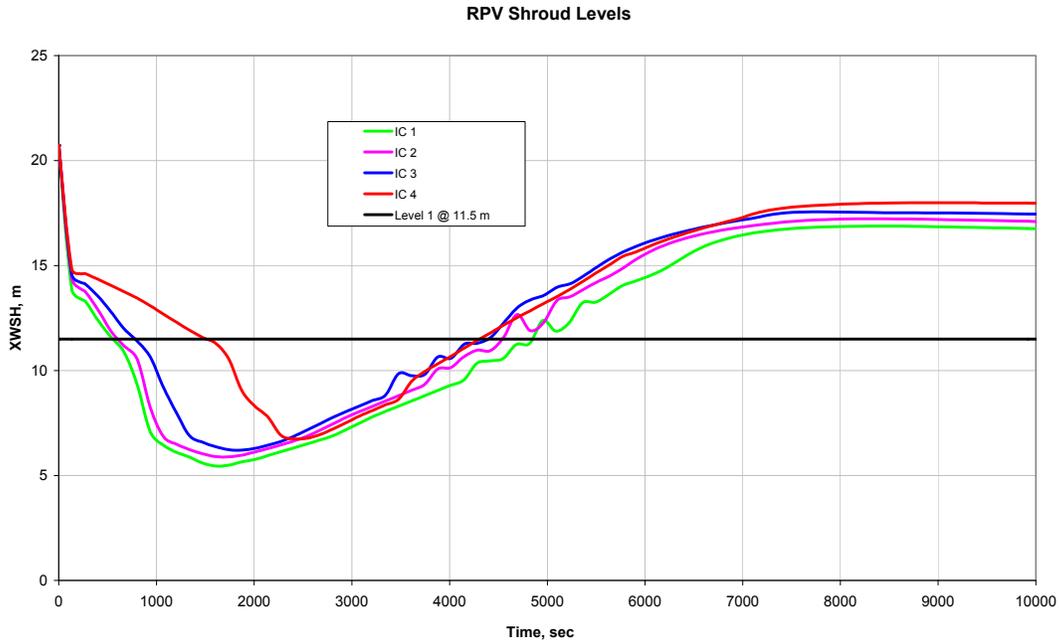


Figure 11A-61. ICS – Level Profile of XWSH for MLOCA

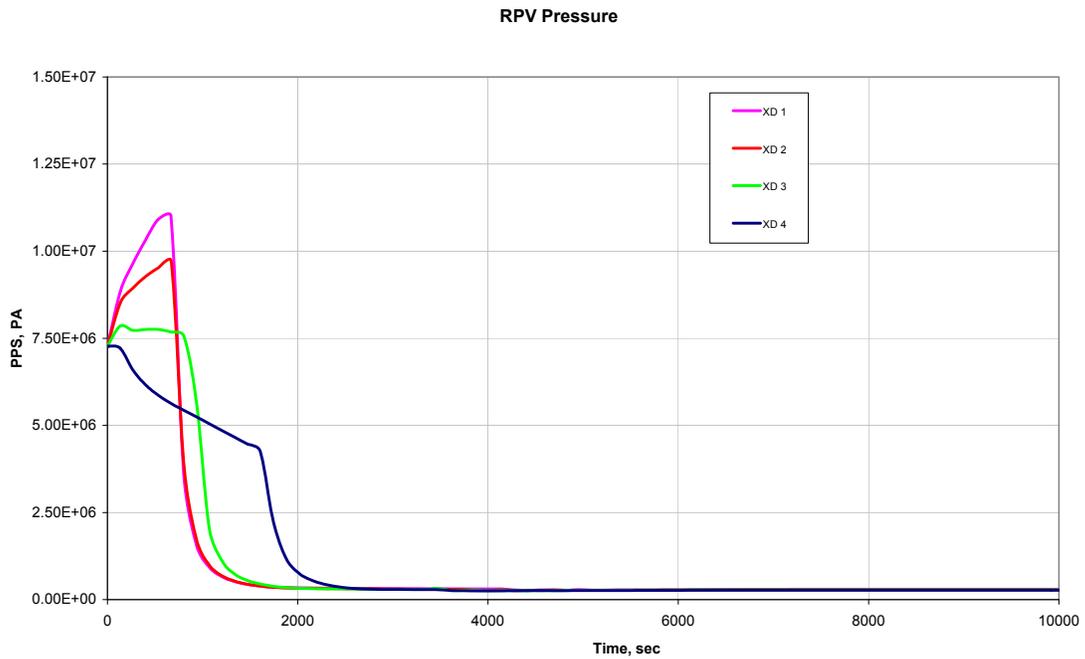


Figure 11A-62. ICS – Pressure Profile of PPS for MLOCA

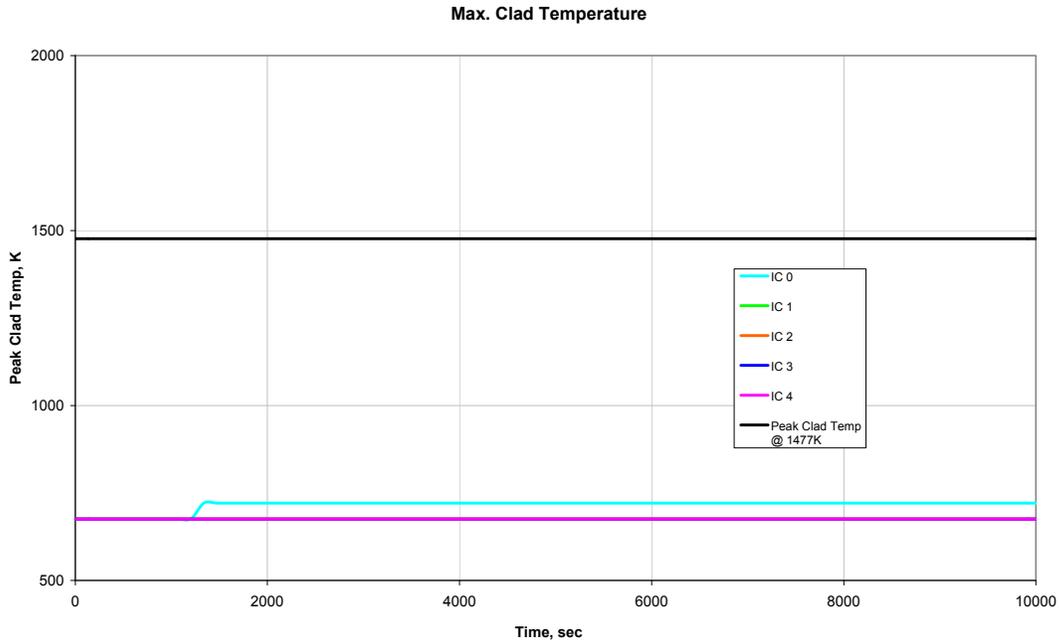


Figure 11A-63. ICS– Temperature Profile of Max Clad Temp for MLOCA

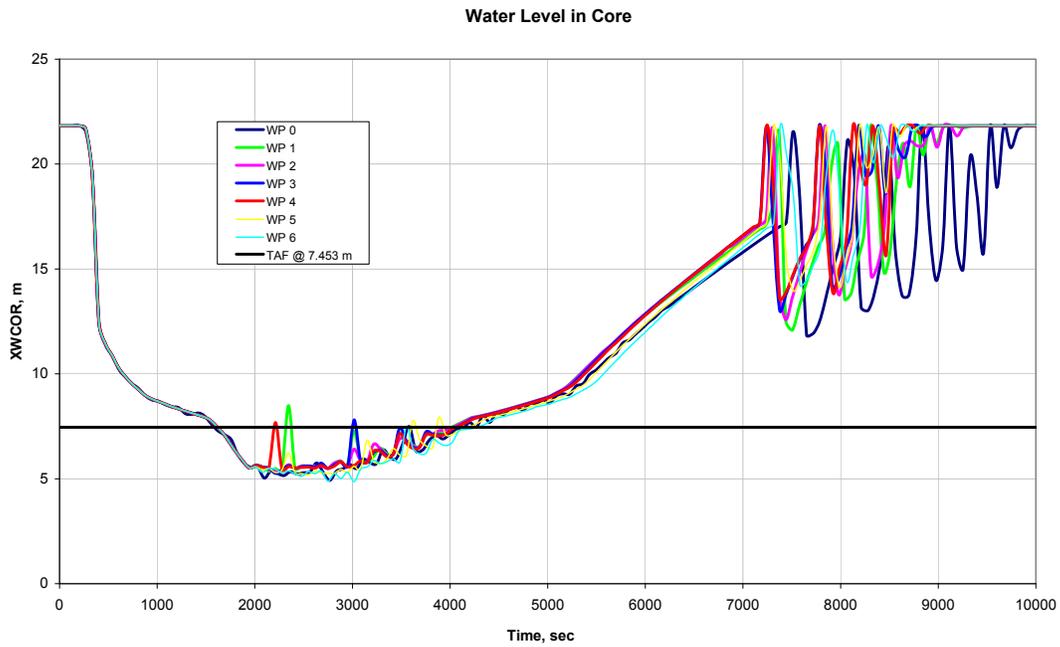


Figure 11A-64. PCCS – Level Profile of XWCOR for LLOCA

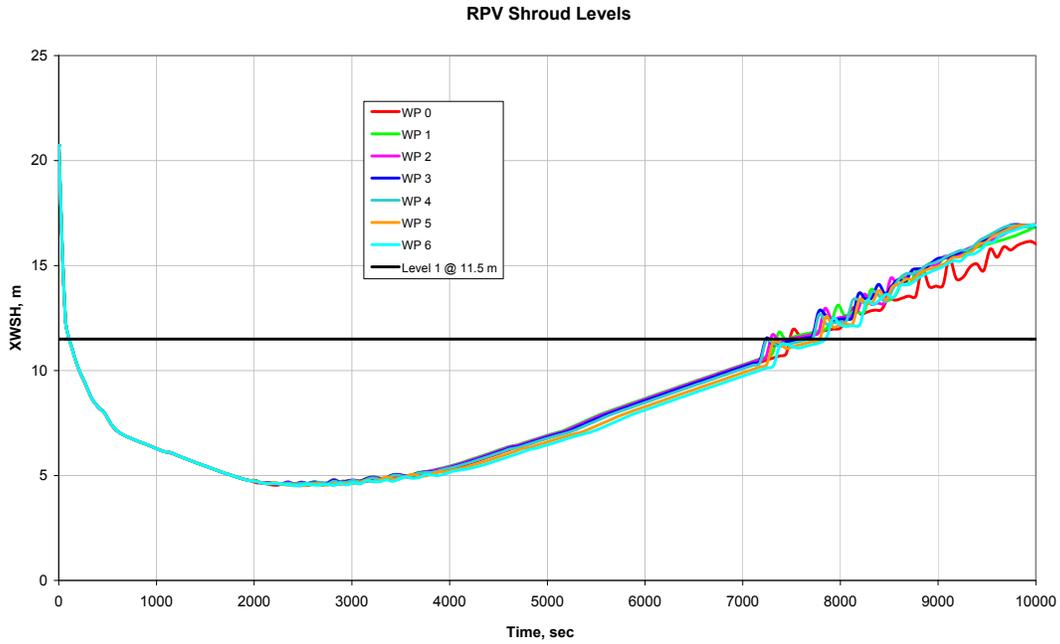


Figure 11A-65. PCCS – Level Profile of XWSH for LLOCA

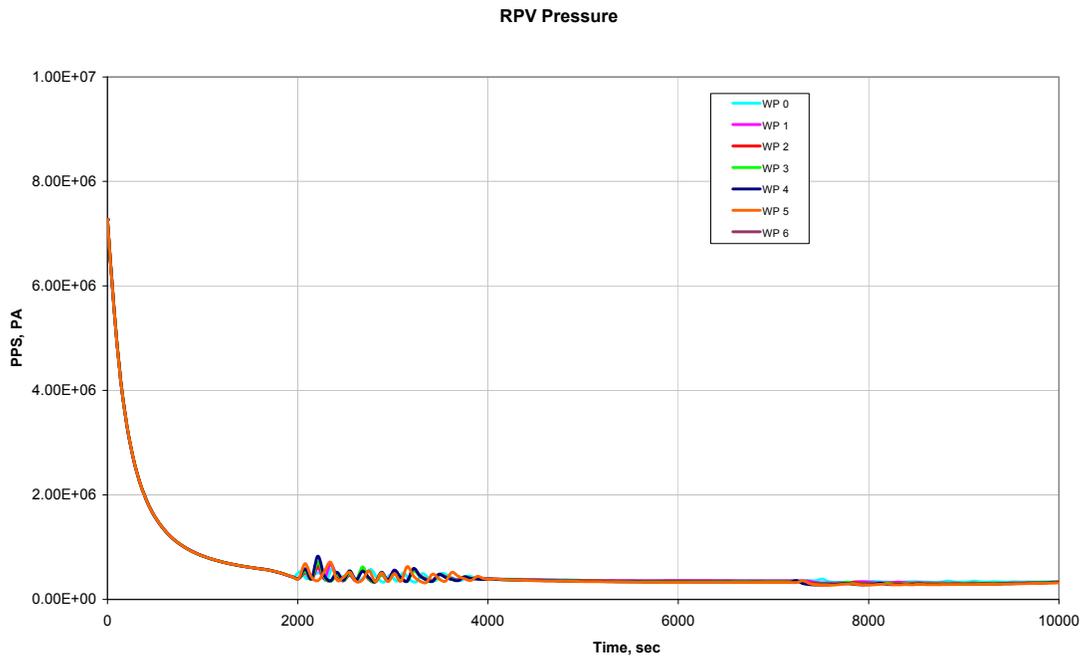


Figure 11A-66. PCCS – Pressure Profile of PPS for LLOCA

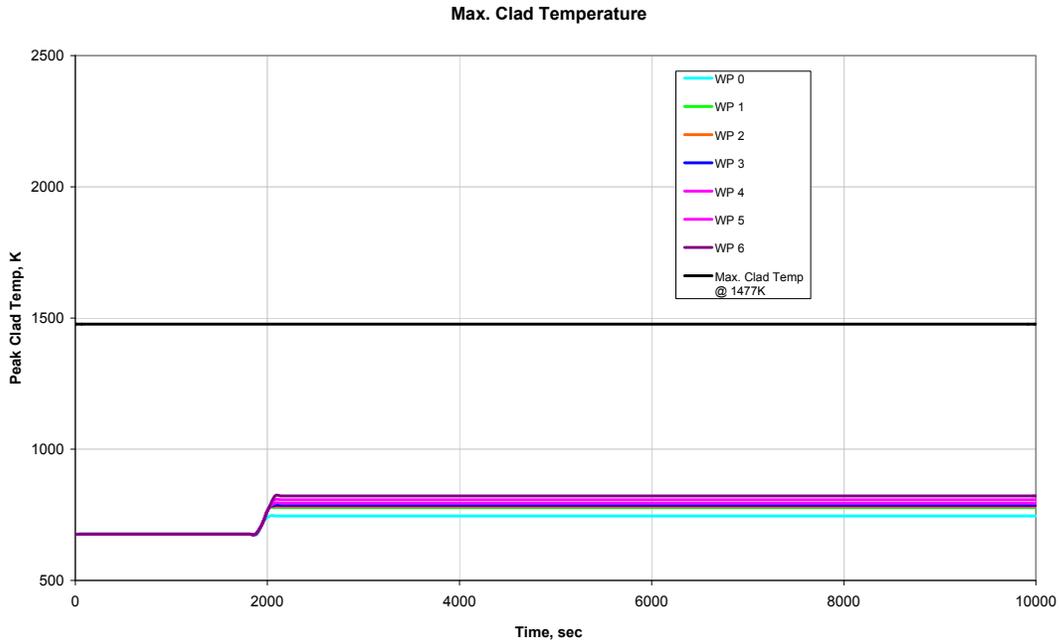


Figure 11A-67. PCCS – Temperature Profile of Max Clad Temp for LLOCA

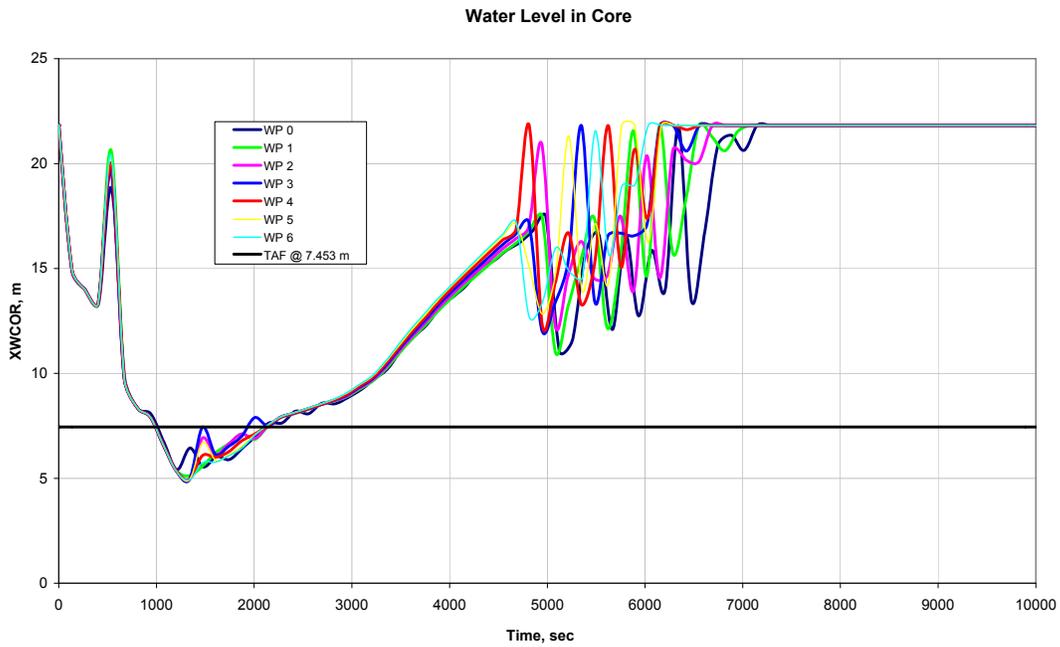


Figure 11A-68. PCCS – Level Profile of XWCOR for MLOCA

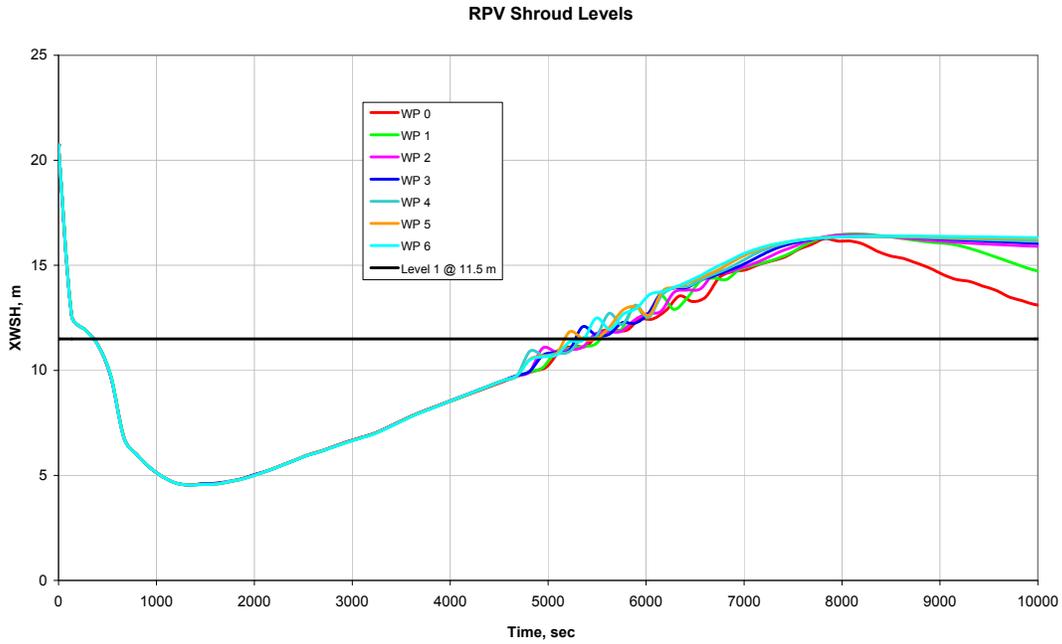


Figure 11A-69. PCCS – Level Profile of XWSH for MLOCA

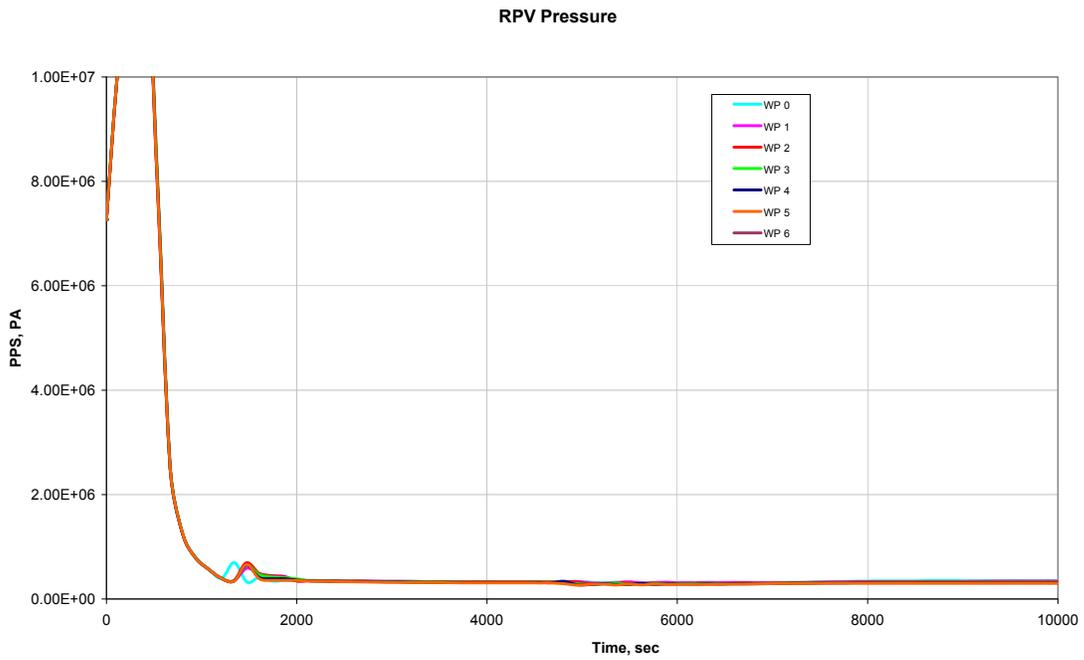


Figure 11A-70. PCCS – Pressure Profile of PPS for MLOCA

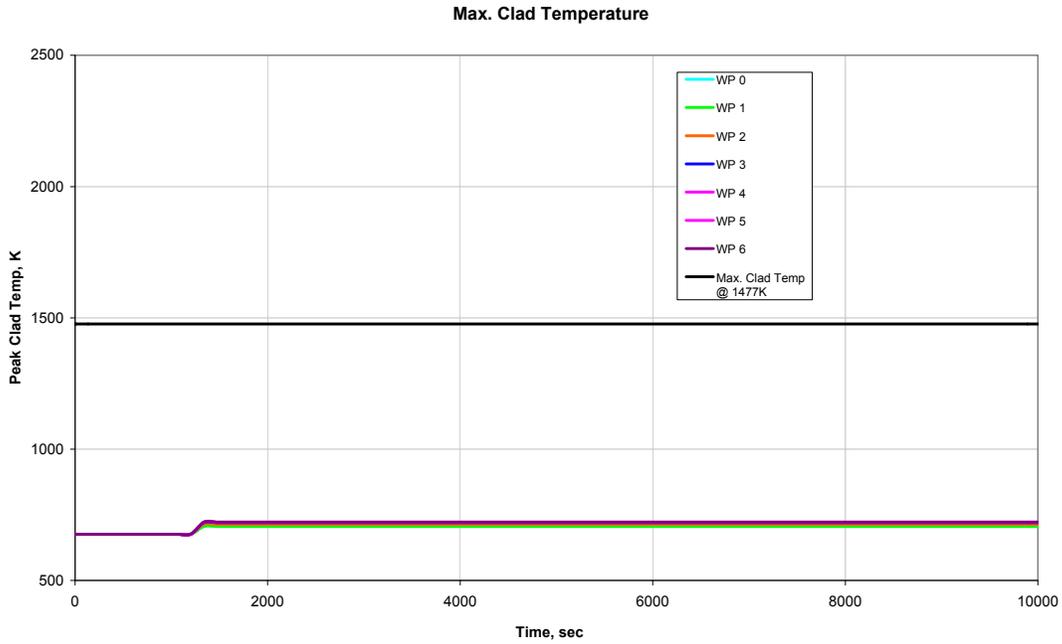


Figure 11A-71. PCCS– Temperature Profile of Max Clad Temp for MLOCA

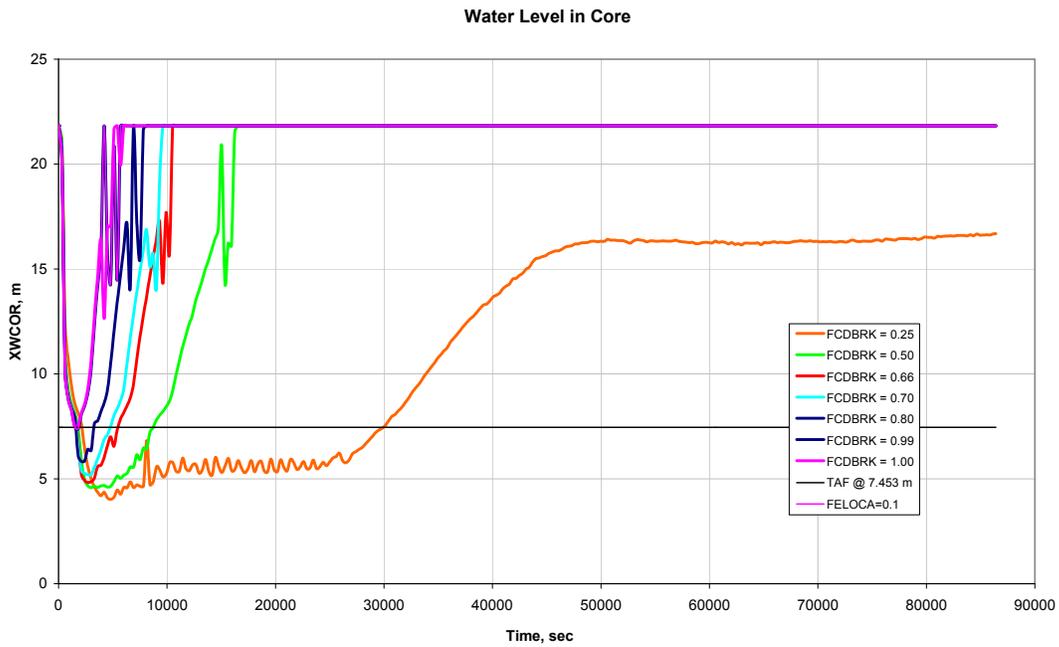


Figure 11A-72. Break Flow – Level Profile of XWCOR for LLOCA

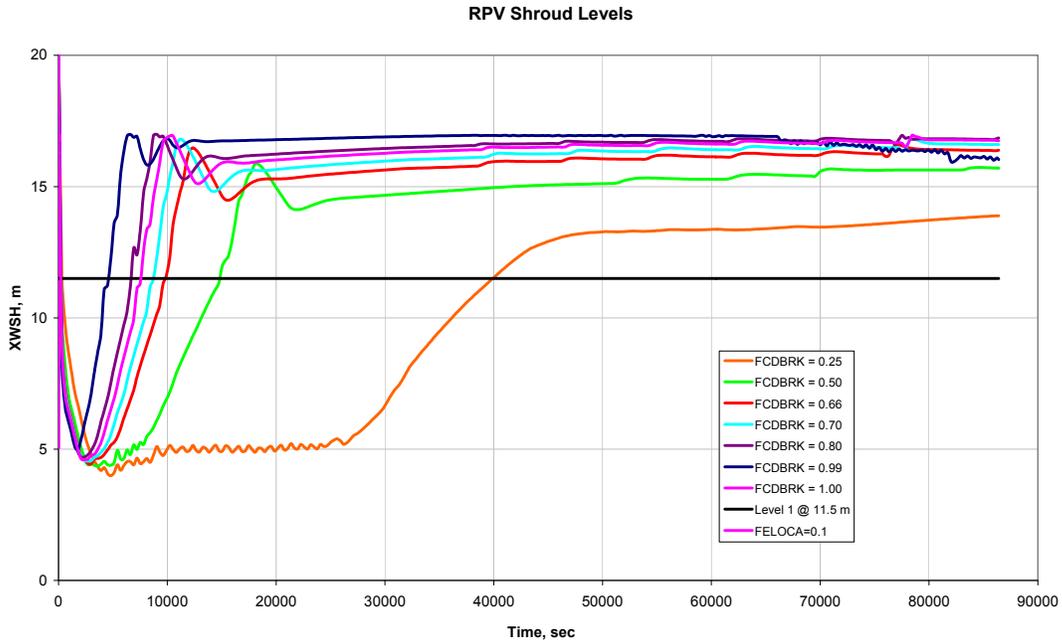


Figure 11A-73. Break Flow – Level Profile of XWSH for LLOCA

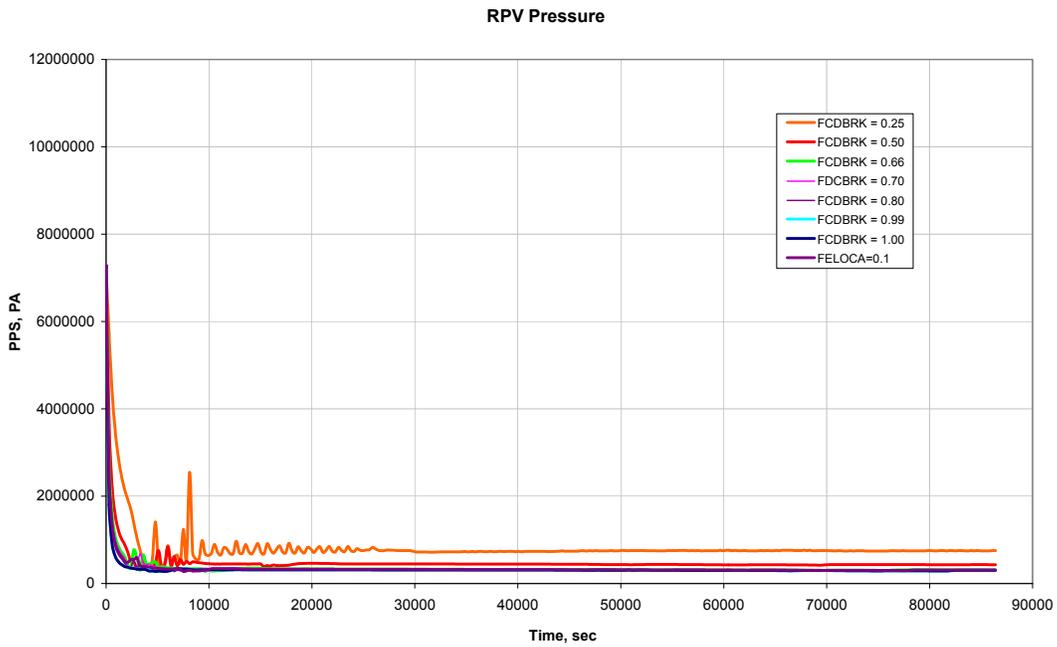


Figure 11A-74. Break Flow – Pressure Profile of PPS for LLOCA

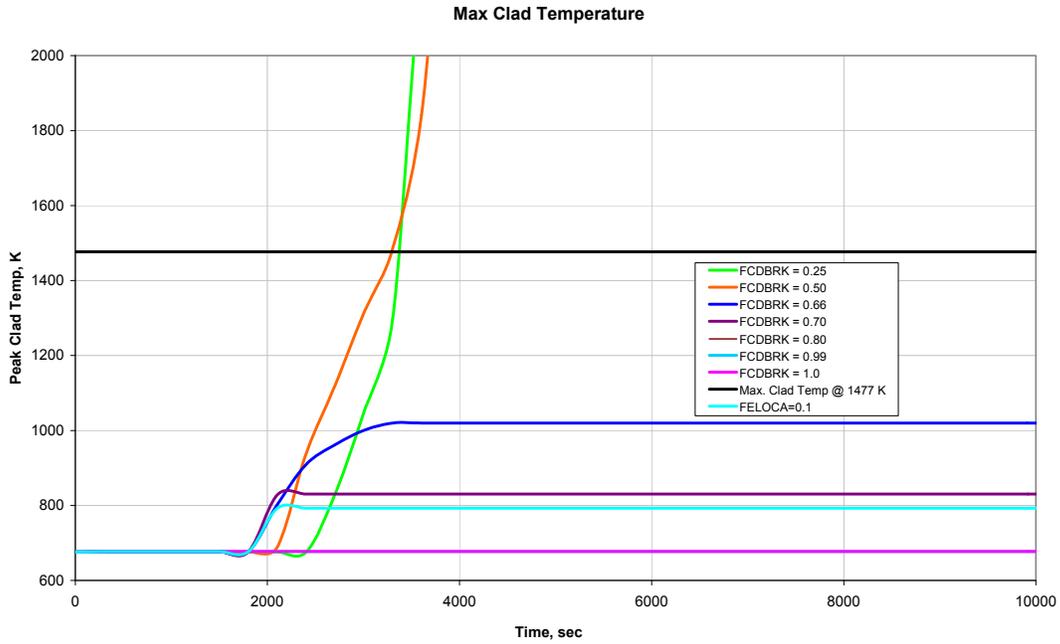


Figure 11A-75. Break Flow– Temperature Profile of Max Clad Temp for LLOCA

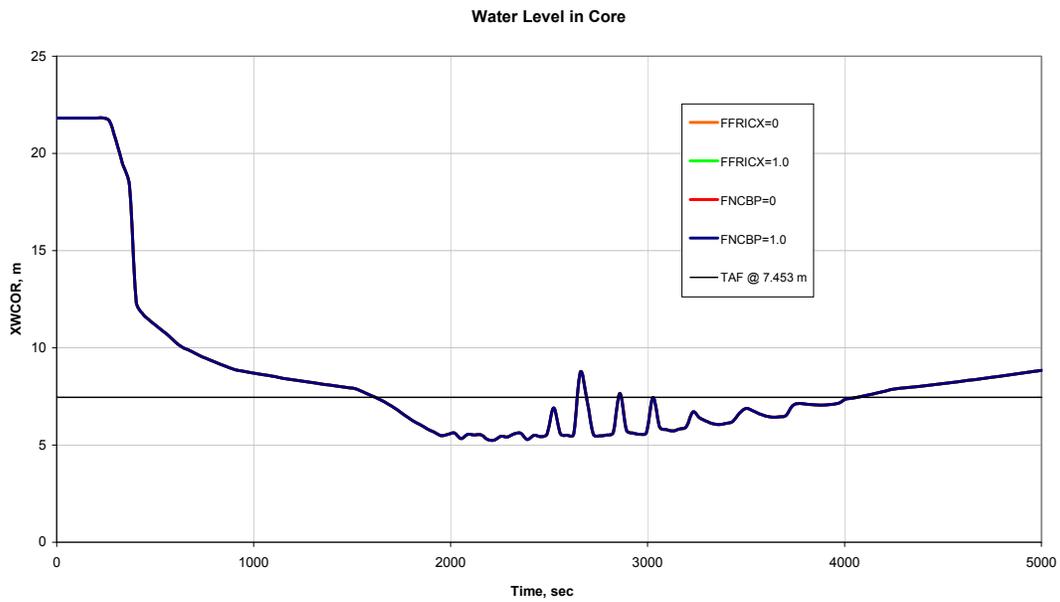


Figure 11A-76. Natural Circulation – Level Profile of XWCOR for LLOCA

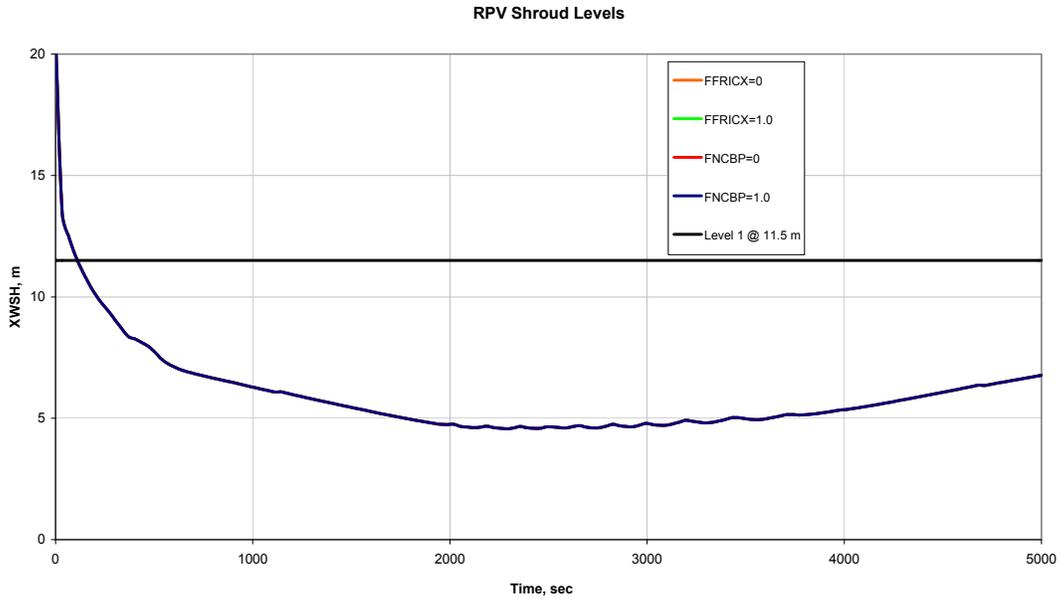


Figure 11A-77. Natural Circulation – Level Profile of XWSH for LLOCA

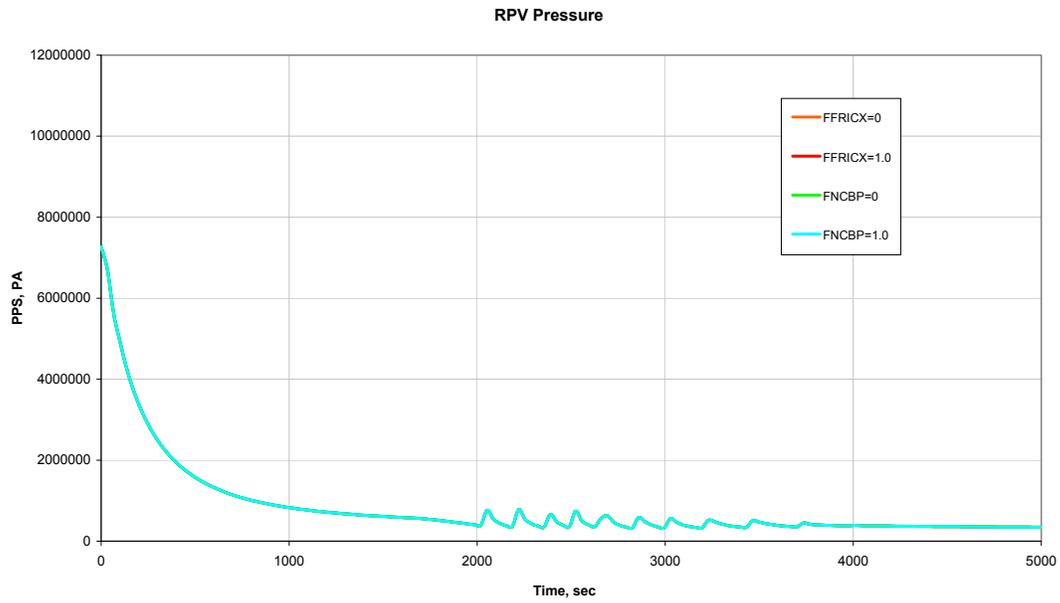


Figure 11A-78. Natural Circulation – Pressure Profile of PPS for LLOCA

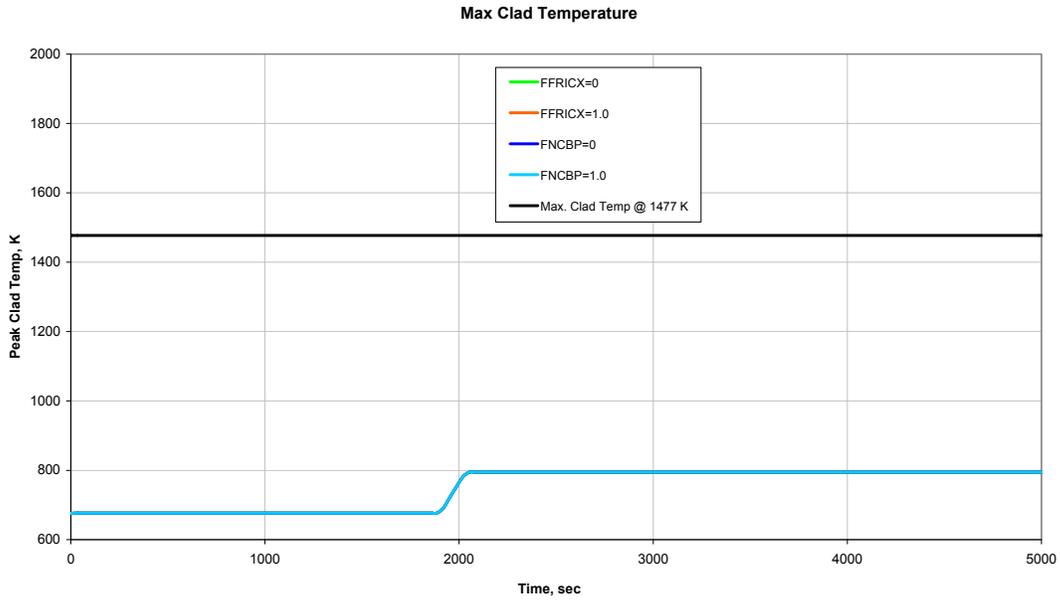


Figure 11A-79. Natural Circulation – Temperature Profile of Max Clad Temp for LLOCA

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11B FOCUS SENSITIVITIES – TOP 100 CUTSETS

This appendix documents the top 100 cutsets for all of the Focus and RTNSS sensitivity cases. These cases include Level 1, Level 2, and Shutdown versions of the internal events, fire, flood, and high winds scenarios.

Table 11B-1
Level 1 Internal Events Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
1	1.18E-04	1.18E+00	%T-GEN	GENERAL TRANSIENT
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
2	3.54E-05	1.18E+00	%T-GEN	GENERAL TRANSIENT
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
3	2.12E-05	1.18E+00	%T-GEN	GENERAL TRANSIENT
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
4	1.97E-05	1.97E-01	%T-PCS	TRANSIENT WITH PCS UNAVAILABLE
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
5	1.34E-05	1.18E+00	%T-GEN	GENERAL TRANSIENT
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
6	1.18E-05	1.18E+00	%T-GEN	GENERAL TRANSIENT
		1.00E-04	C71-CCFSOFTWARE	RPS COMMON CAUSE SOFTWARE FAILURE
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
7	1.17E-05	1.17E-01	%T-FDW	LOSS OF FEEDWATER
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
8	5.91E-06	1.97E-01	%T-PCS	TRANSIENT WITH PCS UNAVAILABLE
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'

Table 11B-1
Level 1 Internal Events Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
9	5.31E-06	1.18E+00	%T-GEN	GENERAL TRANSIENT
		4.50E-05	C71-SLU-FC-R_ALL	CCF OF ALL COMPONENTS IN GROUP 'C71-SLU-FC-R'
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
10	4.25E-06	1.18E+00	%T-GEN	GENERAL TRANSIENT
		3.60E-06	C63-LT_-NO-ESFRX_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LT_-NO-ESFRX'
11	4.25E-06	2.83E-02	%T-IORV	IORV
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
12	4.25E-06	2.83E-02	%T-IORV	IORV
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
13	3.55E-06	1.97E-01	%T-PCS	TRANSIENT WITH PCS UNAVAILABLE
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
14	3.54E-06	1.18E+00	%T-GEN	GENERAL TRANSIENT
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
15	3.54E-06	1.18E+00	%T-GEN	GENERAL TRANSIENT
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
16	3.54E-06	1.18E+00	%T-GEN	GENERAL TRANSIENT
		3.00E-05	C71-DTM-FC-R_ALL	CCF OF ALL COMPONENTS IN GROUP 'C71-DTM-FC-R'
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM

Table 11B-1
Level 1 Internal Events Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
17	3.51E-06	1.17E-01	%T-FDW	LOSS OF FEEDWATER
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
18	2.83E-06	2.83E-02	%T-IORV	IORV
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
19	2.36E-06	1.18E+00	%T-GEN	GENERAL TRANSIENT
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.76E-01	B32-XHE-FO-VENT	OPERATOR FAILS TO OPEN VENT
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'
20	2.24E-06	1.97E-01	%T-PCS	TRANSIENT WITH PCS UNAVAILABLE
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
21	2.19E-06	1.18E+00	%T-GEN	GENERAL TRANSIENT
		1.86E-06	C63-LDD-FC-ESFLOADS	CCF OF ALL ESF LOAD DRIVERS
22	2.12E-06	1.18E+00	%T-GEN	GENERAL TRANSIENT
		1.80E-05	C71-OLU-FC-R_ALL	CCF OF ALL COMPONENTS IN GROUP 'C71-OLU-FC-R'
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
23	2.11E-06	1.17E-01	%T-FDW	LOSS OF FEEDWATER
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'

**Table 11B-1
Level 1 Internal Events Focus Top 100 Cutsets**

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
24	1.97E-06	1.97E-01	%T-PCS	TRANSIENT WITH PCS UNAVAILABLE
		1.00E-04	C71-CCFSOFTWARE	RPS COMMON CAUSE SOFTWARE FAILURE
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
25	1.86E-06	1.86E-02	%T-LOPP-GR	GRID RELATED LOSS OF PREFERRED POWER
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
26	1.33E-06	1.17E-01	%T-FDW	LOSS OF FEEDWATER
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
27	1.31E-06	1.18E+00	%T-GEN	GENERAL TRANSIENT
		1.11E-06	C63-DTM-FC-ESFLG_1_2_3	CCF OF THREE COMPONENTS: C63-DTM-FC-ESFD1 & C63-DTM-FC-ESFD2 & C63-DTM-FC-ESFD3
28	1.31E-06	1.18E+00	%T-GEN	GENERAL TRANSIENT
		1.11E-06	C63-DTM-FC-ESFLG_1_2_4	CCF OF THREE COMPONENTS: C63-DTM-FC-ESFD1 & C63-DTM-FC-ESFD2 & C63-DTM-FC-ESFD4
29	1.31E-06	1.18E+00	%T-GEN	GENERAL TRANSIENT
		1.11E-06	C63-DTM-FC-ESFLG_1_3_4	CCF OF THREE COMPONENTS: C63-DTM-FC-ESFD1 & C63-DTM-FC-ESFD3 & C63-DTM-FC-ESFD4
30	1.31E-06	1.18E+00	%T-GEN	GENERAL TRANSIENT
		1.11E-06	C63-DTM-FC-ESFLG_2_3_4	CCF OF THREE COMPONENTS: C63-DTM-FC-ESFD2 & C63-DTM-FC-ESFD3 & C63-DTM-FC-ESFD4

Table 11B-1
Level 1 Internal Events Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
31	1.17E-06	1.17E-01	%T-FDW	LOSS OF FEEDWATER
		1.00E-04	C71-CCFSOFTWARE	RPS COMMON CAUSE SOFTWARE FAILURE
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
32	1.04E-06	1.04E-02	%T-LOPP-SC	SWITCHYARD CENTERED LOSS OF PREFERRED POWER
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
33	1.02E-06	1.02E-02	%T-IA	COMPLETE LOSS OF AIR SYSTEMS
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
34	9.61E-07	1.18E+00	%T-GEN	GENERAL TRANSIENT
		8.14E-07	R16-BT_-LP-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R16-BT_-LP-CCFSR'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
35	8.87E-07	1.97E-01	%T-PCS	TRANSIENT WITH PCS UNAVAILABLE
		4.50E-05	C71-SLU-FC-R_ALL	CCF OF ALL COMPONENTS IN GROUP 'C71-SLU-FC-R'
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
36	8.49E-07	2.83E-02	%T-IORV	IORV
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
37	7.09E-07	1.97E-01	%T-PCS	TRANSIENT WITH PCS UNAVAILABLE
		3.60E-06	C63-LT_-NO-ESFRX_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LT_-NO-ESFRX'

**Table 11B-1
Level 1 Internal Events Focus Top 100 Cutsets**

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
38	6.20E-07	6.20E-03	%BOC-MS	MAIN STEAM LINE BREAK OUTSIDE CONTAINMENT
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
39	5.91E-07	1.97E-01	%T-PCS	TRANSIENT WITH PCS UNAVAILABLE
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
40	5.91E-07	1.97E-01	%T-PCS	TRANSIENT WITH PCS UNAVAILABLE
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
41	5.91E-07	1.97E-01	%T-PCS	TRANSIENT WITH PCS UNAVAILABLE
		3.00E-05	C71-DTM-FC-R_ALL	CCF OF ALL COMPONENTS IN GROUP 'C71-DTM-FC-R'
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
42	5.58E-07	1.86E-02	%T-LOPP-GR	GRID RELATED LOSS OF PREFERRED POWER
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
43	5.27E-07	1.17E-01	%T-FDW	LOSS OF FEEDWATER
		4.50E-05	C71-SLU-FC-R_ALL	CCF OF ALL COMPONENTS IN GROUP 'C71-SLU-FC-R'
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
44	5.09E-07	2.83E-02	%T-IORV	IORV
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'

Table 11B-1
Level 1 Internal Events Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
45	4.86E-07	2.83E-02	%T-IORV	IORV
		1.72E-05	E50-UV_-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-UV_-CC-INJ'
46	4.83E-07	4.83E-03	%T-LOPP-WR	WEATHER RELATED LOSS OF PREFERRED POWER
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
47	4.25E-07	1.18E+00	%T-GEN	GENERAL TRANSIENT
		3.60E-07	C63-PSP-FO-ESFEP_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-PSP-FO-ESFEP'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
48	4.25E-07	1.18E+00	%T-GEN	GENERAL TRANSIENT
		3.60E-06	C63-LT_-NO-RPSRX_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LT_-NO-RPSRX'
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
49	4.21E-07	1.17E-01	%T-FDW	LOSS OF FEEDWATER
		3.60E-06	C63-LT_-NO-ESFRX_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LT_-NO-ESFRX'
50	3.94E-07	1.97E-01	%T-PCS	TRANSIENT WITH PCS UNAVAILABLE
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.76E-01	B32-XHE-FO-VENT	OPERATOR FAILS TO OPEN VENT
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'
51	3.93E-07	1.18E+00	%T-GEN	GENERAL TRANSIENT
		3.33E-04	B32-SQV-CC-XCONN_1_2	CCF OF TWO COMPONENTS: B32-SQV-CC-F104A & B32-SQV-CC-F104B
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

**Table 11B-1
Level 1 Internal Events Focus Top 100 Cutsets**

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
52	3.93E-07	1.18E+00	%T-GEN	GENERAL TRANSIENT
		3.33E-04	B32-SQV-CC-XCONN_1_2	CCF OF TWO COMPONENTS: B32-SQV-CC-F104A & B32-SQV-CC-F104B
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
53	3.66E-07	1.97E-01	%T-PCS	TRANSIENT WITH PCS UNAVAILABLE
		1.86E-06	C63-LDD-FC-ESFLOADS	CCF OF ALL ESF LOAD DRIVERS
54	3.55E-07	1.97E-01	%T-PCS	TRANSIENT WITH PCS UNAVAILABLE
		1.80E-05	C71-OLU-FC-R_ALL	CCF OF ALL COMPONENTS IN GROUP 'C71-OLU-FC-R'
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
55	3.54E-07	1.18E+00	%T-GEN	GENERAL TRANSIENT
		1.00E-04	B32-NPO-CC-F105A	F105A FAILS TO OPEN
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
56	3.54E-07	1.18E+00	%T-GEN	GENERAL TRANSIENT
		1.00E-04	B32-NPO-CC-F105B	F105B FAILS TO OPEN
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
57	3.51E-07	1.17E-01	%T-FDW	LOSS OF FEEDWATER
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
58	3.51E-07	1.17E-01	%T-FDW	LOSS OF FEEDWATER
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

Table 11B-1
Level 1 Internal Events Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
59	3.51E-07	1.17E-01	%T-FDW	LOSS OF FEEDWATER
		3.00E-05	C71-DTM-FC-R_ALL	CCF OF ALL COMPONENTS IN GROUP 'C71-DTM-FC-R'
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
60	3.40E-07	3.40E-03	%BOC-RWCU	RWCU LINE BREAK OUTSIDE CONTAINMENT
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
61	3.35E-07	1.86E-02	%T-LOPP-GR	GRID RELATED LOSS OF PREFERRED POWER
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
62	3.22E-07	2.83E-02	%T-IORV	IORV
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'
63	3.12E-07	1.04E-02	%T-LOPP-SC	SWITCHYARD CENTERED LOSS OF PREFERRED POWER
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
64	3.06E-07	1.02E-02	%T-IA	COMPLETE LOSS OF AIR SYSTEMS
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
65	2.95E-07	1.18E+00	%T-GEN	GENERAL TRANSIENT
		2.50E-07	C12-ROD-CF-SCRAM	CCF OF CONTROL RODS TO INSERT

Table 11B-1
Level 1 Internal Events Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
66	2.83E-07	2.83E-02	%T-IORV	IORV
		1.00E-04	C71-CCFSOFTWARE	RPS COMMON CAUSE SOFTWARE FAILURE
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
67	2.34E-07	1.17E-01	%T-FDW	LOSS OF FEEDWATER
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.76E-01	B32-XHE-FO-VENT	OPERATOR FAILS TO OPEN VENT
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'
68	2.19E-07	1.97E-01	%T-PCS	TRANSIENT WITH PCS UNAVAILABLE
		1.11E-06	C63-DTM-FC-ESFLG_1_2_3	CCF OF THREE COMPONENTS: C63-DTM-FC-ESFD1 & C63-DTM-FC-ESFD2 & C63-DTM-FC-ESFD3
69	2.19E-07	1.97E-01	%T-PCS	TRANSIENT WITH PCS UNAVAILABLE
		1.11E-06	C63-DTM-FC-ESFLG_1_2_4	CCF OF THREE COMPONENTS: C63-DTM-FC-ESFD1 & C63-DTM-FC-ESFD2 & C63-DTM-FC-ESFD4
70	2.19E-07	1.97E-01	%T-PCS	TRANSIENT WITH PCS UNAVAILABLE
		1.11E-06	C63-DTM-FC-ESFLG_1_3_4	CCF OF THREE COMPONENTS: C63-DTM-FC-ESFD1 & C63-DTM-FC-ESFD3 & C63-DTM-FC-ESFD4
71	2.19E-07	1.97E-01	%T-PCS	TRANSIENT WITH PCS UNAVAILABLE
		1.11E-06	C63-DTM-FC-ESFLG_2_3_4	CCF OF THREE COMPONENTS: C63-DTM-FC-ESFD2 & C63-DTM-FC-ESFD3 & C63-DTM-FC-ESFD4
72	2.18E-07	1.17E-01	%T-FDW	LOSS OF FEEDWATER
		1.86E-06	C63-LDD-FC-ESFLOADS	CCF OF ALL ESF LOAD DRIVERS

Table 11B-1
Level 1 Internal Events Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
73	2.11E-07	1.86E-02	%T-LOPP-GR	GRID RELATED LOSS OF PREFERRED POWER
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
74	2.11E-07	1.17E-01	%T-FDW	LOSS OF FEEDWATER
		1.80E-05	C71-OLU-FC-R_ALL	CCF OF ALL COMPONENTS IN GROUP 'C71-OLU-FC-R'
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
75	2.07E-07	2.07E-03	%T-LOPP-PC	PLANT CENTERED LOSS OF PREFERRED POWER
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
76	1.97E-07	1.18E+00	%T-GEN	GENERAL TRANSIENT
		1.67E-06	C71-SLU-FC-R_1_2_3	CCF OF THREE COMPONENTS: C71-SLU-FC-RPSDIV1 & C71-SLU-FC-RPSDIV2 & C71-SLU-FC-RP
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
77	1.97E-07	1.18E+00	%T-GEN	GENERAL TRANSIENT
		1.67E-06	C71-SLU-FC-R_1_2_4	CCF OF THREE COMPONENTS: C71-SLU-FC-RPSDIV1 & C71-SLU-FC-RPSDIV2 & C71-SLU-FC-RP
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM

Table 11B-1
Level 1 Internal Events Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
78	1.97E-07	1.18E+00	%T-GEN	GENERAL TRANSIENT
		1.67E-06	C71-SLU-FC-R_1_3_4	CCF OF THREE COMPONENTS: C71-SLU-FC-RPSDIV1 & C71-SLU-FC-RPSDIV3 & C71-SLU-FC-RP
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
79	1.97E-07	1.18E+00	%T-GEN	GENERAL TRANSIENT
		1.67E-06	C71-SLU-FC-R_2_3_4	CCF OF THREE COMPONENTS: C71-SLU-FC-RPSDIV2 & C71-SLU-FC-RPSDIV3 & C71-SLU-FC-RP
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
80	1.87E-07	1.04E-02	%T-LOPP-SC	SWITCHYARD CENTERED LOSS OF PREFERRED POWER
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
81	1.86E-07	6.20E-03	%BOC-MS	MAIN STEAM LINE BREAK OUTSIDE CONTAINMENT
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
82	1.86E-07	1.86E-02	%T-LOPP-GR	GRID RELATED LOSS OF PREFERRED POWER
		1.00E-04	C71-CCFSOFTWARE	RPS COMMON CAUSE SOFTWARE FAILURE
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
83	1.84E-07	1.02E-02	%T-IA	COMPLETE LOSS OF AIR SYSTEMS
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'

Table 11B-1
Level 1 Internal Events Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
84	1.70E-07	1.70E-03	%BOC-FDWA	FEEDWATER LINE A BREAK OUTSIDE CONTAINMENT
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
85	1.70E-07	1.70E-03	%BOC-FDWB	FEEDWATER LINE B BREAK OUTSIDE CONTAINMENT
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
86	1.69E-07	1.18E+00	%T-GEN	GENERAL TRANSIENT
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.76E-01	B32-XHE-FO-VENT	OPERATOR FAILS TO OPEN VENT
		8.14E-07	R16-BT_-LP-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R16-BT_-LP-CCFSR'
87	1.60E-07	1.97E-01	%T-PCS	TRANSIENT WITH PCS UNAVAILABLE
		8.14E-07	R16-BT_-LP-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R16-BT_-LP-CCFSR'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
88	1.45E-07	4.83E-03	%T-LOPP-WR	WEATHER RELATED LOSS OF PREFERRED POWER
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
89	1.31E-07	1.18E+00	%T-GEN	GENERAL TRANSIENT
		1.11E-06	C71-DTM-FC-R_1_2_3	CCF OF THREE COMPONENTS: C71-DTM-FC-RPSDIV1 & C71-DTM-FC-RPSDIV2 & C71-DTM-FC-RP
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM

**Table 11B-1
Level 1 Internal Events Focus Top 100 Cutsets**

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
90	1.31E-07	1.18E+00	%T-GEN	GENERAL TRANSIENT
		1.11E-06	C71-DTM-FC-R_1_2_4	CCF OF THREE COMPONENTS: C71-DTM-FC-RPSDIV1 & C71-DTM-FC-RPSDIV2 & C71-DTM-FC-RP
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
91	1.31E-07	1.18E+00	%T-GEN	GENERAL TRANSIENT
		1.11E-06	C71-DTM-FC-R_1_3_4	CCF OF THREE COMPONENTS: C71-DTM-FC-RPSDIV1 & C71-DTM-FC-RPSDIV3 & C71-DTM-FC-RP
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
92	1.31E-07	1.18E+00	%T-GEN	GENERAL TRANSIENT
		1.11E-06	C71-DTM-FC-R_2_3_4	CCF OF THREE COMPONENTS: C71-DTM-FC-RPSDIV2 & C71-DTM-FC-RPSDIV3 & C71-DTM-FC-RP
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
93	1.30E-07	1.17E-01	%T-FDW	LOSS OF FEEDWATER
		1.11E-06	C63-DTM-FC-ESFLG_1_2_3	CCF OF THREE COMPONENTS: C63-DTM-FC-ESFD1 & C63-DTM-FC-ESFD2 & C63-DTM-FC-ESFD3
94	1.30E-07	1.17E-01	%T-FDW	LOSS OF FEEDWATER
		1.11E-06	C63-DTM-FC-ESFLG_1_2_4	CCF OF THREE COMPONENTS: C63-DTM-FC-ESFD1 & C63-DTM-FC-ESFD2 & C63-DTM-FC-ESFD4
95	1.30E-07	1.17E-01	%T-FDW	LOSS OF FEEDWATER
		1.11E-06	C63-DTM-FC-ESFLG_1_3_4	CCF OF THREE COMPONENTS: C63-DTM-FC-ESFD1 & C63-DTM-FC-ESFD3 & C63-DTM-FC-ESFD4

**Table 11B-1
Level 1 Internal Events Focus Top 100 Cutsets**

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
96	1.30E-07	1.17E-01	%T-FDW	LOSS OF FEEDWATER
		1.11E-06	C63-DTM-FC-ESFLG_2_3_4	CCF OF THREE COMPONENTS: C63-DTM-FC-ESFD2 & C63-DTM-FC-ESFD3 & C63-DTM-FC-ESFD4
97	1.27E-07	2.83E-02	%T-IORV	IORV
		4.50E-05	C71-SLU-FC-R_ALL	CCF OF ALL COMPONENTS IN GROUP 'C71-SLU-FC-R'
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
98	1.18E-07	1.04E-02	%T-LOPP-SC	SWITCHYARD CENTERED LOSS OF PREFERRED POWER
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
99	1.16E-07	1.02E-02	%T-IA	COMPLETE LOSS OF AIR SYSTEMS
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
100	1.14E-07	7.62E-04	%SL-S	SMALL STEAM LOCA (NO RWCU BREAK)
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'

Table 11B-2
Level 1 Internal Events RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
1	6.83E-07	2.83E-02	%T-IORV	IORV
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		1.61E-01	XXX-XHE-FO-DEPRESS	OPERATOR FAILS TO RECOGNIZE NEED OF DEPRESSURIZATION
2	6.83E-07	2.83E-02	%T-IORV	IORV
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
		1.61E-01	XXX-XHE-FO-DEPRESS	OPERATOR FAILS TO RECOGNIZE NEED OF DEPRESSURIZATION
3	7.82E-08	2.83E-02	%T-IORV	IORV
		1.72E-05	E50-UV_-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-UV_-CC-INJ'
		1.61E-01	XXX-XHE-FO-DEPRESS	OPERATOR FAILS TO RECOGNIZE NEED OF DEPRESSURIZATION
4	5.70E-08	1.18E+00	%T-GEN	GENERAL TRANSIENT
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

Table 11B-2
Level 1 Internal Events RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
5	5.70E-08	1.18E+00	%T-GEN	GENERAL TRANSIENT
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
6	1.87E-08	2.83E-02	%T-IORV	IORV
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		4.41E-03	R21-DG_-FR-CCF_1_2	CCF OF TWO COMPONENTS: R21-DG_-FR-DGA & R21-DG_-FR-DGB
7	1.87E-08	2.83E-02	%T-IORV	IORV
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
		4.41E-03	R21-DG_-FR-CCF_1_2	CCF OF TWO COMPONENTS: R21-DG_-FR-DGA & R21-DG_-FR-DGB
8	1.84E-08	7.62E-04	%SL-S	SMALL STEAM LOCA (NO RWCU BREAK)
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		1.61E-01	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
9	1.84E-08	7.62E-04	%SL-S	SMALL STEAM LOCA (NO RWCU BREAK)
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		1.61E-01	XXX-XHE-FO-DEPRESS	OPERATOR FAILS TO RECOGNIZE NEED OF DEPRESSURIZATION

Table 11B-2
Level 1 Internal Events RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
10	1.84E-08	7.62E-04	%SL-S	SMALL STEAM LOCA (NO RWCU BREAK)
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
		1.61E-01	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
11	1.36E-08	3.40E-03	%BOC-RWCU	RWCU LINE BREAK OUTSIDE CONTAINMENT
		2.00E-03	G31-ACV-OO-F002A	NOV F002A FAILS TO CLOSE
		2.00E-03	G31-ACV-OO-F003A	ACV F003A FAILS TO CLOSE
12	1.36E-08	3.40E-03	%BOC-RWCU	RWCU LINE BREAK OUTSIDE CONTAINMENT
		2.00E-03	G31-ACV-OO-F007A	NOV F007A FAILS TO CLOSE
		2.00E-03	G31-ACV-OO-F008A	ACV F008A FAILS TO CLOSE
13	1.33E-08	2.83E-02	%T-IORV	IORV
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START

Table 11B-2
Level 1 Internal Events RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
14	1.33E-08	2.83E-02	%T-IORV	IORV
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
15	1.18E-08	1.18E+00	%T-GEN	GENERAL TRANSIENT
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E-04	C72-CCFSOFTWARE	COMMON CAUSE FAILURE OF DPS PROCESSORS
16	1.09E-08	2.83E-02	%T-IORV	IORV
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGB	STANDBY DIESEL GENERATOR "B" IN MAINTENANCE
17	1.09E-08	2.83E-02	%T-IORV	IORV
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGA	STANDBY DIESEL GENERATOR "A" IN MAINTENANCE

Table 11B-2
Level 1 Internal Events RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
18	1.09E-08	2.83E-02	%T-IORV	IORV
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGB	STANDBY DIESEL GENERATOR "B" IN MAINTENANCE
19	1.09E-08	2.83E-02	%T-IORV	IORV
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGA	STANDBY DIESEL GENERATOR "A" IN MAINTENANCE
20	9.52E-09	1.97E-01	%T-PCS	TRANSIENT WITH PCS UNAVAILABLE
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
21	9.52E-09	1.97E-01	%T-PCS	TRANSIENT WITH PCS UNAVAILABLE
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

Table 11B-2
Level 1 Internal Events RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
22	8.81E-09	3.65E-04	%SL-L	SMALL LIQUID LOCA (NO RWCU BREAK)
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		1.61E-01	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
23	8.81E-09	3.65E-04	%SL-L	SMALL LIQUID LOCA (NO RWCU BREAK)
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		1.61E-01	XXX-XHE-FO-DEPRESS	OPERATOR FAILS TO RECOGNIZE NEED OF DEPRESSURIZATION
24	8.81E-09	3.65E-04	%SL-L	SMALL LIQUID LOCA (NO RWCU BREAK)
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
		1.61E-01	XXX-XHE-FO-DEPRESS	OPERATOR FAILS TO RECOGNIZE NEED OF DEPRESSURIZATION
25	8.81E-09	3.65E-04	%SL-L	SMALL LIQUID LOCA (NO RWCU BREAK)
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
		1.61E-01	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
26	8.49E-09	2.83E-02	%T-IORV	IORV
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		2.00E-03	P21-ACV-OO-F0004	AIR OPERATED VALVE F0004 FAILS TO CLOSE

Table 11B-2
Level 1 Internal Events RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
27	8.49E-09	2.83E-02	%T-IORV	IORV
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		2.00E-03	P21-ACV-OO-F0027	AIR OPERATED VALVE F0027 FAILS TO CLOSE
28	8.49E-09	2.83E-02	%T-IORV	IORV
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		2.00E-03	P21-ACV-OO-F0061	AIR OPERATED VALVE F0061 FAILS TO CLOSE
29	8.49E-09	2.83E-02	%T-IORV	IORV
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
		2.00E-03	P21-ACV-OO-F0004	AIR OPERATED VALVE F0004 FAILS TO CLOSE
30	8.49E-09	2.83E-02	%T-IORV	IORV
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
		2.00E-03	P21-ACV-OO-F0027	AIR OPERATED VALVE F0027 FAILS TO CLOSE
31	8.49E-09	2.83E-02	%T-IORV	IORV
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
		2.00E-03	P21-ACV-OO-F0061	AIR OPERATED VALVE F0061 FAILS TO CLOSE

Table 11B-2
Level 1 Internal Events RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
32	8.19E-09	3.39E-04	%LL-S	LARGE STEAM LOCA (NO FW LINE BREAK)
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
		1.61E-01	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
33	7.08E-09	2.83E-02	%T-IORV	IORV
		2.50E-07	C12-ROD-CF-SCRAM	CCF OF CONTROL RODS TO INSERT
34	6.83E-09	2.83E-02	%T-IORV	IORV
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		1.61E-03	B21-XHE-FO-6OPEN	OPERATOR FAILS TO OPEN 6/10 SRVS
35	6.83E-09	2.83E-02	%T-IORV	IORV
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		1.61E-03	G21-XHE-FO-LPCI	OPERATOR FAILS TO ALIGN AND ACTUATE FAPCS IN LPCI MODE
36	6.83E-09	2.83E-02	%T-IORV	IORV
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
		1.61E-03	G21-XHE-FO-LPCI	OPERATOR FAILS TO ALIGN AND ACTUATE FAPCS IN LPCI MODE

Table 11B-2
Level 1 Internal Events RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
37	6.33E-09	1.18E+00	%T-GEN	GENERAL TRANSIENT
		3.33E-04	B32-SQV-CC-XCONN_1_2	CCF OF TWO COMPONENTS: B32-SQV-CC-F104A & B32-SQV-CC-F104B
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
38	6.33E-09	1.18E+00	%T-GEN	GENERAL TRANSIENT
		3.33E-04	B32-SQV-CC-XCONN_1_2	CCF OF TWO COMPONENTS: B32-SQV-CC-F104A & B32-SQV-CC-F104B
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
39	5.70E-09	1.18E+00	%T-GEN	GENERAL TRANSIENT
		1.00E-04	B32-NPO-CC-F105A	F105A FAILS TO OPEN
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

**Table 11B-2
Level 1 Internal Events RTNSS Top 100 Cutsets**

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
40	5.70E-09	1.18E+00	%T-GEN	GENERAL TRANSIENT
		1.00E-04	B32-NPO-CC-F105B	F105B FAILS TO OPEN
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
41	5.70E-09	1.18E+00	%T-GEN	GENERAL TRANSIENT
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
		1.61E-03	XXX-XHE-FO-ICPCCS	OPERATOR FAILS TO RECOGNIZE THE NEED TO MAKEUP ICS/PCCS POOL LEVEL.
42	5.70E-09	1.18E+00	%T-GEN	GENERAL TRANSIENT
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
		1.61E-03	XXX-XHE-FO-ICPCCS	OPERATOR FAILS TO RECOGNIZE THE NEED TO MAKEUP ICS/PCCS POOL LEVEL.

Table 11B-2
Level 1 Internal Events RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
43	5.65E-09	1.17E-01	%T-FDW	LOSS OF FEEDWATER
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
44	5.65E-09	1.17E-01	%T-FDW	LOSS OF FEEDWATER
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
45	4.70E-09	1.18E+00	%T-GEN	GENERAL TRANSIENT
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

**Table 11B-2
Level 1 Internal Events RTNSS Top 100 Cutsets**

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
46	4.70E-09	1.18E+00	%T-GEN	GENERAL TRANSIENT
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
47	3.96E-09	1.18E+00	%T-GEN	GENERAL TRANSIENT
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
48	3.96E-09	1.18E+00	%T-GEN	GENERAL TRANSIENT
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

Table 11B-2
Level 1 Internal Events RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
49	3.86E-09	1.18E+00	%T-GEN	GENERAL TRANSIENT
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		4.60E-02	R21-DG_-TM-DGB	STANDBY DIESEL GENERATOR "B" IN MAINTENANCE
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
50	3.86E-09	1.18E+00	%T-GEN	GENERAL TRANSIENT
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		4.60E-02	R21-DG_-TM-DGB	STANDBY DIESEL GENERATOR "B" IN MAINTENANCE
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
51	3.54E-09	1.18E+00	%T-GEN	GENERAL TRANSIENT
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
		1.00E-04	C72-CCFSOFTWARE	COMMON CAUSE FAILURE OF DPS PROCESSORS
52	3.33E-09	2.83E-02	%T-IORV	IORV
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		1.40E-02	R21-DG_-FS-DGB	DG-B FAILS TO START AND LOAD

Table 11B-2
Level 1 Internal Events RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
53	3.33E-09	2.83E-02	%T-IORV	IORV
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		1.40E-02	R21-DG_-FS-DGA	DG-A FAILS TO START AND LOAD
54	3.33E-09	2.83E-02	%T-IORV	IORV
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		1.40E-02	R21-DG_-FS-DGB	DG-B FAILS TO START AND LOAD
55	3.33E-09	2.83E-02	%T-IORV	IORV
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		1.40E-02	R21-DG_-FS-DGA	DG-A FAILS TO START AND LOAD
56	3.26E-09	1.18E+00	%T-GEN	GENERAL TRANSIENT
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		4.60E-02	R21-DG_-TM-DGB	STANDBY DIESEL GENERATOR "B" IN MAINTENANCE
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

Table 11B-2
Level 1 Internal Events RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
57	3.26E-09	1.18E+00	%T-GEN	GENERAL TRANSIENT
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		4.60E-02	R21-DG_-TM-DGB	STANDBY DIESEL GENERATOR "B" IN MAINTENANCE
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
58	2.85E-09	1.18E+00	%T-GEN	GENERAL TRANSIENT
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.61E-01	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
59	2.85E-09	1.18E+00	%T-GEN	GENERAL TRANSIENT
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.61E-01	XXX-XHE-FO-DEPRESS	OPERATOR FAILS TO RECOGNIZE NEED OF DEPRESSURIZATION

Table 11B-2
Level 1 Internal Events RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
60	2.85E-09	1.18E+00	%T-GEN	GENERAL TRANSIENT
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		1.00E-04	C63-CCFSOFTWARE_S	ESF SPURIOUS COMMON CAUSE SOFTWARE FAILURE
		1.61E-01	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
61	2.85E-09	1.18E+00	%T-GEN	GENERAL TRANSIENT
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		1.00E-04	C63-CCFSOFTWARE_S	ESF SPURIOUS COMMON CAUSE SOFTWARE FAILURE
		1.61E-01	XXX-XHE-FO-DEPRESS	OPERATOR FAILS TO RECOGNIZE NEED OF DEPRESSURIZATION
62	2.85E-09	1.18E+00	%T-GEN	GENERAL TRANSIENT
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
		1.61E-01	XXX-XHE-FO-DEPRESS	OPERATOR FAILS TO RECOGNIZE NEED OF DEPRESSURIZATION

Table 11B-2
Level 1 Internal Events RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
63	2.85E-09	1.18E+00	%T-GEN	GENERAL TRANSIENT
		1.00E-04	C63-CCFSOFTWARE_S	ESF SPURIOUS COMMON CAUSE SOFTWARE FAILURE
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
		1.61E-01	XXX-XHE-FO-DEPRESS	OPERATOR FAILS TO RECOGNIZE NEED OF DEPRESSURIZATION
64	2.83E-09	2.83E-02	%T-IORV	IORV
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		6.67E-04	P21-AHU-FS_1_2	CCF OF TWO COMPONENTS: P21-AHU-FS-RCCWA & P21-AHU-FS-RCCWB
65	2.83E-09	2.83E-02	%T-IORV	IORV
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		6.67E-04	R21-AHU-FS-AHU3_1_2	CCF OF TWO COMPONENTS: R21-AHU-FS-3A & R21-AHU-FS-3B
66	2.83E-09	2.83E-02	%T-IORV	IORV
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
		6.67E-04	P21-AHU-FS_1_2	CCF OF TWO COMPONENTS: P21-AHU-FS-RCCWA & P21-AHU-FS-RCCWB
67	2.83E-09	2.83E-02	%T-IORV	IORV
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
		6.67E-04	R21-AHU-FS-AHU3_1_2	CCF OF TWO COMPONENTS: R21-AHU-FS-3A & R21-AHU-FS-3B

Table 11B-2
Level 1 Internal Events RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
68	2.73E-09	2.83E-02	%T-IORV	IORV
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		1.40E-02	R21-DG_-FS-DGA	DG-A FAILS TO START AND LOAD
		4.60E-02	R21-DG_-TM-DGB	STANDBY DIESEL GENERATOR "B" IN MAINTENANCE
69	2.73E-09	2.83E-02	%T-IORV	IORV
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		1.40E-02	R21-DG_-FS-DGB	DG-B FAILS TO START AND LOAD
		4.60E-02	R21-DG_-TM-DGA	STANDBY DIESEL GENERATOR "A" IN MAINTENANCE
70	2.73E-09	2.83E-02	%T-IORV	IORV
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
		1.40E-02	R21-DG_-FS-DGA	DG-A FAILS TO START AND LOAD
		4.60E-02	R21-DG_-TM-DGB	STANDBY DIESEL GENERATOR "B" IN MAINTENANCE
71	2.73E-09	2.83E-02	%T-IORV	IORV
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
		1.40E-02	R21-DG_-FS-DGB	DG-B FAILS TO START AND LOAD
		4.60E-02	R21-DG_-TM-DGA	STANDBY DIESEL GENERATOR "A" IN MAINTENANCE
72	2.58E-09	2.83E-02	%T-IORV	IORV
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		1.08E-02	R21-FLT-PG-DGB	FILTER PLUGGED

Table 11B-2
Level 1 Internal Events RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
73	2.58E-09	2.83E-02	%T-IORV	IORV
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		1.08E-02	R21-FLT-PG-DGA	FILTER PLUGGED
74	2.58E-09	2.83E-02	%T-IORV	IORV
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		1.08E-02	R21-FLT-PG-DGB	FILTER PLUGGED
75	2.58E-09	2.83E-02	%T-IORV	IORV
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		1.08E-02	R21-FLT-PG-DGA	FILTER PLUGGED
76	2.53E-09	2.83E-02	%T-IORV	IORV
		5.56E-07	T10-VB_-CC_1_2_3	CCF OF THREE COMPONENTS: T10-VB_-CC-VB1 & T10-VB_-CC-VB2 & T10-VB_-CC-VB3
		1.61E-01	XXX-XHE-FO-DEPRESS	OPERATOR FAILS TO RECOGNIZE NEED OF DEPRESSURIZATION
77	2.48E-09	2.83E-02	%T-IORV	IORV
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		5.85E-04	B21-SRV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SRV-CC'

Table 11B-2
Level 1 Internal Events RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
78	2.14E-09	2.83E-02	%T-IORV	IORV
		1.72E-05	E50-UV_-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-UV_-CC-INJ'
		4.41E-03	R21-DG_-FR-CCF_1_2	CCF OF TWO COMPONENTS: R21-DG_-FR-DGA & R21-DG_-FR-DGB
79	2.14E-09	2.83E-02	%T-IORV	IORV
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		9.00E-03	G21-NST-TM-TRAINB	TRAIN B IN MAINTENANCE
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
80	2.14E-09	2.83E-02	%T-IORV	IORV
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
		9.00E-03	G21-NST-TM-TRAINB	TRAIN B IN MAINTENANCE
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
81	2.12E-09	1.18E+00	%T-GEN	GENERAL TRANSIENT
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
		1.00E-04	C72-CCFSOFTWARE	COMMON CAUSE FAILURE OF DPS PROCESSORS
82	2.12E-09	2.83E-02	%T-IORV	IORV
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		4.60E-02	R21-DG_-TM-DGA	STANDBY DIESEL GENERATOR "A" IN MAINTENANCE
		1.08E-02	R21-FLT-PG-DGB	FILTER PLUGGED

Table 11B-2
Level 1 Internal Events RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
83	2.12E-09	2.83E-02	%T-IORV	IORV
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		4.60E-02	R21-DG_-TM-DGB	STANDBY DIESEL GENERATOR "B" IN MAINTENANCE
		1.08E-02	R21-FLT-PG-DGA	FILTER PLUGGED
84	2.12E-09	2.83E-02	%T-IORV	IORV
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
		4.60E-02	R21-DG_-TM-DGA	STANDBY DIESEL GENERATOR "A" IN MAINTENANCE
		1.08E-02	R21-FLT-PG-DGB	FILTER PLUGGED
85	2.12E-09	2.83E-02	%T-IORV	IORV
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
		4.60E-02	R21-DG_-TM-DGB	STANDBY DIESEL GENERATOR "B" IN MAINTENANCE
		1.08E-02	R21-FLT-PG-DGA	FILTER PLUGGED
86	2.11E-09	7.62E-04	%SL-S	SMALL STEAM LOCA (NO RWCU BREAK)
		1.72E-05	E50-UV_-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-UV_-CC-INJ'
		1.61E-01	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
87	1.99E-09	3.22E-05	%ML-L	MEDIUM LIQUID LOCA
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		4.12E-01	E50-MLLINJFACTOR	FACTOR APPORTIONING MLOCA BREAKS FOR GDCS INJECTION LINE

Table 11B-2
Level 1 Internal Events RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
88	1.99E-09	3.22E-05	%ML-L	MEDIUM LIQUID LOCA
		4.12E-01	E50-MLLINJFACTOR	FACTOR APPORTIONING MLOCA BREAKS FOR GDCE INJECTION LINE
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
89	1.97E-09	1.97E-01	%T-PCS	TRANSIENT WITH PCS UNAVAILABLE
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E-04	C72-CCFSOFTWARE	COMMON CAUSE FAILURE OF DPS PROCESSORS
90	1.92E-09	2.83E-02	%T-IORV	IORV
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		8.07E-03	P21-TRN-RE-HX1A	FAILURE TO RESTORE RCCW TRAIN 1A HX
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
91	1.92E-09	2.83E-02	%T-IORV	IORV
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		8.07E-03	P21-TRN-RE-HX1B	FAILURE TO RESTORE RCCW TRAIN 1B HX
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START

Table 11B-2
Level 1 Internal Events RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
92	1.92E-09	2.83E-02	%T-IORV	IORV
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		8.07E-03	P21-TRN-RE-HX2A	FAILURE TO RESTORE RCCW TRAIN 2A HX
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
93	1.92E-09	2.83E-02	%T-IORV	IORV
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		8.07E-03	P21-TRN-RE-HX2B	FAILURE TO RESTORE RCCW TRAIN 2B HX
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
94	1.92E-09	2.83E-02	%T-IORV	IORV
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		8.07E-03	P21-TRN-RE-HX3A	FAILURE TO RESTORE RCCW TRAIN 3A HX
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
95	1.92E-09	2.83E-02	%T-IORV	IORV
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		8.07E-03	P21-TRN-RE-HX3B	FAILURE TO RESTORE RCCW TRAIN 3B HX
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START

**Table 11B-2
Level 1 Internal Events RTNSS Top 100 Cutsets**

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
96	1.92E-09	2.83E-02	%T-IORV	IORV
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		8.07E-03	P21-TRN-RE-PUMP1A	FAILURE TO RESTORE RCCW TRAIN 1A PUMP
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
97	1.92E-09	2.83E-02	%T-IORV	IORV
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		8.07E-03	P21-TRN-RE-PUMP1B	FAILURE TO RESTORE RCCW TRAIN 1B PUMP
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
98	1.92E-09	2.83E-02	%T-IORV	IORV
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		8.07E-03	P21-TRN-RE-PUMP2A	FAILURE TO RESTORE RCCW TRAIN 2A PUMP
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
99	1.92E-09	2.83E-02	%T-IORV	IORV
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		8.07E-03	P21-TRN-RE-PUMP2B	FAILURE TO RESTORE RCCW TRAIN 2B PUMP
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START

Table 11B-2
Level 1 Internal Events RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
100	1.92E-09	2.83E-02	%T-IORV	IORV
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		8.07E-03	P21-TRN-RE-PUMP3A	FAILURE TO RESTORE RCCW TRAIN 3A PUMP
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START

Table 11B-3
Level 2 Internal Events Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
1	1.18E-04	1.18E+00	%T-GEN	GENERAL TRANSIENT
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
2	2.12E-05	1.18E+00	%T-GEN	GENERAL TRANSIENT
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
3	1.97E-05	1.97E-01	%T-PCS	TRANSIENT WITH PCS UNAVAILABLE
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
4	1.34E-05	1.18E+00	%T-GEN	GENERAL TRANSIENT
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
5	1.18E-05	1.18E+00	%T-GEN	GENERAL TRANSIENT
		1.00E-04	C71-CCFSOFTWARE	RPS COMMON CAUSE SOFTWARE FAILURE
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
6	1.17E-05	1.17E-01	%T-FDW	LOSS OF FEEDWATER
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
7	5.31E-06	1.18E+00	%T-GEN	GENERAL TRANSIENT
		4.50E-05	C71-SLU-FC-R_ALL	CCF OF ALL COMPONENTS IN GROUP 'C71-SLU-FC-R'
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
8	3.55E-06	1.97E-01	%T-PCS	TRANSIENT WITH PCS UNAVAILABLE
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

Table 11B-3
Level 2 Internal Events Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
9	3.54E-06	1.18E+00	%T-GEN	GENERAL TRANSIENT
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_OO-F105A	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
10	3.54E-06	1.18E+00	%T-GEN	GENERAL TRANSIENT
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_OO-F105B	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
11	3.54E-06	1.18E+00	%T-GEN	GENERAL TRANSIENT
		3.00E-05	C71-DTM-FC-R_ALL	CCF OF ALL COMPONENTS IN GROUP 'C71-DTM-FC-R'
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
12	2.83E-06	2.83E-02	%T-IORV	IORV
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
13	2.24E-06	1.97E-01	%T-PCS	TRANSIENT WITH PCS UNAVAILABLE
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
14	2.19E-06	1.18E+00	%T-GEN	GENERAL TRANSIENT
		1.86E-06	C63-LDD-FC-ESFLOADS	CCF OF ALL ESF LOAD DRIVERS
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
15	2.12E-06	1.18E+00	%T-GEN	GENERAL TRANSIENT
		1.80E-05	C71-OLU-FC-R_ALL	CCF OF ALL COMPONENTS IN GROUP 'C71-OLU-FC-R'
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
16	2.11E-06	1.17E-01	%T-FDW	LOSS OF FEEDWATER
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

Table 11B-3
Level 2 Internal Events Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
17	1.97E-06	1.97E-01	%T-PCS	TRANSIENT WITH PCS UNAVAILABLE
		1.00E-04	C71-CCFSOFTWARE	RPS COMMON CAUSE SOFTWARE FAILURE
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
18	1.86E-06	1.86E-02	%T-LOPP-GR	GRID RELATED LOSS OF PREFERRED POWER
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
19	1.33E-06	1.17E-01	%T-FDW	LOSS OF FEEDWATER
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
20	1.17E-06	1.17E-01	%T-FDW	LOSS OF FEEDWATER
		1.00E-04	C71-CCFSOFTWARE	RPS COMMON CAUSE SOFTWARE FAILURE
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
21	1.04E-06	1.04E-02	%T-LOPP-SC	SWITCHYARD CENTERED LOSS OF PREFERRED POWER
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
22	1.02E-06	1.02E-02	%T-IA	COMPLETE LOSS OF AIR SYSTEMS
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
23	9.61E-07	1.18E+00	%T-GEN	GENERAL TRANSIENT
		8.14E-07	R16-BT_-LP-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R16-BT_-LP-CCFSR'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
24	8.87E-07	1.97E-01	%T-PCS	TRANSIENT WITH PCS UNAVAILABLE
		4.50E-05	C71-SLU-FC-R_ALL	CCF OF ALL COMPONENTS IN GROUP 'C71-SLU-FC-R'
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM

Table 11B-3
Level 2 Internal Events Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
25	6.20E-07	6.20E-03	%BOC-MS	MAIN STEAM LINE BREAK OUTSIDE CONTAINMENT
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
26	5.91E-07	1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
		1.97E-01	%T-PCS	TRANSIENT WITH PCS UNAVAILABLE
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV -OO-F105A	CHECK VALVE FAILS TO CLOSE
27	5.91E-07	1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
		1.97E-01	%T-PCS	TRANSIENT WITH PCS UNAVAILABLE
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV -OO-F105B	CHECK VALVE FAILS TO CLOSE
28	5.91E-07	1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
		1.97E-01	%T-PCS	TRANSIENT WITH PCS UNAVAILABLE
		3.00E-05	C71-DTM-FC-R_ALL	CCF OF ALL COMPONENTS IN GROUP 'C71-DTM-FC-R'
29	5.27E-07	1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
		1.17E-01	%T-FDW	LOSS OF FEEDWATER
		4.50E-05	C71-SLU-FC-R_ALL	CCF OF ALL COMPONENTS IN GROUP 'C71-SLU-FC-R'
30	5.09E-07	1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
		2.83E-02	%T-IORV	IORV
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
31	4.83E-07	1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
		4.83E-03	%T-LOPP-WR	WEATHER RELATED LOSS OF PREFERRED POWER
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

Table 11B-3
Level 2 Internal Events Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
32	4.25E-07	1.18E+00	%T-GEN	GENERAL TRANSIENT
		3.60E-07	C63-PSP-FO-ESFEP_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-PSP-FO-ESFEP'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
33	4.25E-07	1.18E+00	%T-GEN	GENERAL TRANSIENT
		3.60E-06	C63-LT_-NO-RPSRX_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LT_-NO-RPSRX'
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
34	3.93E-07	1.18E+00	%T-GEN	GENERAL TRANSIENT
		3.33E-04	B32-SQV-CC-XCONN_1_2	CCF OF TWO COMPONENTS: B32-SQV-CC-F104A & B32-SQV-CC-F104B
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
35	3.93E-07	1.18E+00	%T-GEN	GENERAL TRANSIENT
		3.33E-04	B32-SQV-CC-XCONN_1_2	CCF OF TWO COMPONENTS: B32-SQV-CC-F104A & B32-SQV-CC-F104B
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
36	3.66E-07	1.97E-01	%T-PCS	TRANSIENT WITH PCS UNAVAILABLE
		1.86E-06	C63-LDD-FC-ESFLOADS	CCF OF ALL ESF LOAD DRIVERS
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
37	3.55E-07	1.97E-01	%T-PCS	TRANSIENT WITH PCS UNAVAILABLE
		1.80E-05	C71-OLU-FC-R_ALL	CCF OF ALL COMPONENTS IN GROUP 'C71-OLU-FC-R'
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
38	3.54E-07	1.18E+00	%T-GEN	GENERAL TRANSIENT
		1.00E-04	B32-NPO-CC-F105A	F105A FAILS TO OPEN
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

Table 11B-3
Level 2 Internal Events Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
39	3.54E-07	1.18E+00	%T-GEN	GENERAL TRANSIENT
		1.00E-04	B32-NPO-CC-F105B	F105B FAILS TO OPEN
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
40	3.51E-07	1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
		1.17E-01	%T-FDW	LOSS OF FEEDWATER
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV _OO-F105A	CHECK VALVE FAILS TO CLOSE
41	3.51E-07	1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
		1.17E-01	%T-FDW	LOSS OF FEEDWATER
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV _OO-F105B	CHECK VALVE FAILS TO CLOSE
42	3.51E-07	1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
		1.17E-01	%T-FDW	LOSS OF FEEDWATER
		3.00E-05	C71-DTM-FC-R_ALL	CCF OF ALL COMPONENTS IN GROUP 'C71-DTM-FC-R'
43	3.40E-07	1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
		3.40E-03	%BOC-RWCU	RWCU LINE BREAK OUTSIDE CONTAINMENT
44	3.35E-07	1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.86E-02	%T-LOPP-GR	GRID RELATED LOSS OF PREFERRED POWER
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
45	3.22E-07	1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
		2.83E-02	%T-IORV	IORV
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'
46	2.83E-07	1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
		2.83E-02	%T-IORV	IORV
		1.00E-04	C71-CCFSOFTWARE	RPS COMMON CAUSE SOFTWARE FAILURE
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM

Table 11B-3
Level 2 Internal Events Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
47	2.18E-07	1.17E-01	%T-FDW	LOSS OF FEEDWATER
		1.86E-06	C63-LDD-FC-ESFLOADS	CCF OF ALL ESF LOAD DRIVERS
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
48	2.11E-07	1.86E-02	%T-LOPP-GR	GRID RELATED LOSS OF PREFERRED POWER
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
49	2.11E-07	1.17E-01	%T-FDW	LOSS OF FEEDWATER
		1.80E-05	C71-OLU-FC-R_ALL	CCF OF ALL COMPONENTS IN GROUP 'C71-OLU-FC-R'
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
50	2.07E-07	2.07E-03	%T-LOPP-PC	PLANT CENTERED LOSS OF PREFERRED POWER
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
51	1.97E-07	1.18E+00	%T-GEN	GENERAL TRANSIENT
		1.67E-06	C71-SLU-FC-R_1_2_3	CCF OF THREE COMPONENTS: C71-SLU-FC-RPSDIV1 & C71-SLU-FC-RPSDIV2 & C71-SLU-FC-RP
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
52	1.97E-07	1.18E+00	%T-GEN	GENERAL TRANSIENT
		1.67E-06	C71-SLU-FC-R_1_2_4	CCF OF THREE COMPONENTS: C71-SLU-FC-RPSDIV1 & C71-SLU-FC-RPSDIV2 & C71-SLU-FC-RP
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM

Table 11B-3
Level 2 Internal Events Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
53	1.97E-07	1.18E+00	%T-GEN	GENERAL TRANSIENT
		1.67E-06	C71-SLU-FC-R_1_3_4	CCF OF THREE COMPONENTS: C71-SLU-FC-RPSDIV1 & C71-SLU-FC-RPSDIV3 & C71-SLU-FC-RP
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
54	1.97E-07	1.18E+00	%T-GEN	GENERAL TRANSIENT
		1.67E-06	C71-SLU-FC-R_2_3_4	CCF OF THREE COMPONENTS: C71-SLU-FC-RPSDIV2 & C71-SLU-FC-RPSDIV3 & C71-SLU-FC-RP
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
55	1.87E-07	1.04E-02	%T-LOPP-SC	SWITCHYARD CENTERED LOSS OF PREFERRED POWER
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
56	1.86E-07	1.86E-02	%T-LOPP-GR	GRID RELATED LOSS OF PREFERRED POWER
		1.00E-04	C71-CCFSOFTWARE	RPS COMMON CAUSE SOFTWARE FAILURE
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
57	1.84E-07	1.02E-02	%T-IA	COMPLETE LOSS OF AIR SYSTEMS
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
58	1.70E-07	1.70E-03	%BOC-FDWA	FEEDWATER LINE A BREAK OUTSIDE CONTAINMENT
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
59	1.70E-07	1.70E-03	%BOC-FDWB	FEEDWATER LINE B BREAK OUTSIDE CONTAINMENT
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

Table 11B-3
Level 2 Internal Events Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
60	1.60E-07	1.97E-01	%T-PCS	TRANSIENT WITH PCS UNAVAILABLE
		8.14E-07	R16-BT_-LP-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R16-BT_-LP-CCFSR'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
61	1.31E-07	1.18E+00	%T-GEN	GENERAL TRANSIENT
		1.11E-06	C71-DTM-FC-R_1_2_3	CCF OF THREE COMPONENTS: C71-DTM-FC-RPSDIV1 & C71-DTM-FC-RPSDIV2 & C71-DTM-FC-RP
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
62	1.31E-07	1.18E+00	%T-GEN	GENERAL TRANSIENT
		1.11E-06	C71-DTM-FC-R_1_2_4	CCF OF THREE COMPONENTS: C71-DTM-FC-RPSDIV1 & C71-DTM-FC-RPSDIV2 & C71-DTM-FC-RP
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
63	1.31E-07	1.18E+00	%T-GEN	GENERAL TRANSIENT
		1.11E-06	C71-DTM-FC-R_1_3_4	CCF OF THREE COMPONENTS: C71-DTM-FC-RPSDIV1 & C71-DTM-FC-RPSDIV3 & C71-DTM-FC-RP
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
64	1.31E-07	1.18E+00	%T-GEN	GENERAL TRANSIENT
		1.11E-06	C71-DTM-FC-R_2_3_4	CCF OF THREE COMPONENTS: C71-DTM-FC-RPSDIV2 & C71-DTM-FC-RPSDIV3 & C71-DTM-FC-RP
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
65	1.27E-07	2.83E-02	%T-IORV	IORV
		4.50E-05	C71-SLU-FC-R_ALL	CCF OF ALL COMPONENTS IN GROUP 'C71-SLU-FC-R'
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM

Table 11B-3
Level 2 Internal Events Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
66	1.18E-07	1.04E-02	%T-LOPP-SC	SWITCHYARD CENTERED LOSS OF PREFERRED POWER
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
67	1.18E-07	1.18E+00	%T-GEN	GENERAL TRANSIENT
		1.00E-03	B21-UV -OO-F102A	CHECK VALVE F102A FAILS TO CLOSE
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
68	1.18E-07	1.18E+00	%T-GEN	GENERAL TRANSIENT
		1.00E-03	B21-UV -OO-F102B	CHECK VALVE F102B FAILS TO CLOSE
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
69	1.16E-07	1.02E-02	%T-IA	COMPLETE LOSS OF AIR SYSTEMS
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
70	1.12E-07	6.20E-03	%BOC-MS	MAIN STEAM LINE BREAK OUTSIDE CONTAINMENT
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
71	1.04E-07	1.04E-02	%T-LOPP-SC	SWITCHYARD CENTERED LOSS OF PREFERRED POWER
		1.00E-04	C71-CCFSOFTWARE	RPS COMMON CAUSE SOFTWARE FAILURE
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
72	1.02E-07	3.40E-03	%BOC-RWCU	RWCU LINE BREAK OUTSIDE CONTAINMENT
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
73	1.02E-07	1.02E-02	%T-IA	COMPLETE LOSS OF AIR SYSTEMS
		1.00E-04	C71-CCFSOFTWARE	RPS COMMON CAUSE SOFTWARE FAILURE
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM

Table 11B-3
Level 2 Internal Events Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
74	9.70E-08	9.70E-04	%T-SW	COMPLETE LOSS OF PSWS
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
75	9.53E-08	1.17E-01	%T-FDW	LOSS OF FEEDWATER
		8.14E-07	R16-BT_-LP-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R16-BT_-LP-CCFSR'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
76	9.45E-08	1.18E+00	%T-GEN	GENERAL TRANSIENT
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		2.67E-05	B32-UV_-OO-XCONN-ACC_1_2	CCF OF TWO COMPONENTS: B32-UV_-OO-F105A & B32-UV_-OO-F105B
77	9.45E-08	1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
		1.18E+00	%T-GEN	GENERAL TRANSIENT
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
78	8.69E-08	2.67E-05	B32-UV_-OO-XCONN-ACC_1_2	CCF OF TWO COMPONENTS: B32-UV_-OO-F105A & B32-UV_-OO-F105B
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
		4.83E-03	%T-LOPP-WR	WEATHER RELATED LOSS OF PREFERRED POWER
79	8.50E-08	1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
		1.18E+00	%T-GEN	GENERAL TRANSIENT
80	8.50E-08	3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		2.40E-05	B32-UV_-RL-F105A	CHECK VALVE REVERSE LEAKAGE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
		1.18E+00	%T-GEN	GENERAL TRANSIENT
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		2.40E-05	B32-UV_-RL-F105B	CHECK VALVE REVERSE LEAKAGE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

Table 11B-3
Level 2 Internal Events Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
81	8.49E-08	2.83E-02	%T-IORV	IORV
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
82	8.49E-08	2.83E-02	%T-IORV	IORV
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
83	8.49E-08	2.83E-02	%T-IORV	IORV
		3.00E-05	C71-DTM-FC-R_ALL	CCF OF ALL COMPONENTS IN GROUP 'C71-DTM-FC-R'
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
		1.86E-02	%T-LOPP-GR	GRID RELATED LOSS OF PREFERRED POWER
84	8.37E-08	4.50E-05	C71-SLU-FC-R_ALL	CCF OF ALL COMPONENTS IN GROUP 'C71-SLU-FC-R'
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
		7.62E-04	%SL-S	SMALL STEAM LOCA (NO RWCU BREAK)
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
85	7.62E-08	1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
		1.97E-01	%T-PCS	TRANSIENT WITH PCS UNAVAILABLE
		3.60E-07	C63-PSP-FO-ESFEP_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-PSP-FO-ESFEP'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
86	7.09E-08	1.97E-01	%T-PCS	TRANSIENT WITH PCS UNAVAILABLE
		3.60E-06	C63-LT_-NO-RPSRX_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LT_-NO-RPSRX'
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
87	7.09E-08	1.97E-01	%T-PCS	TRANSIENT WITH PCS UNAVAILABLE
		3.60E-06	C63-LT_-NO-RPSRX_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LT_-NO-RPSRX'
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

**Table 11B-3
Level 2 Internal Events Focus Top 100 Cutsets**

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
88	7.05E-08	6.20E-03	%BOC-MS	MAIN STEAM LINE BREAK OUTSIDE CONTAINMENT
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
89	6.57E-08	1.97E-01	%T-PCS	TRANSIENT WITH PCS UNAVAILABLE
		3.33E-04	B32-SQV-CC-XCONN_1_2	CCF OF TWO COMPONENTS: B32-SQV-CC-F104A & B32-SQV-CC-F104B
		1.00E-03	B32-UV_OO-F105A	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
90	6.57E-08	1.97E-01	%T-PCS	TRANSIENT WITH PCS UNAVAILABLE
		3.33E-04	B32-SQV-CC-XCONN_1_2	CCF OF TWO COMPONENTS: B32-SQV-CC-F104A & B32-SQV-CC-F104B
		1.00E-03	B32-UV_OO-F105B	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
91	6.20E-08	6.20E-03	%BOC-MS	MAIN STEAM LINE BREAK OUTSIDE CONTAINMENT
		1.00E-04	C71-CCFSOFTWARE	RPS COMMON CAUSE SOFTWARE FAILURE
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
92	6.12E-08	3.40E-03	%BOC-RWCU	RWCU LINE BREAK OUTSIDE CONTAINMENT
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
93	5.91E-08	1.97E-01	%T-PCS	TRANSIENT WITH PCS UNAVAILABLE
		1.00E-04	B32-NPO-CC-F105A	F105A FAILS TO OPEN
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
94	5.91E-08	1.97E-01	%T-PCS	TRANSIENT WITH PCS UNAVAILABLE
		1.00E-04	B32-NPO-CC-F105B	F105B FAILS TO OPEN
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

Table 11B-3
Level 2 Internal Events Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
95	5.70E-08	1.18E+00	%T-GEN	GENERAL TRANSIENT
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
		1.61E-03	XXX-XHE-FO-ICPCCS	OPERATOR FAILS TO RECOGNIZE THE NEED TO MAKEUP ICS/PCCS POOL LEVEL.
96	5.58E-08	1.86E-02	%T-LOPP-GR	GRID RELATED LOSS OF PREFERRED POWER
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV -OO-F105A	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
97	5.58E-08	1.86E-02	%T-LOPP-GR	GRID RELATED LOSS OF PREFERRED POWER
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV -OO-F105B	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
98	5.58E-08	1.86E-02	%T-LOPP-GR	GRID RELATED LOSS OF PREFERRED POWER
		3.00E-05	C71-DTM-FC-R_ALL	CCF OF ALL COMPONENTS IN GROUP 'C71-DTM-FC-R'
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
99	5.49E-08	4.83E-03	%T-LOPP-WR	WEATHER RELATED LOSS OF PREFERRED POWER
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
100	5.26E-08	2.83E-02	%T-IORV	IORV
		1.86E-06	C63-LDD-FC-ESFLOADS	CCF OF ALL ESF LOAD DRIVERS
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

Table 11B-4
Level 2 Internal Events RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
1	1.36E-08	3.40E-03	%BOC-RWCU	RWCU LINE BREAK OUTSIDE CONTAINMENT
		2.00E-03	G31-ACV-OO-F002A	NOV F002A FAILS TO CLOSE
		2.00E-03	G31-ACV-OO-F003A	ACV F003A FAILS TO CLOSE
2	1.36E-08	3.40E-03	%BOC-RWCU	RWCU LINE BREAK OUTSIDE CONTAINMENT
		2.00E-03	G31-ACV-OO-F007A	NOV F007A FAILS TO CLOSE
		2.00E-03	G31-ACV-OO-F008A	ACV F008A FAILS TO CLOSE
3	2.53E-09	2.83E-02	%T-IORV	IORV
		5.56E-07	T10-VB_-CC_1_2_3	CCF OF THREE COMPONENTS: T10-VB_-CC-VB1 & T10-VB_-CC-VB2 & T10-VB_-CC-VB3
		1.61E-01	XXX-XHE-FO-DEPRESS	OPERATOR FAILS TO RECOGNIZE NEED OF DEPRESSURIZATION
4	1.99E-09	3.22E-05	%ML-L	MEDIUM LIQUID LOCA
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		4.12E-01	E50-MLLINJFACTOR	FACTOR APPORTIONING MLOCA BREAKS FOR GDCS INJECTION LINE
5	1.18E-09	1.18E+00	%T-GEN	GENERAL TRANSIENT
		1.00E-04	C71-CCFSOFTWARE	RPS COMMON CAUSE SOFTWARE FAILURE
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
		1.00E-04	C72-CCFSOFTWARE	COMMON CAUSE FAILURE OF DPS PROCESSORS

Table 11B-4
Level 2 Internal Events RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
6	9.76E-10	3.22E-05	%ML-L	MEDIUM LIQUID LOCA
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		2.02E-01	G31-MLLDRAINS	FACTOR APPORTIONING MLOCA BREAKS FOR RWCU/SDC DRAIN LINE
7	9.76E-10	3.22E-05	%ML-L	MEDIUM LIQUID LOCA
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
		2.02E-01	G31-MLLDRAINS	FACTOR APPORTIONING MLOCA BREAKS FOR RWCU/SDC DRAIN LINE
8	8.33E-10	5.55E-06	%LL-S-FDWA	LARGE STEAM LOCA IN FW LINE A
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
9	8.24E-10	3.40E-03	%BOC-RWCU	RWCU LINE BREAK OUTSIDE CONTAINMENT
		2.00E-03	G31-ACV-OO-F002A	NOV F002A FAILS TO CLOSE
		1.21E-04	T10-ACV-OO-RWCU-CIV_ALL	CCF OF ALL COMPONENTS IN GROUP 'T10-ACV-OO-RWCU-CIV'
10	8.24E-10	3.40E-03	%BOC-RWCU	RWCU LINE BREAK OUTSIDE CONTAINMENT
		2.00E-03	G31-ACV-OO-F003A	ACV F003A FAILS TO CLOSE
		1.21E-04	T10-ACV-OO-RWCU-NO-CIV_ALL	CCF OF ALL COMPONENTS IN GROUP 'T10-ACV-OO-RWCU-NO-CIV'
11	8.24E-10	3.40E-03	%BOC-RWCU	RWCU LINE BREAK OUTSIDE CONTAINMENT
		2.00E-03	G31-ACV-OO-F007A	NOV F007A FAILS TO CLOSE
		1.21E-04	T10-ACV-OO-RWCU-CIV_ALL	CCF OF ALL COMPONENTS IN GROUP 'T10-ACV-OO-RWCU-CIV'

Table 11B-4
Level 2 Internal Events RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
12	8.24E-10	3.40E-03	%BOC-RWCU	RWCU LINE BREAK OUTSIDE CONTAINMENT
		2.00E-03	G31-ACV-OO-F008A	ACV F008A FAILS TO CLOSE
		1.21E-04	T10-ACV-OO-RWCU-NO-CIV_ALL	CCF OF ALL COMPONENTS IN GROUP 'T10-ACV-OO-RWCU-NO-CIV'
13	7.15E-10	3.22E-05	%ML-L	MEDIUM LIQUID LOCA
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		1.48E-01	E50-MLLEQUFACTOR	FACTOR APPORTIONING MLOCA BREAKS FOR GDCS EQUALIZATION LINE
14	7.15E-10	3.22E-05	%ML-L	MEDIUM LIQUID LOCA
		1.48E-01	E50-MLLEQUFACTOR	FACTOR APPORTIONING MLOCA BREAKS FOR GDCS EQUALIZATION LINE
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
15	6.80E-10	3.40E-03	%BOC-RWCU	RWCU LINE BREAK OUTSIDE CONTAINMENT
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		2.00E-03	G31-ACV-OO-F003A	ACV F003A FAILS TO CLOSE
16	6.80E-10	3.40E-03	%BOC-RWCU	RWCU LINE BREAK OUTSIDE CONTAINMENT
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		2.00E-03	G31-ACV-OO-F008A	ACV F008A FAILS TO CLOSE

Table 11B-4
Level 2 Internal Events RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
17	5.31E-10	1.18E+00	%T-GEN	GENERAL TRANSIENT
		4.50E-05	C71-SLU-FC-R_ALL	CCF OF ALL COMPONENTS IN GROUP 'C71-SLU-FC-R'
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
		1.00E-04	C72-CCFSOFTWARE	COMMON CAUSE FAILURE OF DPS PROCESSORS
18	4.23E-10	7.62E-04	%SL-S	SMALL STEAM LOCA (NO RWCU BREAK)
		5.56E-07	T10-VB_-CC_1_2_3	CCF OF THREE COMPONENTS: T10-VB_-CC-VB1 & T10-VB_-CC-VB2 & T10-VB_-CC-VB3
19	3.71E-10	3.40E-03	%BOC-RWCU	RWCU LINE BREAK OUTSIDE CONTAINMENT
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.09E-03	C72-LDD-FC-S1G31F3A	RWCU/SDC F003A FIRST SERIES LOAD DRIVER FAILS TO ACTUATE
20	3.71E-10	3.40E-03	%BOC-RWCU	RWCU LINE BREAK OUTSIDE CONTAINMENT
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.09E-03	C72-LDD-FC-S1G31F8A	RWCU/SDC F008A FIRST SERIES LOAD DRIVER FAILS TO ACTUATE
21	3.71E-10	3.40E-03	%BOC-RWCU	RWCU LINE BREAK OUTSIDE CONTAINMENT
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.09E-03	C72-LDD-FC-S2G31F3A	RWCU/SDC F003A SECOND SERIES LOAD DRIVER FAILS TO ACTUATE

Table 11B-4
Level 2 Internal Events RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
22	3.71E-10	3.40E-03	%BOC-RWCU	RWCU LINE BREAK OUTSIDE CONTAINMENT
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.09E-03	C72-LDD-FC-S2G31F8A	RWCU/SDC F008A SECOND SERIES LOAD DRIVER FAILS TO ACTUATE
23	3.70E-10	1.18E+00	%T-GEN	GENERAL TRANSIENT
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		4.41E-03	R21-DG_-FR-CCF_1_2	CCF OF TWO COMPONENTS: R21-DG_-FR-DGA & R21-DG_-FR-DGB
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
		1.18E+00	%T-GEN	GENERAL TRANSIENT
24	3.70E-10	3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		4.41E-03	R21-DG_-FR-CCF_1_2	CCF OF TWO COMPONENTS: R21-DG_-FR-DGA & R21-DG_-FR-DGB
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
		1.18E+00	%T-GEN	GENERAL TRANSIENT
		3.00E-05	C71-DTM-FC-R_ALL	CCF OF ALL COMPONENTS IN GROUP 'C71-DTM-FC-R'
25	3.54E-10	1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
		1.00E-04	C72-CCFSOFTWARE	COMMON CAUSE FAILURE OF DPS PROCESSORS

Table 11B-4
Level 2 Internal Events RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
26	3.12E-10	1.18E+00	%T-GEN	GENERAL TRANSIENT
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		4.41E-03	R21-DG_-FR-CCF_1_2	CCF OF TWO COMPONENTS: R21-DG_-FR-DGA & R21-DG_-FR-DGB
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
27	3.12E-10	1.18E+00	%T-GEN	GENERAL TRANSIENT
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		4.41E-03	R21-DG_-FR-CCF_1_2	CCF OF TWO COMPONENTS: R21-DG_-FR-DGA & R21-DG_-FR-DGB
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
28	2.63E-10	1.18E+00	%T-GEN	GENERAL TRANSIENT
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

Table 11B-4
Level 2 Internal Events RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
29	2.63E-10	1.18E+00	%T-GEN	GENERAL TRANSIENT
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
30	2.51E-10	1.18E+00	%T-GEN	GENERAL TRANSIENT
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		4.41E-03	R21-DG_-FR-CCF_1_2	CCF OF TWO COMPONENTS: R21-DG_-FR-DGA & R21-DG_-FR-DGB
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
31	2.51E-10	1.18E+00	%T-GEN	GENERAL TRANSIENT
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		4.41E-03	R21-DG_-FR-CCF_1_2	CCF OF TWO COMPONENTS: R21-DG_-FR-DGA & R21-DG_-FR-DGB
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

Table 11B-4
Level 2 Internal Events RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
32	2.22E-10	1.18E+00	%T-GEN	GENERAL TRANSIENT
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
33	2.22E-10	1.18E+00	%T-GEN	GENERAL TRANSIENT
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

Table 11B-4
Level 2 Internal Events RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
34	2.16E-10	1.18E+00	%T-GEN	GENERAL TRANSIENT
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGB	STANDBY DIESEL GENERATOR "B" IN MAINTENANCE
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
35	2.16E-10	1.18E+00	%T-GEN	GENERAL TRANSIENT
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGA	STANDBY DIESEL GENERATOR "A" IN MAINTENANCE
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

Table 11B-4
Level 2 Internal Events RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
36	2.16E-10	1.18E+00	%T-GEN	GENERAL TRANSIENT
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGB	STANDBY DIESEL GENERATOR "B" IN MAINTENANCE
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
37	2.16E-10	1.18E+00	%T-GEN	GENERAL TRANSIENT
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGA	STANDBY DIESEL GENERATOR "A" IN MAINTENANCE
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
38	2.12E-10	1.18E+00	%T-GEN	GENERAL TRANSIENT
		1.80E-05	C71-OLU-FC-R_ALL	CCF OF ALL COMPONENTS IN GROUP 'C71-OLU-FC-R'
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
		1.00E-04	C72-CCFSOFTWARE	COMMON CAUSE FAILURE OF DPS PROCESSORS

Table 11B-4
Level 2 Internal Events RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
39	2.04E-10	3.40E-03	%BOC-RWCU	RWCU LINE BREAK OUTSIDE CONTAINMENT
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
		2.00E-03	G31-ACV-OO-F003A	ACV F003A FAILS TO CLOSE
40	2.04E-10	3.40E-03	%BOC-RWCU	RWCU LINE BREAK OUTSIDE CONTAINMENT
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
		2.00E-03	G31-ACV-OO-F008A	ACV F008A FAILS TO CLOSE
41	2.03E-10	3.65E-04	%SL-L	SMALL LIQUID LOCA (NO RWCU BREAK)
		5.56E-07	T10-VB_-CC_1_2_3	CCF OF THREE COMPONENTS: T10-VB_-CC-VB1 & T10-VB_-CC-VB2 & T10-VB_-CC-VB3
42	1.97E-10	1.97E-01	%T-PCS	TRANSIENT WITH PCS UNAVAILABLE
		1.00E-04	C71-CCFSOFTWARE	RPS COMMON CAUSE SOFTWARE FAILURE
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
		1.00E-04	C72-CCFSOFTWARE	COMMON CAUSE FAILURE OF DPS PROCESSORS
43	1.90E-10	1.18E+00	%T-GEN	GENERAL TRANSIENT
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E-04	C72-CCFSOFTWARE	COMMON CAUSE FAILURE OF DPS PROCESSORS
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

**Table 11B-4
Level 2 Internal Events RTNSS Top 100 Cutsets**

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
44	1.88E-10	3.39E-04	%LL-S	LARGE STEAM LOCA (NO FW LINE BREAK)
		5.56E-07	T10-VB_-CC_1_2_3	CCF OF THREE COMPONENTS: T10-VB_-CC-VB1 & T10-VB_-CC-VB2 & T10-VB_-CC-VB3
45	1.86E-10	2.83E-02	%T-IORV	IORV
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		2.72E-04	L2-BI_FN-ESTIMATE	BIMAC PIPING PLUGS
		1.61E-01	XXX-XHE-FO-DEPRESS	OPERATOR FAILS TO RECOGNIZE NEED OF DEPRESSURIZATION
46	1.86E-10	2.83E-02	%T-IORV	IORV
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
		2.72E-04	L2-BI_FN-ESTIMATE	BIMAC PIPING PLUGS
		1.61E-01	XXX-XHE-FO-DEPRESS	OPERATOR FAILS TO RECOGNIZE NEED OF DEPRESSURIZATION
47	1.82E-10	1.18E+00	%T-GEN	GENERAL TRANSIENT
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGB	STANDBY DIESEL GENERATOR "B" IN MAINTENANCE
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

Table 11B-4
Level 2 Internal Events RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
48	1.82E-10	1.18E+00	%T-GEN	GENERAL TRANSIENT
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGA	STANDBY DIESEL GENERATOR "A" IN MAINTENANCE
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
49	1.82E-10	1.18E+00	%T-GEN	GENERAL TRANSIENT
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGB	STANDBY DIESEL GENERATOR "B" IN MAINTENANCE
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

Table 11B-4
Level 2 Internal Events RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
50	1.82E-10	1.18E+00	%T-GEN	GENERAL TRANSIENT
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGA	STANDBY DIESEL GENERATOR "A" IN MAINTENANCE
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
51	1.79E-10	1.18E+00	%T-GEN	GENERAL TRANSIENT
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

Table 11B-4
Level 2 Internal Events RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
52	1.79E-10	1.18E+00	%T-GEN	GENERAL TRANSIENT
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
53	1.68E-10	1.18E+00	%T-GEN	GENERAL TRANSIENT
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		2.00E-03	P21-ACV-OO-F0004	AIR OPERATED VALVE F0004 FAILS TO CLOSE
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
54	1.68E-10	1.18E+00	%T-GEN	GENERAL TRANSIENT
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		2.00E-03	P21-ACV-OO-F0027	AIR OPERATED VALVE F0027 FAILS TO CLOSE
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

Table 11B-4
Level 2 Internal Events RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
55	1.68E-10	1.18E+00	%T-GEN	GENERAL TRANSIENT
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		2.00E-03	P21-ACV-OO-F0061	AIR OPERATED VALVE F0061 FAILS TO CLOSE
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
56	1.68E-10	1.18E+00	%T-GEN	GENERAL TRANSIENT
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		2.00E-03	P21-ACV-OO-F0004	AIR OPERATED VALVE F0004 FAILS TO CLOSE
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
57	1.68E-10	1.18E+00	%T-GEN	GENERAL TRANSIENT
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		2.00E-03	P21-ACV-OO-F0027	AIR OPERATED VALVE F0027 FAILS TO CLOSE
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

Table 11B-4
Level 2 Internal Events RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
58	1.68E-10	1.18E+00	%T-GEN	GENERAL TRANSIENT
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		2.00E-03	P21-ACV-OO-F0061	AIR OPERATED VALVE F0061 FAILS TO CLOSE
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
59	1.47E-10	1.18E+00	%T-GEN	GENERAL TRANSIENT
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGB	STANDBY DIESEL GENERATOR "B" IN MAINTENANCE
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

Table 11B-4
Level 2 Internal Events RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
60	1.47E-10	1.18E+00	%T-GEN	GENERAL TRANSIENT
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGA	STANDBY DIESEL GENERATOR "A" IN MAINTENANCE
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
61	1.47E-10	1.18E+00	%T-GEN	GENERAL TRANSIENT
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGB	STANDBY DIESEL GENERATOR "B" IN MAINTENANCE
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

Table 11B-4
Level 2 Internal Events RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
62	1.47E-10	1.18E+00	%T-GEN	GENERAL TRANSIENT
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGA	STANDBY DIESEL GENERATOR "A" IN MAINTENANCE
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
63	1.42E-10	1.18E+00	%T-GEN	GENERAL TRANSIENT
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		2.00E-03	P21-ACV-OO-F0004	AIR OPERATED VALVE F0004 FAILS TO CLOSE
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
		64	1.42E-10	1.18E+00
3.00E-03	B32-SQV-CC-F104A			F104A FAILS TO OPEN
1.00E-03	B32-UV_-OO-F105A			CHECK VALVE FAILS TO CLOSE
2.00E-03	P21-ACV-OO-F0027			AIR OPERATED VALVE F0027 FAILS TO CLOSE
2.00E-02	U43-EDP-FS-P1A			DIESEL-DRIVEN PUMP FAILS TO START
1.00E+00	XHOS72H			HOUSE EVENT: 72 HOURS (VALUE =1)

Table 11B-4
Level 2 Internal Events RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
65	1.42E-10	1.18E+00	%T-GEN	GENERAL TRANSIENT
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		2.00E-03	P21-ACV-OO-F0061	AIR OPERATED VALVE F0061 FAILS TO CLOSE
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
66	1.42E-10	1.18E+00	%T-GEN	GENERAL TRANSIENT
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		2.00E-03	P21-ACV-OO-F0004	AIR OPERATED VALVE F0004 FAILS TO CLOSE
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
67	1.42E-10	1.18E+00	%T-GEN	GENERAL TRANSIENT
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		2.00E-03	P21-ACV-OO-F0027	AIR OPERATED VALVE F0027 FAILS TO CLOSE
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

**Table 11B-4
Level 2 Internal Events RTNSS Top 100 Cutsets**

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
68	1.42E-10	1.18E+00	%T-GEN	GENERAL TRANSIENT
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		2.00E-03	P21-ACV-OO-F0061	AIR OPERATED VALVE F0061 FAILS TO CLOSE
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
69	1.34E-10	1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
		1.18E+00	%T-GEN	GENERAL TRANSIENT
		1.00E-04	C71-CCFSOFTWARE	RPS COMMON CAUSE SOFTWARE FAILURE
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
		1.14E-05	R13-INV-FC-CCFNSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFNSR'
70	1.34E-10	5.55E-06	%LL-S-FDWB	LARGE STEAM LOCA IN FW LINE B
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
		1.61E-01	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
71	1.22E-10	3.40E-03	%BOC-RWCU	RWCU LINE BREAK OUTSIDE CONTAINMENT
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
		2.00E-03	G31-ACV-OO-F003A	ACV F003A FAILS TO CLOSE

Table 11B-4
Level 2 Internal Events RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
72	1.22E-10	3.40E-03	%BOC-RWCU	RWCU LINE BREAK OUTSIDE CONTAINMENT
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
		2.00E-03	G31-ACV-OO-F008A	ACV F008A FAILS TO CLOSE
73	1.18E-10	1.18E+00	%T-GEN	GENERAL TRANSIENT
		1.00E-04	C71-CCFSOFTWARE	RPS COMMON CAUSE SOFTWARE FAILURE
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
		1.00E-05	C72-LOG-FC-D_1_2	CCF OF TWO COMPONENTS: C72-LOG-FC-D1DPS & C72-LOG-FC-D2DPS
74	1.18E-10	1.18E+00	%T-GEN	GENERAL TRANSIENT
		1.00E-04	C71-CCFSOFTWARE	RPS COMMON CAUSE SOFTWARE FAILURE
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
		1.00E-05	C72-LOG-FC-D_1_3	CCF OF TWO COMPONENTS: C72-LOG-FC-D1DPS & C72-LOG-FC-D3DPS
75	1.18E-10	1.18E+00	%T-GEN	GENERAL TRANSIENT
		1.00E-04	C71-CCFSOFTWARE	RPS COMMON CAUSE SOFTWARE FAILURE
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
		1.00E-05	C72-LOG-FC-D_2_3	CCF OF TWO COMPONENTS: C72-LOG-FC-D2DPS & C72-LOG-FC-D3DPS

Table 11B-4
Level 2 Internal Events RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
76	1.17E-10	1.17E-01	%T-FDW	LOSS OF FEEDWATER
		1.00E-04	C71-CCFSOFTWARE	RPS COMMON CAUSE SOFTWARE FAILURE
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
		1.00E-04	C72-CCFSOFTWARE	COMMON CAUSE FAILURE OF DPS PROCESSORS
77	1.14E-10	1.18E+00	%T-GEN	GENERAL TRANSIENT
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		2.00E-03	P21-ACV-OO-F0004	AIR OPERATED VALVE F0004 FAILS TO CLOSE
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
78	1.14E-10	1.18E+00	%T-GEN	GENERAL TRANSIENT
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		2.00E-03	P21-ACV-OO-F0027	AIR OPERATED VALVE F0027 FAILS TO CLOSE
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

**Table 11B-4
Level 2 Internal Events RTNSS Top 100 Cutsets**

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
79	1.14E-10	1.18E+00	%T-GEN	GENERAL TRANSIENT
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		2.00E-03	P21-ACV-OO-F0061	AIR OPERATED VALVE F0061 FAILS TO CLOSE
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
80	1.14E-10	1.18E+00	%T-GEN	GENERAL TRANSIENT
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		2.00E-03	P21-ACV-OO-F0004	AIR OPERATED VALVE F0004 FAILS TO CLOSE
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
81	1.14E-10	1.18E+00	%T-GEN	GENERAL TRANSIENT
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		2.00E-03	P21-ACV-OO-F0027	AIR OPERATED VALVE F0027 FAILS TO CLOSE
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

Table 11B-4
Level 2 Internal Events RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
82	1.14E-10	1.18E+00	%T-GEN	GENERAL TRANSIENT
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		2.00E-03	P21-ACV-OO-F0061	AIR OPERATED VALVE F0061 FAILS TO CLOSE
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
83	1.12E-10	3.22E-05	%ML-L	MEDIUM LIQUID LOCA
		1.72E-05	E50-UV_-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-UV_-CC-INJ'
		2.02E-01	G31-MLLDRAINS	FACTOR APPORTIONING MLOCA BREAKS FOR RWCU/SDC DRAIN LINE
84	1.11E-10	3.40E-03	%BOC-RWCU	RWCU LINE BREAK OUTSIDE CONTAINMENT
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
		1.09E-03	C72-LDD-FC-S1G31F3A	RWCU/SDC F003A FIRST SERIES LOAD DRIVER FAILS TO ACTUATE
85	1.11E-10	3.40E-03	%BOC-RWCU	RWCU LINE BREAK OUTSIDE CONTAINMENT
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
		1.09E-03	C72-LDD-FC-S1G31F8A	RWCU/SDC F008A FIRST SERIES LOAD DRIVER FAILS TO ACTUATE

Table 11B-4
Level 2 Internal Events RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
86	1.11E-10	3.40E-03	%BOC-RWCU	RWCU LINE BREAK OUTSIDE CONTAINMENT
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
		1.09E-03	C72-LDD-FC-S2G31F3A	RWCU/SDC F003A SECOND SERIES LOAD DRIVER FAILS TO ACTUATE
87	1.11E-10	3.40E-03	%BOC-RWCU	RWCU LINE BREAK OUTSIDE CONTAINMENT
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
		1.09E-03	C72-LDD-FC-S2G31F8A	RWCU/SDC F008A SECOND SERIES LOAD DRIVER FAILS TO ACTUATE
88	1.03E-10	2.83E-02	%T-IORV	IORV
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		1.50E-04	L2-E50-SQV-CC-DELUGE_ALL	CCF OF ALL COMPONENTS IN GROUP 'L2-E50-SQV-CC-DELUGE'
		1.61E-01	XXX-XHE-FO-DEPRESS	OPERATOR FAILS TO RECOGNIZE NEED OF DEPRESSURIZATION
89	1.03E-10	2.83E-02	%T-IORV	IORV
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
		1.50E-04	L2-E50-SQV-CC-DELUGE_ALL	CCF OF ALL COMPONENTS IN GROUP 'L2-E50-SQV-CC-DELUGE'
		1.61E-01	XXX-XHE-FO-DEPRESS	OPERATOR FAILS TO RECOGNIZE NEED OF DEPRESSURIZATION
90	9.53E-11	5.55E-06	%LL-S-FDWA	LARGE STEAM LOCA IN FW LINE A
		1.72E-05	E50-UV_-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-UV_-CC-INJ'

Table 11B-4
Level 2 Internal Events RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
91	8.86E-11	1.97E-01	%T-PCS	TRANSIENT WITH PCS UNAVAILABLE
		4.50E-05	C71-SLU-FC-R_ALL	CCF OF ALL COMPONENTS IN GROUP 'C71-SLU-FC-R'
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
		1.00E-04	C72-CCFSOFTWARE	COMMON CAUSE FAILURE OF DPS PROCESSORS
92	8.21E-11	1.70E-03	%BOC-FDWA	FEEDWATER LINE A BREAK OUTSIDE CONTAINMENT
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
93	8.21E-11	1.70E-03	%BOC-FDWA	FEEDWATER LINE A BREAK OUTSIDE CONTAINMENT
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

Table 11B-4
Level 2 Internal Events RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
94	8.21E-11	1.70E-03	%BOC-FDWB	FEEDWATER LINE B BREAK OUTSIDE CONTAINMENT
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
95	8.21E-11	1.70E-03	%BOC-FDWB	FEEDWATER LINE B BREAK OUTSIDE CONTAINMENT
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
96	8.20E-11	3.40E-03	%BOC-RWCU	RWCU LINE BREAK OUTSIDE CONTAINMENT
		2.00E-03	G31-ACV-OO-F002A	NOV F002A FAILS TO CLOSE
		1.21E-05	T10-ACV-OO-RWCU-CIV_1_2_3	CCF OF THREE COMPONENTS: G31-ACV-OO-F003A & G31-ACV-OO-F003B & G31-ACV-OO-F008A
		3.40E-03	%BOC-RWCU	RWCU LINE BREAK OUTSIDE CONTAINMENT
		2.00E-03	G31-ACV-OO-F002A	NOV F002A FAILS TO CLOSE
97	8.20E-11	1.21E-05	T10-ACV-OO-RWCU-CIV_1_2_4	CCF OF THREE COMPONENTS: G31-ACV-OO-F003A & G31-ACV-OO-F003B & G31-ACV-OO-F008B

Table 11B-4
Level 2 Internal Events RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
98	8.20E-11	3.40E-03	%BOC-RWCU	RWCU LINE BREAK OUTSIDE CONTAINMENT
		2.00E-03	G31-ACV-OO-F002A	NOV F002A FAILS TO CLOSE
		1.21E-05	T10-ACV-OO-RWCU-CIV_1_3_4	CCF OF THREE COMPONENTS: G31-ACV-OO-F003A & G31-ACV-OO-F008A & G31-ACV-OO-F008B
99	8.20E-11	3.40E-03	%BOC-RWCU	RWCU LINE BREAK OUTSIDE CONTAINMENT
		2.00E-03	G31-ACV-OO-F003A	ACV F003A FAILS TO CLOSE
		1.21E-05	T10-ACV-OO-RWCU-NO-CIV_1_2_3	CCF OF THREE COMPONENTS: G31-ACV-OO-F002A & G31-ACV-OO-F002B & G31-ACV-OO-F007A
100	8.20E-11	3.40E-03	%BOC-RWCU	RWCU LINE BREAK OUTSIDE CONTAINMENT
		2.00E-03	G31-ACV-OO-F003A	ACV F003A FAILS TO CLOSE
		1.21E-05	T10-ACV-OO-RWCU-NO-CIV_1_2_4	CCF OF THREE COMPONENTS: G31-ACV-OO-F002A & G31-ACV-OO-F002B & G31-ACV-OO-F007B

**Table 11B-5
Shutdown Internal Events Focus Top 100 Cutsets**

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
1	6.92E-08	3.02E-03	%M5_G31	LOSS OF RWCU - MODE 5
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
2	6.18E-08	9.45E-04	%M6U_G31	LOSS OF RWCU - MODE 6 UNFLOODED
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
3	6.00E-08	1.20E-03	%M6F_RPVLEAK	RPV LEAK - MODE 6 FLOODED
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED
4	5.41E-08	9.45E-04	%M6U_G31	LOSS OF RWCU - MODE 6 UNFLOODED
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
5	5.41E-08	9.45E-04	%M6U_G31	LOSS OF RWCU - MODE 6 UNFLOODED
		2.63E-04	E50-BV_-OC-F004D	MAINTENANCE VALVE F004D PLUGS/TRANSFERS CLOSED
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
6	5.19E-08	7.56E-04	%M5O_G31	LOSS OF RWCU MODE 5 OPEN
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
7	4.80E-08	9.60E-04	%M5_RPVLEAK	RPV LEAK - MODE 5
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED

Table 11B-5
Shutdown Internal Events Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
8	4.55E-08	7.56E-04	%M5O_G31	LOSS OF RWCU MODE 5 OPEN
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
9	4.55E-08	7.56E-04	%M5O_G31	LOSS OF RWCU MODE 5 OPEN
		2.63E-04	E50-BV_-OC-F004D	MAINTENANCE VALVE F004D PLUGS/TRANSFERS CLOSED
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
10	4.50E-08	3.00E-04	%M6U_RPVLEAK	RPV LEAK - MODE 6 UNFLOODED
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED
11	3.94E-08	3.00E-04	%M6U_RPVLEAK	RPV LEAK - MODE 6 UNFLOODED
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED
12	3.94E-08	3.00E-04	%M6U_RPVLEAK	RPV LEAK - MODE 6 UNFLOODED
		2.63E-04	E50-BV_-OC-F004D	MAINTENANCE VALVE F004D PLUGS/TRANSFERS CLOSED
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED
13	3.60E-08	2.40E-04	%M5O_RPVLEAK	RPV LEAK - MODE 5 OPEN
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED
14	3.15E-08	2.40E-04	%M5O_RPVLEAK	RPV LEAK - MODE 5 OPEN
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED

Table 11B-5
Shutdown Internal Events Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
15	3.15E-08	2.40E-04	%M5O_RPVLEAK	RPV LEAK - MODE 5 OPEN
		2.63E-04	E50-BV_-OC-F004D	MAINTENANCE VALVE F004D PLUGS/TRANSFERS CLOSED
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED
16	3.09E-08	9.45E-04	%M6U_G31	LOSS OF RWCU - MODE 6 UNFLOODED
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
17	2.83E-08	2.11E-03	%M5_LOPP	LOSS OF PREF-POWR MODE 5
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.34E-01	R-M5-LOPP	RECOVERY OF OFFSITE POWER IN MODE 5
18	2.60E-08	7.56E-04	%M5O_G31	LOSS OF RWCU MODE 5 OPEN
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
19	2.60E-08	7.56E-04	%M5O_G31	LOSS OF RWCU MODE 5 OPEN
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
20	2.25E-08	3.00E-04	%M6U_RPVLEAK	RPV LEAK - MODE 6 UNFLOODED
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED
21	2.12E-08	5.28E-04	%M5O_LOPP	LOSS OF PREF-POWER MODE 5 OPEN
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
		1.34E-01	R-M5-LOPP	RECOVERY OF OFFSITE POWER IN MODE 5

Table 11B-5
Shutdown Internal Events Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
22	2.07E-08	3.02E-03	%M5_G31	LOSS OF RWCU - MODE 5
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
23	2.06E-08	9.45E-04	%M6U_G31	LOSS OF RWCU - MODE 6 UNFLOODED
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
24	1.86E-08	5.28E-04	%M5O_LOPP	LOSS OF PREF-POWER MODE 5 OPEN
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED
		1.34E-01	R-M5-LOPP	RECOVERY OF OFFSITE POWER IN MODE 5
25	1.86E-08	5.28E-04	%M5O_LOPP	LOSS OF PREF-POWER MODE 5 OPEN
		2.63E-04	E50-BV_-OC-F004D	MAINTENANCE VALVE F004D PLUGS/TRANSFERS CLOSED
		1.34E-01	R-M5-LOPP	RECOVERY OF OFFSITE POWER IN MODE 5
26	1.80E-08	1.20E-03	%M6F_RPVLEAK	RPV LEAK - MODE 6 FLOODED
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED
27	1.80E-08	2.40E-04	%M5O_RPVLEAK	RPV LEAK - MODE 5 OPEN
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED
28	1.80E-08	2.40E-04	%M5O_RPVLEAK	RPV LEAK - MODE 5 OPEN
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED

Table 11B-5
Shutdown Internal Events Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
29	1.78E-08	6.60E-04	%M6U_LOPP	LOSS OF PREF-POWER - MODE 6 UNFLOODED
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
		9.00E-02	R-M6-LOPP	RECOVERY OF OFFSITE POWER IN MODE 6
30	1.73E-08	7.56E-04	%M5O_G31	LOSS OF RWCU MODE 5 OPEN
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
31	1.56E-08	6.60E-04	%M6U_LOPP	LOSS OF PREF-POWER - MODE 6 UNFLOODED
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED
		9.00E-02	R-M6-LOPP	RECOVERY OF OFFSITE POWER IN MODE 6
32	1.56E-08	6.60E-04	%M6U_LOPP	LOSS OF PREF-POWER - MODE 6 UNFLOODED
		2.63E-04	E50-BV_-OC-F004D	MAINTENANCE VALVE F004D PLUGS/TRANSFERS CLOSED
		9.00E-02	R-M6-LOPP	RECOVERY OF OFFSITE POWER IN MODE 6
33	1.50E-08	3.00E-04	%M6U_RPVLEAK	RPV LEAK - MODE 6 UNFLOODED
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED
34	1.44E-08	9.60E-04	%M5_RPVLEAK	RPV LEAK - MODE 5
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED

**Table 11B-5
Shutdown Internal Events Focus Top 100 Cutsets**

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
35	1.24E-08	3.02E-03	%M5_G31	LOSS OF RWCU - MODE 5
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
36	1.20E-08	2.40E-04	%M5O_RPVLEAK	RPV LEAK - MODE 5 OPEN
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED
37	1.08E-08	1.20E-03	%M6F_RPVLEAK	RPV LEAK - MODE 6 FLOODED
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED
38	1.06E-08	5.28E-04	%M5O_LOPP	LOSS OF PREF-POWER MODE 5 OPEN
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		1.34E-01	R-M5-LOPP	RECOVERY OF OFFSITE POWER IN MODE 5
39	1.06E-08	5.28E-04	%M5O_LOPP	LOSS OF PREF-POWER MODE 5 OPEN
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
		1.34E-01	R-M5-LOPP	RECOVERY OF OFFSITE POWER IN MODE 5
40	8.91E-09	6.60E-04	%M6U_LOPP	LOSS OF PREF-POWER - MODE 6 UNFLOODED
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
		9.00E-02	R-M6-LOPP	RECOVERY OF OFFSITE POWER IN MODE 6

Table 11B-5
Shutdown Internal Events Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
41	8.64E-09	9.60E-04	%M5_RPVLEAK	RPV LEAK - MODE 5
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED
42	8.48E-09	2.11E-03	%M5_LOPP	LOSS OF PREF-POWR MODE 5
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
		1.34E-01	R-M5-LOPP	RECOVERY OF OFFSITE POWER IN MODE 5
43	7.97E-09	3.02E-03	%M5_G31	LOSS OF RWCU - MODE 5
		3.84E-02	B32-TM-LOOPA-IND	ICS LOOP A IN TEST OR MAINTENANCE BY ITSELF
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
44	7.97E-09	3.02E-03	%M5_G31	LOSS OF RWCU - MODE 5
		3.84E-02	B32-TM-LOOPB-IND	ICS LOOP B IN TEST OR MAINTENANCE BY ITSELF
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
45	7.08E-09	5.28E-04	%M5O_LOPP	LOSS OF PREF-POWER MODE 5 OPEN
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.34E-01	R-M5-LOPP	RECOVERY OF OFFSITE POWER IN MODE 5

**Table 11B-5
Shutdown Internal Events Focus Top 100 Cutsets**

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
46	6.98E-09	3.02E-03	%M5_G31	LOSS OF RWCU - MODE 5
		3.84E-02	B32-TM-LOOPA-IND	ICS LOOP A IN TEST OR MAINTENANCE BY ITSELF
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
47	6.98E-09	3.02E-03	%M5_G31	LOSS OF RWCU - MODE 5
		3.84E-02	B32-TM-LOOPA-IND	ICS LOOP A IN TEST OR MAINTENANCE BY ITSELF
		2.63E-04	E50-BV_-OC-F004D	MAINTENANCE VALVE F004D PLUGS/TRANSFERS CLOSED
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
48	6.98E-09	3.02E-03	%M5_G31	LOSS OF RWCU - MODE 5
		3.84E-02	B32-TM-LOOPB-IND	ICS LOOP B IN TEST OR MAINTENANCE BY ITSELF
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
49	6.98E-09	3.02E-03	%M5_G31	LOSS OF RWCU - MODE 5
		3.84E-02	B32-TM-LOOPB-IND	ICS LOOP B IN TEST OR MAINTENANCE BY ITSELF
		2.63E-04	E50-BV_-OC-F004D	MAINTENANCE VALVE F004D PLUGS/TRANSFERS CLOSED
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
50	6.82E-09	1.20E-03	%M6F_RPVLEAK	RPV LEAK - MODE 6 FLOODED
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'

**Table 11B-5
Shutdown Internal Events Focus Top 100 Cutsets**

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
51	6.18E-09	9.45E-04	%M6U_G31	LOSS OF RWCU - MODE 6 UNFLOODED
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
52	5.94E-09	6.60E-04	%M6U_LOPP	LOSS OF PREF-POWER - MODE 6 UNFLOODED
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		9.00E-02	R-M6-LOPP	RECOVERY OF OFFSITE POWER IN MODE 6
53	5.53E-09	9.60E-04	%M5_RPVLEAK	RPV LEAK - MODE 5
		3.84E-02	B32-TM-LOOPA-IND	ICS LOOP A IN TEST OR MAINTENANCE BY ITSELF
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED
54	5.53E-09	9.60E-04	%M5_RPVLEAK	RPV LEAK - MODE 5
		3.84E-02	B32-TM-LOOPB-IND	ICS LOOP B IN TEST OR MAINTENANCE BY ITSELF
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED
55	5.46E-09	9.60E-04	%M5_RPVLEAK	RPV LEAK - MODE 5
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'
56	5.19E-09	7.56E-04	%M5O_G31	LOSS OF RWCU MODE 5 OPEN
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY

**Table 11B-5
Shutdown Internal Events Focus Top 100 Cutsets**

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
57	5.09E-09	2.11E-03	%M5_LOPP	LOSS OF PREF-POWR MODE 5
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
		1.34E-01	R-M5-LOPP	RECOVERY OF OFFSITE POWER IN MODE 5
58	4.91E-09	9.45E-04	%M6U_G31	LOSS OF RWCU - MODE 6 UNFLOODED
		2.38E-05	E50-SQV-CC-INJ_1_5	CCF OF TWO COMPONENTS: E50-SQV-CC-INJ-F002A & E50-SQV-CC-INJ-F002E
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
59	4.91E-09	9.45E-04	%M6U_G31	LOSS OF RWCU - MODE 6 UNFLOODED
		2.38E-05	E50-SQV-CC-INJ_4_8	CCF OF TWO COMPONENTS: E50-SQV-CC-INJ-F002D & E50-SQV-CC-INJ-F002H
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
60	4.84E-09	9.60E-04	%M5_RPVLEAK	RPV LEAK - MODE 5
		3.84E-02	B32-TM-LOOPA-IND	ICS LOOP A IN TEST OR MAINTENANCE BY ITSELF
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED
61	4.84E-09	9.60E-04	%M5_RPVLEAK	RPV LEAK - MODE 5
		3.84E-02	B32-TM-LOOPA-IND	ICS LOOP A IN TEST OR MAINTENANCE BY ITSELF
		2.63E-04	E50-BV_-OC-F004D	MAINTENANCE VALVE F004D PLUGS/TRANSFERS CLOSED
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED

**Table 11B-5
Shutdown Internal Events Focus Top 100 Cutsets**

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
62	4.84E-09	9.60E-04	%M5_RPVLEAK	RPV LEAK - MODE 5
		3.84E-02	B32-TM-LOOPB-IND	ICS LOOP B IN TEST OR MAINTENANCE BY ITSELF
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED
63	4.84E-09	9.60E-04	%M5_RPVLEAK	RPV LEAK - MODE 5
		3.84E-02	B32-TM-LOOPB-IND	ICS LOOP B IN TEST OR MAINTENANCE BY ITSELF
		2.63E-04	E50-BV_-OC-F004D	MAINTENANCE VALVE F004D PLUGS/TRANSFERS CLOSED
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED
64	4.50E-09	3.00E-04	%M6U_RPVLEAK	RPV LEAK - MODE 6 UNFLOODED
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED
65	4.12E-09	7.56E-04	%M5O_G31	LOSS OF RWCU MODE 5 OPEN
		2.38E-05	E50-SQV-CC-INJ_1_5	CCF OF TWO COMPONENTS: E50-SQV-CC-INJ-F002A & E50-SQV-CC-INJ-F002E
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
66	4.12E-09	7.56E-04	%M5O_G31	LOSS OF RWCU MODE 5 OPEN
		2.38E-05	E50-SQV-CC-INJ_4_8	CCF OF TWO COMPONENTS: E50-SQV-CC-INJ-F002D & E50-SQV-CC-INJ-F002H
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
67	3.98E-09	3.02E-03	%M5_G31	LOSS OF RWCU - MODE 5
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		3.84E-02	B32-TM-LOOPA-IND	ICS LOOP A IN TEST OR MAINTENANCE BY ITSELF
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY

**Table 11B-5
Shutdown Internal Events Focus Top 100 Cutsets**

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
68	3.98E-09	3.02E-03	%M5_G31	LOSS OF RWCU - MODE 5
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		3.84E-02	B32-TM-LOOPB-IND	ICS LOOP B IN TEST OR MAINTENANCE BY ITSELF
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
69	3.98E-09	3.02E-03	%M5_G31	LOSS OF RWCU - MODE 5
		3.84E-02	B32-TM-LOOPA-IND	ICS LOOP A IN TEST OR MAINTENANCE BY ITSELF
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
70	3.98E-09	3.02E-03	%M5_G31	LOSS OF RWCU - MODE 5
		3.84E-02	B32-TM-LOOPB-IND	ICS LOOP B IN TEST OR MAINTENANCE BY ITSELF
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
71	3.71E-09	9.45E-04	%M6U_G31	LOSS OF RWCU - MODE 6 UNFLOODED
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
72	3.60E-09	2.40E-04	%M5O_RPVLEAK	RPV LEAK - MODE 5 OPEN
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED
73	3.57E-09	3.00E-04	%M6U_RPVLEAK	RPV LEAK - MODE 6 UNFLOODED
		2.38E-05	E50-SQV-CC-INJ_1_5	CCF OF TWO COMPONENTS: E50-SQV-CC-INJ-F002A & E50-SQV-CC-INJ-F002E
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED

**Table 11B-5
Shutdown Internal Events Focus Top 100 Cutsets**

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
74	3.57E-09	3.00E-04	%M6U_RPVLEAK	RPV LEAK - MODE 6 UNFLOODED
		2.38E-05	E50-SQV-CC-INJ_4_8	CCF OF TWO COMPONENTS: E50-SQV-CC-INJ-F002D & E50-SQV-CC-INJ-F002H
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED
75	3.54E-09	9.45E-04	%M6U_G31	LOSS OF RWCU - MODE 6 UNFLOODED
		1.72E-05	E50-UV_-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-UV_-CC-INJ'
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
76	3.46E-09	3.02E-03	%M5_G31	LOSS OF RWCU - MODE 5
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		5.00E-02	MS-TOP2	TWO SRVS FAIL TO OPEN (MANUAL)
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
77	3.26E-09	2.11E-03	%M5_LOPP	LOSS OF PREF-POWR MODE 5
		3.84E-02	B32-TM-LOOPA-IND	ICS LOOP A IN TEST OR MAINTENANCE BY ITSELF
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
		1.34E-01	R-M5-LOPP	RECOVERY OF OFFSITE POWER IN MODE 5
78	3.26E-09	2.11E-03	%M5_LOPP	LOSS OF PREF-POWR MODE 5
		3.84E-02	B32-TM-LOOPB-IND	ICS LOOP B IN TEST OR MAINTENANCE BY ITSELF
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
		1.34E-01	R-M5-LOPP	RECOVERY OF OFFSITE POWER IN MODE 5

**Table 11B-5
Shutdown Internal Events Focus Top 100 Cutsets**

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
79	3.12E-09	7.56E-04	%M5O_G31	LOSS OF RWCU MODE 5 OPEN
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
80	2.97E-09	7.56E-04	%M5O_G31	LOSS OF RWCU MODE 5 OPEN
		1.72E-05	E50-UV_-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-UV_-CC-INJ'
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
81	2.93E-09	2.93E-07	%M6F_LOCA_I	LOCA - INSTRUMENT LINE BELOW TAF - MODE 6 FLOODED
		1.00E-02	DWH-2	DRYWELL HATCH CLOSURE FAILURE
82	2.86E-09	2.40E-04	%M5O_RPVLEAK	RPV LEAK - MODE 5 OPEN
		2.38E-05	E50-SQV-CC-INJ_1_5	CCF OF TWO COMPONENTS: E50-SQV-CC-INJ-F002A & E50-SQV-CC-INJ-F002E
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED
83	2.86E-09	2.40E-04	%M5O_RPVLEAK	RPV LEAK - MODE 5 OPEN
		2.38E-05	E50-SQV-CC-INJ_4_8	CCF OF TWO COMPONENTS: E50-SQV-CC-INJ-F002D & E50-SQV-CC-INJ-F002H
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED
84	2.85E-09	2.11E-03	%M5_LOPP	LOSS OF PREF-POWR MODE 5
		3.84E-02	B32-TM-LOOPA-IND	ICS LOOP A IN TEST OR MAINTENANCE BY ITSELF
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED
		1.34E-01	R-M5-LOPP	RECOVERY OF OFFSITE POWER IN MODE 5

Table 11B-5
Shutdown Internal Events Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
85	2.85E-09	2.11E-03	%M5_LOPP	LOSS OF PREF-POWR MODE 5
		3.84E-02	B32-TM-LOOPA-IND	ICS LOOP A IN TEST OR MAINTENANCE BY ITSELF
		2.63E-04	E50-BV_-OC-F004D	MAINTENANCE VALVE F004D PLUGS/TRANSFERS CLOSED
		1.34E-01	R-M5-LOPP	RECOVERY OF OFFSITE POWER IN MODE 5
86	2.85E-09	2.11E-03	%M5_LOPP	LOSS OF PREF-POWR MODE 5
		3.84E-02	B32-TM-LOOPB-IND	ICS LOOP B IN TEST OR MAINTENANCE BY ITSELF
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED
		1.34E-01	R-M5-LOPP	RECOVERY OF OFFSITE POWER IN MODE 5
87	2.85E-09	2.11E-03	%M5_LOPP	LOSS OF PREF-POWR MODE 5
		3.84E-02	B32-TM-LOOPB-IND	ICS LOOP B IN TEST OR MAINTENANCE BY ITSELF
		2.63E-04	E50-BV_-OC-F004D	MAINTENANCE VALVE F004D PLUGS/TRANSFERS CLOSED
		1.34E-01	R-M5-LOPP	RECOVERY OF OFFSITE POWER IN MODE 5
88	2.76E-09	9.60E-04	%M5_RPVLEAK	RPV LEAK - MODE 5
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		3.84E-02	B32-TM-LOOPA-IND	ICS LOOP A IN TEST OR MAINTENANCE BY ITSELF
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED

**Table 11B-5
Shutdown Internal Events Focus Top 100 Cutsets**

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
89	2.76E-09	9.60E-04	%M5_RPVLEAK	RPV LEAK - MODE 5
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		3.84E-02	B32-TM-LOOPB-IND	ICS LOOP B IN TEST OR MAINTENANCE BY ITSELF
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED
90	2.76E-09	9.60E-04	%M5_RPVLEAK	RPV LEAK - MODE 5
		3.84E-02	B32-TM-LOOPA-IND	ICS LOOP A IN TEST OR MAINTENANCE BY ITSELF
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED
91	2.76E-09	9.60E-04	%M5_RPVLEAK	RPV LEAK - MODE 5
		3.84E-02	B32-TM-LOOPB-IND	ICS LOOP B IN TEST OR MAINTENANCE BY ITSELF
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED
92	2.70E-09	3.00E-04	%M6U_RPVLEAK	RPV LEAK - MODE 6 UNFLOODED
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED
93	2.60E-09	7.56E-04	%M5O_G31	LOSS OF RWCU MODE 5 OPEN
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
		5.00E-02	MS-TOP2	TWO SRVS FAIL TO OPEN (MANUAL)
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY

**Table 11B-5
Shutdown Internal Events Focus Top 100 Cutsets**

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
94	2.58E-09	3.00E-04	%M6U_RPVLEAK	RPV LEAK - MODE 6 UNFLOODED
		1.72E-05	E50-UV_-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-UV_-CC-INJ'
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED
95	2.49E-09	3.02E-03	%M5_G31	LOSS OF RWCU - MODE 5
		3.60E-06	C63-LT_-NO-ESFRX_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LT_-NO-ESFRX'
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
96	2.47E-09	9.45E-04	%M6U_G31	LOSS OF RWCU - MODE 6 UNFLOODED
		1.20E-05	E50-STR-PG_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-STR-PG'
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
97	2.40E-09	1.20E-03	%M6F_RPVLEAK	RPV LEAK - MODE 6 FLOODED
		2.00E-03	G31-ACV-OO-F002A	NOV F002A FAILS TO CLOSE
		2.00E-03	G31-ACV-OO-F003A	ACV F003A FAILS TO CLOSE
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED
98	2.40E-09	1.20E-03	%M6F_RPVLEAK	RPV LEAK - MODE 6 FLOODED
		2.00E-03	G31-ACV-OO-F007A	NOV F007A FAILS TO CLOSE
		2.00E-03	G31-ACV-OO-F008A	ACV F008A FAILS TO CLOSE
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED
99	2.35E-09	2.35E-07	%M5_LOCA_I	LOCA - INSTRUMENT LINE BELOW TAF - MODE 5
		1.00E-02	DWH-2	DRYWELL HATCH CLOSURE FAILURE

Table 11B-5
Shutdown Internal Events Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
100	2.34E-09	9.45E-04	%M6U_G31	LOSS OF RWCU - MODE 6 UNFLOODED
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC

Table 11B-6
Shutdown Internal Events RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
1	6.00E-08	1.20E-03	%M6F_RPVLEAK	RPV LEAK - MODE 6 FLOODED
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED
2	4.80E-08	9.60E-04	%M5_RPVLEAK	RPV LEAK - MODE 5
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED
3	1.80E-08	1.20E-03	%M6F_RPVLEAK	RPV LEAK - MODE 6 FLOODED
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED
4	1.50E-08	3.00E-04	%M6U_RPVLEAK	RPV LEAK - MODE 6 UNFLOODED
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED
5	1.44E-08	9.60E-04	%M5_RPVLEAK	RPV LEAK - MODE 5
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED
6	1.20E-08	2.40E-04	%M5O_RPVLEAK	RPV LEAK - MODE 5 OPEN
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED
7	1.08E-08	1.20E-03	%M6F_RPVLEAK	RPV LEAK - MODE 6 FLOODED
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED
8	8.64E-09	9.60E-04	%M5_RPVLEAK	RPV LEAK - MODE 5
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED

Table 11B-6
Shutdown Internal Events RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
9	6.82E-09	1.20E-03	%M6F_RPVLEAK	RPV LEAK - MODE 6 FLOODED
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'
10	5.46E-09	9.60E-04	%M5_RPVLEAK	RPV LEAK - MODE 5
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'
11	4.50E-09	3.00E-04	%M6U_RPVLEAK	RPV LEAK - MODE 6 UNFLOODED
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED
12	3.60E-09	2.40E-04	%M5O_RPVLEAK	RPV LEAK - MODE 5 OPEN
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED
13	3.46E-09	3.02E-03	%M5_G31	LOSS OF RWCU - MODE 5
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		5.00E-02	MS-TOP2	TWO SRVS FAIL TO OPEN (MANUAL)
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
14	2.93E-09	2.93E-07	%M6F_LOCA_I	LOCA - INSTRUMENT LINE BELOW TAF - MODE 6 FLOODED
		1.00E-02	DWH-2	DRYWELL HATCH CLOSURE FAILURE

Table 11B-6
Shutdown Internal Events RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
15	2.70E-09	3.00E-04	%M6U_RPVLEAK	RPV LEAK - MODE 6 UNFLOODED
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED
16	2.40E-09	1.20E-03	%M6F_RPVLEAK	RPV LEAK - MODE 6 FLOODED
		2.00E-03	G31-ACV-OO-F002A	NOV F002A FAILS TO CLOSE
		2.00E-03	G31-ACV-OO-F003A	ACV F003A FAILS TO CLOSE
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED
17	2.40E-09	1.20E-03	%M6F_RPVLEAK	RPV LEAK - MODE 6 FLOODED
		2.00E-03	G31-ACV-OO-F007A	NOV F007A FAILS TO CLOSE
		2.00E-03	G31-ACV-OO-F008A	ACV F008A FAILS TO CLOSE
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED
18	2.35E-09	2.35E-07	%M5_LOCA_I	LOCA - INSTRUMENT LINE BELOW TAF - MODE 5
		1.00E-02	DWH-2	DRYWELL HATCH CLOSURE FAILURE
19	2.16E-09	2.40E-04	%M5O_RPVLEAK	RPV LEAK - MODE 5 OPEN
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED
20	1.92E-09	9.60E-04	%M5_RPVLEAK	RPV LEAK - MODE 5
		2.00E-03	G31-ACV-OO-F002A	NOV F002A FAILS TO CLOSE
		2.00E-03	G31-ACV-OO-F003A	ACV F003A FAILS TO CLOSE
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED
21	1.92E-09	9.60E-04	%M5_RPVLEAK	RPV LEAK - MODE 5
		2.00E-03	G31-ACV-OO-F007A	NOV F007A FAILS TO CLOSE
		2.00E-03	G31-ACV-OO-F008A	ACV F008A FAILS TO CLOSE
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED

**Table 11B-6
Shutdown Internal Events RTNSS Top 100 Cutsets**

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
22	1.71E-09	3.00E-04	%M6U_RPVLEAK	RPV LEAK - MODE 6 UNFLOODED
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'
23	1.48E-09	9.45E-04	%M6U_G31	LOSS OF RWCU - MODE 6 UNFLOODED
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
		7.20E-06	T23-POL-RP-SP	SUPPRESSION POOL LEAKS CATASTROPHICALLY
24	1.41E-09	2.11E-03	%M5_LOPP	LOSS OF PREF-POWR MODE 5
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		5.00E-02	MS-TOP2	TWO SRVS FAIL TO OPEN (MANUAL)
25	1.36E-09	1.34E-01	R-M5-LOPP	RECOVERY OF OFFSITE POWER IN MODE 5
		2.40E-04	%M50_RPVLEAK	RPV LEAK - MODE 5 OPEN
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED
26	1.30E-09	1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'
		7.56E-04	%M50_G31	LOSS OF RWCU MODE 5 OPEN
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		5.00E-02	MS-TOP2	TWO SRVS FAIL TO OPEN (MANUAL)
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY

**Table 11B-6
Shutdown Internal Events RTNSS Top 100 Cutsets**

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
27	1.25E-09	7.56E-04	%M5O_G31	LOSS OF RWCU MODE 5 OPEN
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
		7.20E-06	T23-POL-RP-SP	SUPPRESSION POOL LEAKS CATASTROPHICALLY
28	1.12E-09	1.20E-03	%M6F_RPVLEAK	RPV LEAK - MODE 6 FLOODED
		1.86E-06	C63-LDD-FC-ESFLOADS	CCF OF ALL ESF LOAD DRIVERS
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED
29	1.11E-09	3.02E-03	%M5_G31	LOSS OF RWCU - MODE 5
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
30	1.08E-09	3.00E-04	%M6U_RPVLEAK	RPV LEAK - MODE 6 UNFLOODED
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED
		7.20E-06	T23-POL-RP-SP	SUPPRESSION POOL LEAKS CATASTROPHICALLY
31	1.04E-09	3.02E-03	%M5_G31	LOSS OF RWCU - MODE 5
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
		5.00E-02	MS-TOP2	TWO SRVS FAIL TO OPEN (MANUAL)
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY

**Table 11B-6
Shutdown Internal Events RTNSS Top 100 Cutsets**

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
32	9.95E-10	9.45E-04	%M6U_G31	LOSS OF RWCU - MODE 6 UNFLOODED
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
33	9.94E-10	1.20E-03	%M6F_RPVLEAK	RPV LEAK - MODE 6 FLOODED
		1.66E-06	C63-FT_-NO-ESFSD_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-FT_-NO-ESFSD'
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED
34	9.00E-10	2.40E-04	%M5O_RPVLEAK	RPV LEAK - MODE 5 OPEN
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED
		5.00E-02	MS-TOP2	TWO SRVS FAIL TO OPEN (MANUAL)
35	8.93E-10	9.60E-04	%M5_RPVLEAK	RPV LEAK - MODE 5
		1.86E-06	C63-LDD-FC-ESFLOADS	CCF OF ALL ESF LOAD DRIVERS
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED
36	8.92E-10	8.92E-09	%M6F_LOCA_RW	LOCA - RWCU LINE BELWO TAF - MODE 6 FLOODED
		1.00E-01	DWH-1	DRYWELL HATCH CLOSURE FAILURE (90MIN)

**Table 11B-6
Shutdown Internal Events RTNSS Top 100 Cutsets**

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
37	8.71E-10	9.45E-04	%M6U_G31	LOSS OF RWCU - MODE 6 UNFLOODED
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
38	8.71E-10	9.45E-04	%M6U_G31	LOSS OF RWCU - MODE 6 UNFLOODED
		2.63E-04	E50-BV_-OC-F004D	MAINTENANCE VALVE F004D PLUGS/TRANSFERS CLOSED
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
39	8.66E-10	7.56E-04	%M5O_G31	LOSS OF RWCU MODE 5 OPEN
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		5.00E-02	MS-TOP2	TWO SRVS FAIL TO OPEN (MANUAL)
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
40	8.64E-10	2.40E-04	%M5O_RPVLEAK	RPV LEAK - MODE 5 OPEN
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED
		7.20E-06	T23-POL-RP-SP	SUPPRESSION POOL LEAKS CATASTROPHICALLY

Table 11B-6
Shutdown Internal Events RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
41	8.36E-10	7.56E-04	%M5O_G31	LOSS OF RWCU MODE 5 OPEN
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
42	7.95E-10	9.60E-04	%M5_RPVLEAK	RPV LEAK - MODE 5
		1.66E-06	C63-FT_-NO-ESFSD_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-FT_-NO-ESFSD'
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED
43	7.33E-10	7.33E-08	%M6U_LOCA_I	LOCA IN INSTRUMENT LINE - MODE 6 UNFLOODED
		1.00E-02	DWH-2	DRYWELL HATCH CLOSURE FAILURE
44	7.32E-10	7.56E-04	%M5O_G31	LOSS OF RWCU MODE 5 OPEN
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
45	7.32E-10	7.56E-04	%M5O_G31	LOSS OF RWCU MODE 5 OPEN
		2.63E-04	E50-BV_-OC-F004D	MAINTENANCE VALVE F004D PLUGS/TRANSFERS CLOSED
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION

**Table 11B-6
Shutdown Internal Events RTNSS Top 100 Cutsets**

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
46	7.25E-10	3.00E-04	%M6U_RPVLEAK	RPV LEAK - MODE 6 UNFLOODED
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
47	7.13E-10	7.13E-09	%M5_LOCA_RW	LOCA BELOW TAF IN RWCU
		1.00E-01	DWH-1	DRYWELL HATCH CLOSURE FAILURE (90MIN)
48	6.67E-10	1.20E-03	%M6F_RPVLEAK	RPV LEAK - MODE 6 FLOODED
		1.11E-06	C63-DTM-FC-ESFLG_1_2_3	CCF OF THREE COMPONENTS: C63-DTM-FC-ESFD1 & C63-DTM-FC-ESFD2 & C63-DTM-FC-ESFD3
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED
49	6.67E-10	1.20E-03	%M6F_RPVLEAK	RPV LEAK - MODE 6 FLOODED
		1.11E-06	C63-DTM-FC-ESFLG_1_2_4	CCF OF THREE COMPONENTS: C63-DTM-FC-ESFD1 & C63-DTM-FC-ESFD2 & C63-DTM-FC-ESFD4
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED
50	6.67E-10	1.20E-03	%M6F_RPVLEAK	RPV LEAK - MODE 6 FLOODED
		1.11E-06	C63-DTM-FC-ESFLG_1_3_4	CCF OF THREE COMPONENTS: C63-DTM-FC-ESFD1 & C63-DTM-FC-ESFD3 & C63-DTM-FC-ESFD4
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED

Table 11B-6
Shutdown Internal Events RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
51	6.67E-10	1.20E-03	%M6F_RPVLEAK	RPV LEAK - MODE 6 FLOODED
		1.11E-06	C63-DTM-FC-ESFLG_2_3_4	CCF OF THREE COMPONENTS: C63-DTM-FC-ESFD2 & C63-DTM-FC-ESFD3 & C63-DTM-FC-ESFD4
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED
52	6.35E-10	3.00E-04	%M6U_RPVLEAK	RPV LEAK - MODE 6 UNFLOODED
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
53	6.35E-10	3.00E-04	%M6U_RPVLEAK	RPV LEAK - MODE 6 UNFLOODED
		2.63E-04	E50-BV_-OC-F004D	MAINTENANCE VALVE F004D PLUGS/TRANSFERS CLOSED
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
54	6.22E-10	3.02E-03	%M5_G31	LOSS OF RWCU - MODE 5
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
		5.00E-02	MS-TOP2	TWO SRVS FAIL TO OPEN (MANUAL)
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY

Table 11B-6
Shutdown Internal Events RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
55	6.00E-10	3.00E-04	%M6U_RPVLEAK	RPV LEAK - MODE 6 UNFLOODED
		2.00E-03	G31-ACV-OO-F002A	NOV F002A FAILS TO CLOSE
		2.00E-03	G31-ACV-OO-F003A	ACV F003A FAILS TO CLOSE
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED
56	6.00E-10	3.00E-04	%M6U_RPVLEAK	RPV LEAK - MODE 6 UNFLOODED
		2.00E-03	G31-ACV-OO-F007A	NOV F007A FAILS TO CLOSE
		2.00E-03	G31-ACV-OO-F008A	ACV F008A FAILS TO CLOSE
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED
57	5.86E-10	5.86E-08	%M5O_LOCA_I	LOCA - INSTRUMENT LINE BLEOW TAF - MODE 5 OPEN
		1.00E-02	DWH-2	DRYWELL HATCH CLOSURE FAILURE
58	5.80E-10	2.40E-04	%M5O_RPVLEAK	RPV LEAK - MODE 5 OPEN
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
59	5.33E-10	9.60E-04	%M5_RPVLEAK	RPV LEAK - MODE 5
		1.11E-06	C63-DTM-FC-ESFLG_1_2_3	CCF OF THREE COMPONENTS: C63-DTM-FC-ESFD1 & C63-DTM-FC-ESFD2 & C63-DTM-FC-ESFD3
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED

**Table 11B-6
Shutdown Internal Events RTNSS Top 100 Cutsets**

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
60	5.33E-10	9.60E-04	%M5_RPVLEAK	RPV LEAK - MODE 5
		1.11E-06	C63-DTM-FC-ESFLG_1_2_4	CCF OF THREE COMPONENTS: C63-DTM-FC-ESFD1 & C63-DTM-FC-ESFD2 & C63-DTM-FC-ESFD4
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED
61	5.33E-10	9.60E-04	%M5_RPVLEAK	RPV LEAK - MODE 5
		1.11E-06	C63-DTM-FC-ESFLG_1_3_4	CCF OF THREE COMPONENTS: C63-DTM-FC-ESFD1 & C63-DTM-FC-ESFD3 & C63-DTM-FC-ESFD4
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED
62	5.33E-10	9.60E-04	%M5_RPVLEAK	RPV LEAK - MODE 5
		1.11E-06	C63-DTM-FC-ESFLG_2_3_4	CCF OF THREE COMPONENTS: C63-DTM-FC-ESFD2 & C63-DTM-FC-ESFD3 & C63-DTM-FC-ESFD4
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED
63	5.31E-10	5.28E-04	%M5O_LOPP	LOSS OF PREF-POWER MODE 5 OPEN
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		5.00E-02	MS-TOP2	TWO SRVS FAIL TO OPEN (MANUAL)
		1.34E-01	R-M5-LOPP	RECOVERY OF OFFSITE POWER IN MODE 5
64	5.09E-10	5.28E-04	%M5O_LOPP	LOSS OF PREF-POWER MODE 5 OPEN
		1.34E-01	R-M5-LOPP	RECOVERY OF OFFSITE POWER IN MODE 5
		7.20E-06	T23-POL-RP-SP	SUPPRESSION POOL LEAKS CATASTROPHICALLY

Table 11B-6
Shutdown Internal Events RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
65	5.08E-10	2.40E-04	%M5O_RPVLEAK	RPV LEAK - MODE 5 OPEN
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
66	5.08E-10	2.40E-04	%M5O_RPVLEAK	RPV LEAK - MODE 5 OPEN
		2.63E-04	E50-BV_-OC-F004D	MAINTENANCE VALVE F004D PLUGS/TRANSFERS CLOSED
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
67	4.98E-10	9.45E-04	%M6U_G31	LOSS OF RWCU - MODE 6 UNFLOODED
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
68	4.89E-10	1.20E-03	%M6F_RPVLEAK	RPV LEAK - MODE 6 FLOODED
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED
		8.14E-07	R16-BT_-LP-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R16-BT_-LP-CCFSR'

Table 11B-6
Shutdown Internal Events RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
69	4.80E-10	2.40E-04	%M5O_RPVLEAK	RPV LEAK - MODE 5 OPEN
		2.00E-03	G31-ACV-OO-F002A	NOV F002A FAILS TO CLOSE
		2.00E-03	G31-ACV-OO-F003A	ACV F003A FAILS TO CLOSE
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED
70	4.80E-10	2.40E-04	%M5O_RPVLEAK	RPV LEAK - MODE 5 OPEN
		2.00E-03	G31-ACV-OO-F007A	NOV F007A FAILS TO CLOSE
		2.00E-03	G31-ACV-OO-F008A	ACV F008A FAILS TO CLOSE
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED
71	4.66E-10	4.66E-06	%M6F_RWCU_BOC	RWCU BREAK OUTSIDE CONTAINMENT - MODE 6 FLOODED
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
72	4.55E-10	2.11E-03	%M5_LOPP	LOSS OF PREF-POWR MODE 5
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.34E-01	R-M5-LOPP	RECOVERY OF OFFSITE POWER IN MODE 5
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
73	4.28E-10	6.60E-04	%M6U_LOPP	LOSS OF PREF-POWER - MODE 6 UNFLOODED
		9.00E-02	R-M6-LOPP	RECOVERY OF OFFSITE POWER IN MODE 6
		7.20E-06	T23-POL-RP-SP	SUPPRESSION POOL LEAKS CATASTROPHICALLY

Table 11B-6
Shutdown Internal Events RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
74	4.24E-10	2.11E-03	%M5_LOPP	LOSS OF PREF-POWR MODE 5
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
		5.00E-02	MS-TOP2	TWO SRVS FAIL TO OPEN (MANUAL)
		1.34E-01	R-M5-LOPP	RECOVERY OF OFFSITE POWER IN MODE 5
75	4.18E-10	7.56E-04	%M5O_G31	LOSS OF RWCU MODE 5 OPEN
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
76	4.18E-10	7.56E-04	%M5O_G31	LOSS OF RWCU MODE 5 OPEN
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
77	3.91E-10	9.60E-04	%M5_RPVLEAK	RPV LEAK - MODE 5
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED
		8.14E-07	R16-BT_-LP-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R16-BT_-LP-CCFSR'
78	3.73E-10	3.73E-06	%M5_RWCU_BOC	RWCU BREAK OUTSIDE CONTAINMENT - MODE 5
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE

Table 11B-6
Shutdown Internal Events RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
79	3.62E-10	3.00E-04	%M6U_RPVLEAK	RPV LEAK - MODE 6 UNFLOODED
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
80	3.54E-10	5.28E-04	%M5O_LOPP	LOSS OF PREF-POWER MODE 5 OPEN
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		5.00E-02	MS-TOP2	TWO SRVS FAIL TO OPEN (MANUAL)
		1.34E-01	R-M5-LOPP	RECOVERY OF OFFSITE POWER IN MODE 5
81	3.42E-10	5.28E-04	%M5O_LOPP	LOSS OF PREF-POWER MODE 5 OPEN
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
		1.34E-01	R-M5-LOPP	RECOVERY OF OFFSITE POWER IN MODE 5
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION

Table 11B-6
Shutdown Internal Events RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
82	3.34E-10	3.02E-03	%M5_G31	LOSS OF RWCU - MODE 5
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
83	3.32E-10	9.45E-04	%M6U_G31	LOSS OF RWCU - MODE 6 UNFLOODED
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
84	3.05E-10	3.02E-03	%M5_G31	LOSS OF RWCU - MODE 5
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		4.41E-03	R21-DG_-FR-CCF_1_2	CCF OF TWO COMPONENTS: R21-DG_-FR-DGA & R21-DG_-FR-DGB
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
85	2.99E-10	5.28E-04	%M5O_LOPP	LOSS OF PREF-POWER MODE 5 OPEN
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED
		1.34E-01	R-M5-LOPP	RECOVERY OF OFFSITE POWER IN MODE 5
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION

**Table 11B-6
Shutdown Internal Events RTNSS Top 100 Cutsets**

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
86	2.99E-10	5.28E-04	%M5O_LOPP	LOSS OF PREF-POWER MODE 5 OPEN
		2.63E-04	E50-BV_-OC-F004D	MAINTENANCE VALVE F004D PLUGS/TRANSFERS CLOSED
		1.34E-01	R-M5-LOPP	RECOVERY OF OFFSITE POWER IN MODE 5
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
87	2.90E-10	2.40E-04	%M5O_RPVLEAK	RPV LEAK - MODE 5 OPEN
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
88	2.90E-10	2.40E-04	%M5O_RPVLEAK	RPV LEAK - MODE 5 OPEN
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION

**Table 11B-6
Shutdown Internal Events RTNSS Top 100 Cutsets**

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
89	2.87E-10	6.60E-04	%M6U_LOPP	LOSS OF PREF-POWER - MODE 6 UNFLOODED
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
		9.00E-02	R-M6-LOPP	RECOVERY OF OFFSITE POWER IN MODE 6
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
90	2.79E-10	3.00E-04	%M6U_RPVLEAK	RPV LEAK - MODE 6 UNFLOODED
		1.86E-06	C63-LDD-FC-ESFLOADS	CCF OF ALL ESF LOAD DRIVERS
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED
91	2.79E-10	7.56E-04	%M5O_G31	LOSS OF RWCU MODE 5 OPEN
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
92	2.72E-10	9.45E-04	%M6U_G31	LOSS OF RWCU - MODE 6 UNFLOODED
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
		4.41E-03	R21-DG_-FR-CCF_1_2	CCF OF TWO COMPONENTS: R21-DG_-FR-DGA & R21-DG_-FR-DGB
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC

Table 11B-6
Shutdown Internal Events RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
93	2.60E-10	7.56E-04	%M5O_G31	LOSS OF RWCU MODE 5 OPEN
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
		5.00E-02	MS-TOP2	TWO SRVS FAIL TO OPEN (MANUAL)
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
94	2.54E-10	2.11E-03	%M5_LOPP	LOSS OF PREF-POWR MODE 5
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
		5.00E-02	MS-TOP2	TWO SRVS FAIL TO OPEN (MANUAL)
		1.34E-01	R-M5-LOPP	RECOVERY OF OFFSITE POWER IN MODE 5
95	2.51E-10	6.60E-04	%M6U_LOPP	LOSS OF PREF-POWER - MODE 6 UNFLOODED
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED
		9.00E-02	R-M6-LOPP	RECOVERY OF OFFSITE POWER IN MODE 6
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION

Table 11B-6
Shutdown Internal Events RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
96	2.51E-10	6.60E-04	%M6U_LOPP	LOSS OF PREF-POWER - MODE 6 UNFLOODED
		2.63E-04	E50-BV_-OC-F004D	MAINTENANCE VALVE F004D PLUGS/TRANSFERS CLOSED
		9.00E-02	R-M6-LOPP	RECOVERY OF OFFSITE POWER IN MODE 6
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
97	2.48E-10	3.00E-04	%M6U_RPVLEAK	RPV LEAK - MODE 6 UNFLOODED
		1.66E-06	C63-FT_-NO-ESFSD_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-FT_-NO-ESFSD'
		5.00E-01	LEAK-ISO	RWCU LEAK ISOLATED
98	2.43E-10	1.06E-05	%M5_LPSWS	LOSS OF PLANT SERVICE WATER - MODE 5
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		2.29E-01	R-M5-PSWS	SERVICE WATER RECOVERY
99	2.39E-10	9.45E-04	%M6U_G31	LOSS OF RWCU - MODE 6 UNFLOODED
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED
		4.41E-03	R21-DG_-FR-CCF_1_2	CCF OF TWO COMPONENTS: R21-DG_-FR-DGA & R21-DG_-FR-DGB
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC

**Table 11B-6
Shutdown Internal Events RTNSS Top 100 Cutsets**

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
100	2.39E-10	9.45E-04	%M6U_G31	LOSS OF RWCU - MODE 6 UNFLOODED
		2.63E-04	E50-BV_-OC-F004D	MAINTENANCE VALVE F004D PLUGS/TRANSFERS CLOSED
		4.41E-03	R21-DG_-FR-CCF_1_2	CCF OF TWO COMPONENTS: R21-DG_-FR-DGA & R21-DG_-FR-DGB
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC

Table 11B-7
Level 1 Fire Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
1	4.59E-06	4.59E-02	%F4197	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
2	1.80E-06	1.80E-02	%FSWYD	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
3	1.38E-06	4.59E-02	%F4197	
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
4	1.06E-06	1.06E-02	%F4403	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
5	8.70E-07	8.70E-03	%F5153	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
6	8.70E-07	8.70E-03	%F5163	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
7	8.26E-07	4.59E-02	%F4197	
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
8	6.63E-07	6.63E-03	%F5350	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
9	6.54E-07	6.54E-03	%F5360	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
10	5.45E-07	5.45E-03	%F39252	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
11	5.44E-07	5.44E-03	%F39262	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
12	5.40E-07	1.80E-02	%FSWYD	
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
13	5.22E-07	4.59E-02	%F4197	

Table 11B-7
Level 1 Fire Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
14	5.19E-07	5.19E-03	%F3302	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
15	5.08E-07	5.08E-03	%F7100	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
16	4.59E-07	4.59E-02	%F4197	
		1.00E-04	C71-CCFSOFTWARE	RPS COMMON CAUSE SOFTWARE FAILURE
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
17	4.42E-07	4.42E-03	%F3301	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
18	4.10E-07	4.10E-03	%F1152	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
19	3.77E-07	3.77E-03	%F1162	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
20	3.57E-07	3.57E-03	%F7300A	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
21	3.48E-07	3.48E-03	%F7300B	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
22	3.24E-07	1.80E-02	%FSWYD	
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
23	3.18E-07	1.06E-02	%F4403	
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
24	3.17E-07	3.17E-03	%F4260	

Table 11B-7
Level 1 Fire Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
25	3.12E-07	3.12E-03	%F1150	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
26	3.08E-07	3.08E-03	%F4250	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
27	2.67E-07	2.67E-03	%F1341	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
28	2.61E-07	8.70E-03	%F5153	
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
29	2.61E-07	8.70E-03	%F5163	
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
30	2.60E-07	2.60E-03	%F1331	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
31	2.59E-07	2.59E-03	%F3270	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
32	2.59E-07	2.59E-03	%F3270	
		1.00E-04	C71-CCFSOFTWARE	RPS COMMON CAUSE SOFTWARE FAILURE
33	2.58E-07	2.58E-03	%F1311	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
34	2.55E-07	2.55E-03	%F1160	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
35	2.49E-07	2.49E-03	%F1321	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
36	2.36E-07	2.36E-03	%F4271	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
37	2.36E-07	2.36E-03	%F4272	

Table 11B-7
Level 1 Fire Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
38	2.36E-07	2.36E-03	%F4273	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
39	2.36E-07	2.36E-03	%F5157	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
40	2.36E-07	2.36E-03	%F5158	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
41	2.36E-07	2.36E-03	%F5167	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
42	2.36E-07	2.36E-03	%F5168	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
43	2.34E-07	2.34E-03	%F1203	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
44	2.26E-07	2.26E-03	%F4302	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
45	2.26E-07	2.26E-03	%F4303	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
46	2.26E-07	2.26E-03	%F5203	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
47	2.22E-07	2.22E-03	%F2100	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
48	2.07E-07	4.59E-02	%F4197	
		4.50E-05	C71-SLU-FC-R_ALL	CCF OF ALL COMPONENTS IN GROUP 'C71-SLU-FC-R'
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
49	2.05E-07	1.80E-02	%FSWYD	
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'

Table 11B-7
Level 1 Fire Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
50	1.99E-07	6.63E-03	%F5350	
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
51	1.96E-07	6.54E-03	%F5360	
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
52	1.91E-07	1.06E-02	%F4403	
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
53	1.80E-07	1.80E-02	%FSWYD	
		1.00E-04	C71-CCFSOFTWARE	RPS COMMON CAUSE SOFTWARE FAILURE
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
54	1.65E-07	4.59E-02	%F4197	
		3.60E-06	C63-LT_-NO-ESFRX_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LT_-NO-ESFRX'
55	1.64E-07	5.45E-03	%F39252	
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
56	1.63E-07	5.44E-03	%F39262	
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
57	1.57E-07	8.70E-03	%F5153	
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
58	1.57E-07	8.70E-03	%F5163	

Table 11B-7
Level 1 Fire Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
59	1.56E-07	5.19E-03	%F3302	
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
60	1.52E-07	5.08E-03	%F7100	
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
61	1.38E-07	4.59E-02	%F4197	
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
62	1.38E-07	4.59E-02	%F4197	
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
63	1.38E-07	4.59E-02	%F4197	
		3.00E-05	C71-DTM-FC-R_ALL	CCF OF ALL COMPONENTS IN GROUP 'C71-DTM-FC-R'
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
64	1.36E-07	1.36E-03	%F3110	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
65	1.33E-07	4.42E-03	%F3301	
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'

Table 11B-7
Level 1 Fire Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
66	1.27E-07	1.27E-03	%F3120	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
67	1.27E-07	1.27E-03	%F3130	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
68	1.27E-07	1.27E-03	%F3140	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
69	1.23E-07	4.10E-03	%F1152	
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
70	1.21E-07	1.06E-02	%F4403	
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
71	1.20E-07	1.20E-03	%F19150	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
72	1.19E-07	6.63E-03	%F5350	
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
73	1.18E-07	6.54E-03	%F5360	
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
74	1.17E-07	1.17E-03	%F19160	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
75	1.17E-07	1.17E-03	%F9160	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
76	1.17E-07	2.59E-03	%F3270	
		4.50E-05	C71-SLU-FC-R_ALL	CCF OF ALL COMPONENTS IN GROUP 'C71-SLU-FC-R'
77	1.15E-07	1.15E-03	%F4560	

Table 11B-7
Level 1 Fire Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
78	1.13E-07	3.77E-03	%F1162	
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
79	1.07E-07	3.57E-03	%F7300A	
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
80	1.07E-07	1.07E-03	%F4550	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
81	1.06E-07	1.06E-02	%F4403	
		1.00E-04	C71-CCFSOFTWARE	RPS COMMON CAUSE SOFTWARE FAILURE
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
82	1.04E-07	3.48E-03	%F7300B	
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
83	1.04E-07	1.04E-03	%F9150	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
84	9.89E-08	8.70E-03	%F5153	
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
85	9.89E-08	8.70E-03	%F5163	
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
86	9.81E-08	5.45E-03	%F39252	

Table 11B-7
Level 1 Fire Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
87	9.79E-08	5.44E-03	%F39262	
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
88	9.51E-08	3.17E-03	%F4260	
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
89	9.36E-08	3.12E-03	%F1150	
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
90	9.34E-08	5.19E-03	%F3302	
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
91	9.24E-08	3.08E-03	%F4250	
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
92	9.19E-08	4.59E-02	%F4197	
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.76E-01	B32-XHE-FO-VENT	OPERATOR FAILS TO OPEN VENT
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'
93	9.14E-08	5.08E-03	%F7100	
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
94	9.04E-08	9.04E-04	%F5201	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
95	9.04E-08	9.04E-04	%F5204	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE

Table 11B-7
Level 1 Fire Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
96	8.70E-08	8.70E-03	%F5153	
		1.00E-04	C71-CCFSOFTWARE	RPS COMMON CAUSE SOFTWARE FAILURE
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
97	8.70E-08	8.70E-03	%F5163	
		1.00E-04	C71-CCFSOFTWARE	RPS COMMON CAUSE SOFTWARE FAILURE
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
98	8.54E-08	4.59E-02	%F4197	
		1.86E-06	C63-LDD-FC-ESFLOADS	CCF OF ALL ESF LOAD DRIVERS
99	8.26E-08	4.59E-02	%F4197	
		1.80E-05	C71-OLU-FC-R_ALL	CCF OF ALL COMPONENTS IN GROUP 'C71-OLU-FC-R'
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
100	8.10E-08	1.80E-02	%FSWYD	
		4.50E-05	C71-SLU-FC-R_ALL	CCF OF ALL COMPONENTS IN GROUP 'C71-SLU-FC-R'
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM

Table 11B-8
Level 1 Fire RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
1	3.29E-08	3.29E-04	%F3150	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
2	9.87E-09	3.29E-04	%F3150	
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
3	7.77E-09	2.59E-03	%F3270	
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
4	7.77E-09	2.59E-03	%F3270	
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
5	6.60E-09	4.10E-03	%F1152	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
6	5.92E-09	3.29E-04	%F3150	
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
7	3.29E-09	3.29E-04	%F3150	
		1.00E-04	C71-CCFSOFTWARE	RPS COMMON CAUSE SOFTWARE FAILURE
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM

Table 11B-8
Level 1 Fire RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
8	3.27E-09	3.27E-05	%F3301_F3150	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
9	2.22E-09	4.59E-02	%F4197	
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
10	2.22E-09	1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
		4.59E-02	%F4197	
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
11	1.48E-09	1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
		3.29E-04	%F3150	
		4.50E-05	C71-SLU-FC-R_ALL	CCF OF ALL COMPONENTS IN GROUP 'C71-SLU-FC-R'
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
12	1.23E-09	4.10E-03	%F1152	
		3.00E-03	B21-SQV-CC-F004B	EXPLOSIVE VALVE DPV B FAILS TO OPERATE
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
13	1.23E-09	4.10E-03	%F1152	
		3.00E-03	B21-SQV-CC-F004D	EXPLOSIVE VALVE DPV D FAILS TO OPERATE
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
14	1.23E-09	4.10E-03	%F1152	

Table 11B-8
Level 1 Fire RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		3.00E-03	B21-SQV-CC-F004F	EXPLOSIVE VALVE DPV F FAILS TO OPERATE
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
15	1.23E-09	4.10E-03	%F1152	
		3.00E-03	B21-SQV-CC-F004H	EXPLOSIVE VALVE DPV H FAILS TO OPERATE
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
16	1.19E-09	4.10E-03	%F1152	
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
17	1.18E-09	3.29E-04	%F3150	
		3.60E-06	C63-LT_-NO-ESFRX_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LT_-NO-ESFRX'
18	1.06E-09	4.10E-03	%F1152	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
		1.61E-01	XXX-XHE-FO-DEPRESS	OPERATOR FAILS TO RECOGNIZE NEED OF DEPRESSURIZATION
19	1.05E-09	7.03E-06	%F1331_F1152	
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
20	1.05E-09	7.03E-06	%F1331_F1152	

Table 11B-8
Level 1 Fire RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
21	9.87E-10	3.29E-04	%F3150	
		3.00E-05	C71-DTM-FC-R_ALL	CCF OF ALL COMPONENTS IN GROUP 'C71-DTM-FC-R'
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
22	9.81E-10	3.27E-05	%F3301_F3150	
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
23	8.69E-10	1.80E-02	%FSWYD	
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
24	8.69E-10	1.80E-02	%FSWYD	
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
25	8.63E-10	2.59E-03	%F3270	
		3.33E-04	B32-SQV-CC-XCONN_1_2	CCF OF TWO COMPONENTS: B32-SQV-CC-F104A & B32-SQV-CC-F104B
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

Table 11B-8
Level 1 Fire RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
26	8.63E-10	2.59E-03	%F3270	
		3.33E-04	B32-SQV-CC-XCONN_1_2	CCF OF TWO COMPONENTS: B32-SQV-CC-F104A & B32-SQV-CC-F104B
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
27	7.77E-10	2.59E-03	%F3270	
		1.00E-04	B32-NPO-CC-F105A	F105A FAILS TO OPEN
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
28	7.77E-10	2.59E-03	%F3270	
		1.00E-04	B32-NPO-CC-F105B	F105B FAILS TO OPEN
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
29	7.51E-10	4.10E-03	%F1152	
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
30	7.03E-10	7.03E-06	%F1331_F1152	
		1.00E-04	T10-VB_-LK-VB3	PROBABILITY OF LEAK IN VACUUM BREAKER 3
31	6.60E-10	4.10E-03	%F1152	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

Table 11B-8
Level 1 Fire RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.61E-03	XXX-XHE-FO-ICPCCS	OPERATOR FAILS TO RECOGNIZE THE NEED TO MAKEUP ICS/PCCS POOL LEVEL.
32	6.58E-10	3.29E-04	%F3150	
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.76E-01	B32-XHE-FO-VENT	OPERATOR FAILS TO OPEN VENT
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'
33	6.45E-10	2.58E-03	%F1311	
		2.50E-07	C12-ROD-CF-SCRAM	CCF OF CONTROL RODS TO INSERT
34	6.23E-10	6.23E-06	%F3302_F9150	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
35	6.22E-10	2.49E-03	%F1321	
		2.50E-07	C12-ROD-CF-SCRAM	CCF OF CONTROL RODS TO INSERT
36	6.19E-10	8.70E-03	%F5163	
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
37	6.19E-10	8.70E-03	%F5163	
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
38	6.12E-10	3.29E-04	%F3150	
		1.86E-06	C63-LDD-FC-ESFLOADS	CCF OF ALL ESF LOAD DRIVERS

Table 11B-8
Level 1 Fire RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
39	5.92E-10	3.29E-04	%F3150	
		1.80E-05	C71-OLU-FC-R_ALL	CCF OF ALL COMPONENTS IN GROUP 'C71-OLU-FC-R'
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
40	5.89E-10	3.27E-05	%F3301_F3150	
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
41	5.59E-10	3.29E-04	%F3150	
		1.70E-06	C12-SOV-FD-SCRV139	CCF TO OPEN (VENT) OF SCRAM PILOT SOLENOID VALVES SOV-139
42	5.47E-10	1.93E-05	%F1331_F1311	
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.76E-01	B32-XHE-FO-VENT	OPERATOR FAILS TO OPEN VENT
		1.00E-03	T10-LOG-SP-VBIV2	LOGIC PROCESSOR INADVERTANTLY ACTUATES
		1.61E-01	XXX-XHE-FO-DEPRESS	OPERATOR FAILS TO RECOGNIZE NEED OF DEPRESSURIZATION
43	5.44E-10	4.10E-03	%F1152	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
44	5.41E-10	1.91E-05	%F1311_F1331	
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING

Table 11B-8
Level 1 Fire RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.76E-01	B32-XHE-FO-VENT	OPERATOR FAILS TO OPEN VENT
		1.00E-03	T10-LOG-SP-VBIV2	LOGIC PROCESSOR INADVERTANTLY ACTUATES
		1.61E-01	XXX-XHE-FO-DEPRESS	OPERATOR FAILS TO RECOGNIZE NEED OF DEPRESSURIZATION
45	5.22E-10	8.70E-03	%F5163	
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
46	5.22E-10	8.70E-03	%F5163	
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
47	5.12E-10	1.06E-02	%F4403	
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
48	5.12E-10	1.06E-02	%F4403	
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE

Table 11B-8
Level 1 Fire RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
49	5.10E-10	1.93E-05	%F1331_F1311	
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.76E-01	B32-XHE-FO-VENT	OPERATOR FAILS TO OPEN VENT
50	5.10E-10	1.93E-05	%F1331_F1311	
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.76E-01	B32-XHE-FO-VENT	OPERATOR FAILS TO OPEN VENT
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
51	5.04E-10	1.91E-05	%F1311_F1331	
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.76E-01	B32-XHE-FO-VENT	OPERATOR FAILS TO OPEN VENT
52	5.04E-10	1.91E-05	%F1311_F1331	
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.76E-01	B32-XHE-FO-VENT	OPERATOR FAILS TO OPEN VENT
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
53	4.76E-10	2.60E-03	%F1331	

Table 11B-8
Level 1 Fire RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
54	4.65E-10	6.54E-03	%F5360	
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
55	4.65E-10	6.54E-03	%F5360	
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
56	4.59E-10	4.59E-02	%F4197	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E-04	C72-CCFSOFTWARE	COMMON CAUSE FAILURE OF DPS PROCESSORS
57	4.59E-10	4.10E-03	%F1152	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START

Table 11B-8
Level 1 Fire RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
58	4.47E-10	4.10E-03	%F1152	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.09E-03	C72-LDD-FC-S1F004B	F004B FIRST SERIES LOAD DRIVER FAILS ACTUATE
59	4.47E-10	4.10E-03	%F1152	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.09E-03	C72-LDD-FC-S1F004D	F004D FIRST SERIES LOAD DRIVER FAILS ACTUATE
60	4.47E-10	4.10E-03	%F1152	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.09E-03	C72-LDD-FC-S1F004F	F004F FIRST SERIES LOAD DRIVER FAILS ACTUATE
61	4.47E-10	4.10E-03	%F1152	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.09E-03	C72-LDD-FC-S1F004H	F004H FIRST SERIES LOAD DRIVER FAILS ACTUATE
62	4.47E-10	4.10E-03	%F1152	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.09E-03	C72-LDD-FC-S2F004B	F004B SECOND SERIES LOAD DRIVER FAILS TO ACTUATE
63	4.47E-10	4.10E-03	%F1152	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.09E-03	C72-LDD-FC-S2F004D	F004D SECOND SERIES LOAD DRIVER FAILS TO ACTUATE
64	4.47E-10	4.10E-03	%F1152	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.09E-03	C72-LDD-FC-S2F004F	F004F SECOND SERIES LOAD DRIVER FAILS TO ACTUATE

Table 11B-8
Level 1 Fire RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
65	4.47E-10	4.10E-03	%F1152	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.09E-03	C72-LDD-FC-S2F004H	F004H SECOND SERIES LOAD DRIVER FAILS TO ACTUATE
66	4.47E-10	4.10E-03	%F1152	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.09E-03	C72-LDD-FC-S3F004B	F004B THIRD SERIES LOAD DRIVER FAILS TO ACTUATE
67	4.47E-10	4.10E-03	%F1152	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.09E-03	C72-LDD-FC-S3F004D	F004D THIRD SERIES LOAD DRIVER FAILS TO ACTUATE
68	4.47E-10	4.10E-03	%F1152	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.09E-03	C72-LDD-FC-S3F004F	F004F THIRD SERIES LOAD DRIVER FAILS TO ACTUATE
69	4.47E-10	4.10E-03	%F1152	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.09E-03	C72-LDD-FC-S3F004H	F004H THIRD SERIES LOAD DRIVER FAILS TO ACTUATE
70	4.47E-10	4.10E-03	%F1152	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		4.60E-02	R21-DG_-TM-DGB	STANDBY DIESEL GENERATOR "B" IN MAINTENANCE
71	4.20E-10	2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
		8.70E-03	%F5153	
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN

Table 11B-8
Level 1 Fire RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
72	4.20E-10	8.70E-03	%F5153	
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
73	4.20E-10	8.70E-03	%F5163	
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
74	4.20E-10	8.70E-03	%F5163	
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
75	3.92E-10	6.54E-03	%F5360	
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE

Table 11B-8
Level 1 Fire RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
76	3.92E-10	6.54E-03	%F5360	
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
77	3.77E-10	4.10E-03	%F1152	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		4.60E-02	R21-DG_-TM-DGB	STANDBY DIESEL GENERATOR "B" IN MAINTENANCE
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
78	3.69E-10	5.19E-03	%F3302	
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
79	3.69E-10	5.19E-03	%F3302	
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE

Table 11B-8
Level 1 Fire RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
80	3.69E-10	4.10E-03	%F1152	
		3.00E-03	B21-SQV-CC-F004B	EXPLOSIVE VALVE DPV B FAILS TO OPERATE
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
81	3.69E-10	4.10E-03	%F1152	
		3.00E-03	B21-SQV-CC-F004D	EXPLOSIVE VALVE DPV D FAILS TO OPERATE
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
82	3.69E-10	4.10E-03	%F1152	
		3.00E-03	B21-SQV-CC-F004F	EXPLOSIVE VALVE DPV F FAILS TO OPERATE
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
83	3.69E-10	4.10E-03	%F1152	
		3.00E-03	B21-SQV-CC-F004H	EXPLOSIVE VALVE DPV H FAILS TO OPERATE
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
84	3.66E-10	3.29E-04	%F3150	
		1.11E-06	C63-DTM-FC-ESFLG_1_2_3	CCF OF THREE COMPONENTS: C63-DTM-FC-ESFD1 & C63-DTM-FC-ESFD2 & C63-DTM-FC-ESFD3
85	3.66E-10	3.29E-04	%F3150	

Table 11B-8
Level 1 Fire RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.11E-06	C63-DTM-FC-ESFLG_1_2_4	CCF OF THREE COMPONENTS: C63-DTM-FC-ESFD1 & C63-DTM-FC-ESFD2 & C63-DTM-FC-ESFD4
86	3.66E-10	3.29E-04	%F3150	
		1.11E-06	C63-DTM-FC-ESFLG_1_3_4	CCF OF THREE COMPONENTS: C63-DTM-FC-ESFD1 & C63-DTM-FC-ESFD3 & C63-DTM-FC-ESFD4
87	3.66E-10	3.29E-04	%F3150	
		1.11E-06	C63-DTM-FC-ESFLG_2_3_4	CCF OF THREE COMPONENTS: C63-DTM-FC-ESFD2 & C63-DTM-FC-ESFD3 & C63-DTM-FC-ESFD4
88	3.40E-10	1.93E-05	%F1331_F1311	
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.76E-01	B32-XHE-FO-VENT	OPERATOR FAILS TO OPEN VENT
		1.00E-04	T10-VB_-LK-VB1	PROBABILITY OF LEAK IN VACUUM BREAKER 1
89	3.40E-10	1.93E-05	%F1331_F1311	
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.76E-01	B32-XHE-FO-VENT	OPERATOR FAILS TO OPEN VENT
		1.00E-04	T10-VB_-LK-VB3	PROBABILITY OF LEAK IN VACUUM BREAKER 3
90	3.36E-10	1.91E-05	%F1311_F1331	
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.76E-01	B32-XHE-FO-VENT	OPERATOR FAILS TO OPEN VENT
		1.00E-04	T10-VB_-LK-VB1	PROBABILITY OF LEAK IN VACUUM BREAKER 1
91	3.36E-10	1.91E-05	%F1311_F1331	

Table 11B-8
Level 1 Fire RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.76E-01	B32-XHE-FO-VENT	OPERATOR FAILS TO OPEN VENT
		1.00E-04	T10-VB_-LK-VB3	PROBABILITY OF LEAK IN VACUUM BREAKER 3
92	3.27E-10	3.27E-05	%F3301_F3150	
		1.00E-04	C71-CCFSOFTWARE	RPS COMMON CAUSE SOFTWARE FAILURE
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
93	3.20E-10	6.63E-03	%F5350	
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
94	3.20E-10	6.63E-03	%F5350	
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
95	3.16E-10	6.54E-03	%F5360	
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE

Table 11B-8
Level 1 Fire RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
96	3.16E-10	6.54E-03	%F5360	
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
97	3.14E-10	4.42E-03	%F3301	
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
98	3.14E-10	4.42E-03	%F3301	
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
99	3.11E-10	5.19E-03	%F3302	
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

Table 11B-8
Level 1 Fire RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
100	3.11E-10	5.19E-03	%F3302	
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

Table 11B-9
Level 2 Fire Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
1	4.59E-06	4.59E-02	%F4197	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
2	1.80E-06	1.80E-02	%FSWYD	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
3	1.06E-06	1.06E-02	%F4403	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
4	8.70E-07	8.70E-03	%F5153	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
5	8.70E-07	8.70E-03	%F5163	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
6	8.26E-07	4.59E-02	%F4197	
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'

Table 11B-9
Level 2 Fire Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
7	6.63E-07	6.63E-03	%F5350	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
8	6.54E-07	6.54E-03	%F5360	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
9	5.45E-07	5.45E-03	%F39252	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
10	5.44E-07	5.44E-03	%F39262	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
11	5.22E-07	4.59E-02	%F4197	
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
12	5.19E-07	5.19E-03	%F3302	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE

Table 11B-9
Level 2 Fire Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
13	5.08E-07	5.08E-03	%F7100	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
14	4.59E-07	4.59E-02	%F4197	
		1.00E-04	C71-CCFSOFTWARE	RPS COMMON CAUSE SOFTWARE FAILURE
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
15	4.42E-07	4.42E-03	%F3301	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
16	4.10E-07	4.10E-03	%F1152	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
17	3.77E-07	3.77E-03	%F1162	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
18	3.57E-07	3.57E-03	%F7300A	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE

Table 11B-9
Level 2 Fire Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
19	3.48E-07	3.48E-03	%F7300B	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
20	3.24E-07	1.80E-02	%FSWYD	
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
21	3.17E-07	3.17E-03	%F4260	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
22	3.12E-07	3.12E-03	%F1150	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
23	3.08E-07	3.08E-03	%F4250	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
24	2.67E-07	2.67E-03	%F1341	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE

Table 11B-9
Level 2 Fire Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
25	2.60E-07	2.60E-03	%F1331	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
26	2.59E-07	2.59E-03	%F3270	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
27	2.59E-07	2.59E-03	%F3270	
		1.00E-04	C71-CCFSOFTWARE	RPS COMMON CAUSE SOFTWARE FAILURE
28	2.58E-07	2.58E-03	%F1311	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
29	2.55E-07	2.55E-03	%F1160	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
30	2.49E-07	2.49E-03	%F1321	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

Table 11B-9
Level 2 Fire Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
31	2.36E-07	2.36E-03	%F4271	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
32	2.36E-07	2.36E-03	%F4272	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
33	2.36E-07	2.36E-03	%F4273	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
34	2.36E-07	2.36E-03	%F5157	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
35	2.36E-07	2.36E-03	%F5158	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
36	2.36E-07	2.36E-03	%F5167	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

Table 11B-9
Level 2 Fire Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
37	2.36E-07	2.36E-03	%F5168	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
38	2.34E-07	2.34E-03	%F1203	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
39	2.26E-07	2.26E-03	%F4302	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
40	2.26E-07	2.26E-03	%F4303	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
41	2.26E-07	2.26E-03	%F5203	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
42	2.22E-07	2.22E-03	%F2100	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

Table 11B-9
Level 2 Fire Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
43	2.07E-07	4.59E-02	%F4197	
		4.50E-05	C71-SLU-FC-R_ALL	CCF OF ALL COMPONENTS IN GROUP 'C71-SLU-FC-R'
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
44	2.05E-07	1.80E-02	%FSWYD	
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
45	1.91E-07	1.06E-02	%F4403	
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
46	1.80E-07	1.80E-02	%FSWYD	
		1.00E-04	C71-CCFSOFTWARE	RPS COMMON CAUSE SOFTWARE FAILURE
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
47	1.57E-07	8.70E-03	%F5153	
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
48	1.57E-07	8.70E-03	%F5163	
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

Table 11B-9
Level 2 Fire Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
49	1.38E-07	4.59E-02	%F4197	
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
50	1.38E-07	4.59E-02	%F4197	
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
51	1.38E-07	4.59E-02	%F4197	
		3.00E-05	C71-DTM-FC-R_ALL	CCF OF ALL COMPONENTS IN GROUP 'C71-DTM-FC-R'
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
52	1.36E-07	1.36E-03	%F3110	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
53	1.27E-07	1.27E-03	%F3120	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
54	1.27E-07	1.27E-03	%F3130	

Table 11B-9
Level 2 Fire Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
55	1.27E-07	1.27E-03	%F3140	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
56	1.21E-07	1.06E-02	%F4403	
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
57	1.20E-07	1.20E-03	%F19150	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
58	1.19E-07	6.63E-03	%F5350	
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
59	1.18E-07	6.54E-03	%F5360	
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
60	1.17E-07	1.17E-03	%F19160	

Table 11B-9
Level 2 Fire Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
61	1.17E-07	1.17E-03	%F9160	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
62	1.17E-07	2.59E-03	%F3270	
		4.50E-05	C71-SLU-FC-R_ALL	CCF OF ALL COMPONENTS IN GROUP 'C71-SLU-FC-R'
63	1.15E-07	1.15E-03	%F4560	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
64	1.07E-07	1.07E-03	%F4550	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
65	1.06E-07	1.06E-02	%F4403	
		1.00E-04	C71-CCFSOFTWARE	RPS COMMON CAUSE SOFTWARE FAILURE
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
66	1.04E-07	1.04E-03	%F9150	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE

Table 11B-9**Level 2 Fire Focus Top 100 Cutsets**

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
67	9.89E-08	8.70E-03	%F5153	
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
68	9.89E-08	8.70E-03	%F5163	
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
69	9.81E-08	5.45E-03	%F39252	
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
70	9.79E-08	5.44E-03	%F39262	
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
71	9.34E-08	5.19E-03	%F3302	
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
72	9.19E-08	4.59E-02	%F4197	
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING

Table 11B-9
Level 2 Fire Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.76E-01	B32-XHE-FO-VENT	OPERATOR FAILS TO OPEN VENT
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
73	9.14E-08	5.08E-03	%F7100	
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
74	9.04E-08	9.04E-04	%F5201	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
75	9.04E-08	9.04E-04	%F5204	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
76	8.70E-08	8.70E-03	%F5153	
		1.00E-04	C71-CCFSOFTWARE	RPS COMMON CAUSE SOFTWARE FAILURE
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
77	8.70E-08	8.70E-03	%F5163	
		1.00E-04	C71-CCFSOFTWARE	RPS COMMON CAUSE SOFTWARE FAILURE
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM

Table 11B-9
Level 2 Fire Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
78	8.54E-08	4.59E-02	%F4197	
		1.86E-06	C63-LDD-FC-ESFLOADS	CCF OF ALL ESF LOAD DRIVERS
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
79	8.26E-08	4.59E-02	%F4197	
		1.80E-05	C71-OLU-FC-R_ALL	CCF OF ALL COMPONENTS IN GROUP 'C71-OLU-FC-R'
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
80	8.10E-08	1.80E-02	%FSWYD	
		4.50E-05	C71-SLU-FC-R_ALL	CCF OF ALL COMPONENTS IN GROUP 'C71-SLU-FC-R'
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
81	7.96E-08	4.42E-03	%F3301	
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
82	7.77E-08	2.59E-03	%F3270	
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
83	7.77E-08	2.59E-03	%F3270	
		3.00E-05	C71-DTM-FC-R_ALL	CCF OF ALL COMPONENTS IN GROUP 'C71-DTM-FC-R'
84	7.54E-08	6.63E-03	%F5350	

Table 11B-9
Level 2 Fire Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
85	7.44E-08	6.54E-03	%F5360	
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
86	7.38E-08	4.10E-03	%F1152	
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
87	6.86E-08	6.86E-04	%F19101	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
88	6.79E-08	3.77E-03	%F1162	
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
89	6.78E-08	6.78E-04	%F39151	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
90	6.78E-08	6.78E-04	%F39161	

Table 11B-9
Level 2 Fire Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
91	6.63E-08	6.63E-03	%F5350	
		1.00E-04	C71-CCFSOFTWARE	RPS COMMON CAUSE SOFTWARE FAILURE
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
92	6.54E-08	6.54E-03	%F5360	
		1.00E-04	C71-CCFSOFTWARE	RPS COMMON CAUSE SOFTWARE FAILURE
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
93	6.43E-08	3.57E-03	%F7300A	
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
94	6.26E-08	3.48E-03	%F7300B	
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
95	6.20E-08	5.45E-03	%F39252	
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
96	6.19E-08	5.44E-03	%F39262	

Table 11B-9
Level 2 Fire Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
97	6.05E-08	6.05E-04	%F1220	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
98	5.91E-08	1.97E-05	%F1341_F1321	
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
99	5.91E-08	1.97E-05	%F1341_F1321	
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
100	5.90E-08	5.19E-03	%F3302	
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

Table 11B-10
Level 2 Fire RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
1	6.60E-09	4.10E-03	%F1152	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
2	3.29E-09	3.29E-04	%F3150	
		1.00E-04	C71-CCFSOFTWARE	RPS COMMON CAUSE SOFTWARE FAILURE
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
3	1.48E-09	3.29E-04	%F3150	
		4.50E-05	C71-SLU-FC-R_ALL	CCF OF ALL COMPONENTS IN GROUP 'C71-SLU-FC-R'
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
4	1.19E-09	4.10E-03	%F1152	
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
5	1.06E-09	4.10E-03	%F1152	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE

Table 11B-10
Level 2 Fire RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
		1.61E-01	XXX-XHE-FO-DEPRESS	OPERATOR FAILS TO RECOGNIZE NEED OF DEPRESSURIZATION
6	9.87E-10	3.29E-04	%F3150	
		3.00E-05	C71-DTM-FC-R_ALL	CCF OF ALL COMPONENTS IN GROUP 'C71-DTM-FC-R'
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
7	7.51E-10	4.10E-03	%F1152	
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
8	7.03E-10	7.03E-06	%F1331_F1152	
		1.00E-04	T10-VB_-LK-VB3	PROBABILITY OF LEAK IN VACUUM BREAKER 3
9	6.60E-10	4.10E-03	%F1152	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
		1.61E-03	XXX-XHE-FO-ICPCCS	OPERATOR FAILS TO RECOGNIZE THE NEED TO MAKEUP ICS/PCCS POOL LEVEL.
10	5.92E-10	3.29E-04	%F3150	

Table 11B-10
Level 2 Fire RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.80E-05	C71-OLU-FC-R_ALL	CCF OF ALL COMPONENTS IN GROUP 'C71-OLU-FC-R'
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
11	5.47E-10	1.93E-05	%F1331_F1311	
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.76E-01	B32-XHE-FO-VENT	OPERATOR FAILS TO OPEN VENT
		1.00E-03	T10-LOG-SP-VBIV2	LOGIC PROCESSOR INADVERTANTLY ACTUATES
		1.61E-01	XXX-XHE-FO-DEPRESS	OPERATOR FAILS TO RECOGNIZE NEED OF DEPRESSURIZATION
12	5.44E-10	4.10E-03	%F1152	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
13	5.41E-10	1.91E-05	%F1311_F1331	
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.76E-01	B32-XHE-FO-VENT	OPERATOR FAILS TO OPEN VENT
		1.00E-03	T10-LOG-SP-VBIV2	LOGIC PROCESSOR INADVERTANTLY ACTUATES

Table 11B-10
Level 2 Fire RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.61E-01	XXX-XHE-FO-DEPRESS	OPERATOR FAILS TO RECOGNIZE NEED OF DEPRESSURIZATION
14	5.30E-10	3.29E-04	%F3150	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
15	5.10E-10	1.93E-05	%F1331_F1311	
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.76E-01	B32-XHE-FO-VENT	OPERATOR FAILS TO OPEN VENT
16	5.10E-10	1.93E-05	%F1331_F1311	
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.76E-01	B32-XHE-FO-VENT	OPERATOR FAILS TO OPEN VENT
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
17	5.04E-10	1.91E-05	%F1311_F1331	
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING

Table 11B-10
Level 2 Fire RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.76E-01	B32-XHE-FO-VENT	OPERATOR FAILS TO OPEN VENT
18	5.04E-10	1.91E-05	%F1311_F1331	
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.76E-01	B32-XHE-FO-VENT	OPERATOR FAILS TO OPEN VENT
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
19	4.59E-10	4.10E-03	%F1152	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
20	4.47E-10	4.10E-03	%F1152	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		4.60E-02	R21-DG_-TM-DGB	STANDBY DIESEL GENERATOR "B" IN MAINTENANCE
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
21	4.35E-10	2.59E-03	%F3270	
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN

Table 11B-10
Level 2 Fire RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
22	4.35E-10	2.59E-03	%F3270	
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
23	3.77E-10	4.10E-03	%F1152	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		4.60E-02	R21-DG_-TM-DGB	STANDBY DIESEL GENERATOR "B" IN MAINTENANCE
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
24	3.57E-10	2.59E-03	%F3270	
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE

Table 11B-10**Level 2 Fire RTNSS Top 100 Cutsets**

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		4.60E-02	R21-DG_-TM-DGB	STANDBY DIESEL GENERATOR "B" IN MAINTENANCE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
25	3.57E-10	2.59E-03	%F3270	
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		4.60E-02	R21-DG_-TM-DGB	STANDBY DIESEL GENERATOR "B" IN MAINTENANCE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
26	3.40E-10	1.93E-05	%F1331_F1311	
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.76E-01	B32-XHE-FO-VENT	OPERATOR FAILS TO OPEN VENT
		1.00E-04	T10-VB_-LK-VB1	PROBABILITY OF LEAK IN VACUUM BREAKER 1
27	3.40E-10	1.93E-05	%F1331_F1311	
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.76E-01	B32-XHE-FO-VENT	OPERATOR FAILS TO OPEN VENT
		1.00E-04	T10-VB_-LK-VB3	PROBABILITY OF LEAK IN VACUUM BREAKER 3
28	3.36E-10	1.91E-05	%F1311_F1331	
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING

Table 11B-10
Level 2 Fire RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.76E-01	B32-XHE-FO-VENT	OPERATOR FAILS TO OPEN VENT
		1.00E-04	T10-VB_-LK-VB1	PROBABILITY OF LEAK IN VACUUM BREAKER 1
29	3.36E-10	1.91E-05	%F1311_F1331	
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.76E-01	B32-XHE-FO-VENT	OPERATOR FAILS TO OPEN VENT
		1.00E-04	T10-VB_-LK-VB3	PROBABILITY OF LEAK IN VACUUM BREAKER 3
30	3.27E-10	3.27E-05	%F3301_F3150	
		1.00E-04	C71-CCFSOFTWARE	RPS COMMON CAUSE SOFTWARE FAILURE
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
31	3.11E-10	1.93E-05	%F1331_F1311	
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
32	3.11E-10	1.93E-05	%F1331_F1311	
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

Table 11B-10
Level 2 Fire RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
33	3.08E-10	1.91E-05	%F1311_F1331	
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
34	3.08E-10	1.91E-05	%F1311_F1331	
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
35	2.19E-10	3.08E-03	%F4250	
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
36	2.19E-10	3.08E-03	%F4250	
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN

Table 11B-10
Level 2 Fire RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
37	1.98E-10	4.10E-03	%F1152	
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
38	1.98E-10	4.10E-03	%F1152	
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
39	1.98E-10	4.10E-03	%F1152	
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
		1.61E-03	XXX-XHE-FO-ICPCCS	OPERATOR FAILS TO RECOGNIZE THE NEED TO MAKEUP ICS/PCCS POOL LEVEL.
40	1.91E-10	4.10E-03	%F1152	

Table 11B-10
Level 2 Fire RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
		1.61E-01	XXX-XHE-FO-DEPRESS	OPERATOR FAILS TO RECOGNIZE NEED OF DEPRESSURIZATION
41	1.85E-10	3.08E-03	%F4250	
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
42	1.85E-10	3.08E-03	%F4250	
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
43	1.49E-10	3.08E-03	%F4250	
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN

Table 11B-10
Level 2 Fire RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
44	1.49E-10	3.08E-03	%F4250	
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
45	1.47E-10	3.27E-05	%F3301_F3150	
		4.50E-05	C71-SLU-FC-R_ALL	CCF OF ALL COMPONENTS IN GROUP 'C71-SLU-FC-R'
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
46	1.38E-10	1.04E-03	%F9150	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

Table 11B-10
Level 2 Fire RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
47	1.36E-10	4.10E-03	%F1152	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.40E-02	R21-DG_-FS-DGB	DG-B FAILS TO START AND LOAD
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
48	1.32E-10	4.10E-03	%F1152	
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.76E-01	B32-XHE-FO-VENT	OPERATOR FAILS TO OPEN VENT
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC- CCFSR'
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
49	1.23E-10	4.10E-03	%F1152	
		1.86E-06	C63-LDD-FC-ESFLOADS	CCF OF ALL ESF LOAD DRIVERS
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
50	1.19E-10	4.10E-03	%F1152	

Table 11B-10
Level 2 Fire RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
		1.61E-03	XXX-XHE-FO-ICPCCS	OPERATOR FAILS TO RECOGNIZE THE NEED TO MAKEUP ICS/PCCS POOL LEVEL.
51	1.18E-10	3.29E-04	%F3150	
		3.60E-06	C63-LT_-NO-RPSRX_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LT_-NO-RPSRX'
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
52	1.16E-10	1.04E-03	%F9150	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
53	1.15E-10	4.10E-03	%F1152	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.40E-02	R21-DG_-FS-DGB	DG-B FAILS TO START AND LOAD
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

Table 11B-10
Level 2 Fire RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
54	1.13E-10	1.04E-03	%F9150	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		4.60E-02	R21-DG_-TM-DGB	STANDBY DIESEL GENERATOR "B" IN MAINTENANCE
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
55	1.13E-10	7.03E-06	%F1331_F1152	
		1.00E-04	T10-VB_-LK-VB3	PROBABILITY OF LEAK IN VACUUM BREAKER 3
		1.61E-01	XXX-XHE-FO-DEPRESS	OPERATOR FAILS TO RECOGNIZE NEED OF DEPRESSURIZATION
56	1.09E-10	2.59E-03	%F3270	
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		1.40E-02	R21-DG_-FS-DGB	DG-B FAILS TO START AND LOAD
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
57	1.09E-10	2.59E-03	%F3270	
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE

Table 11B-10
Level 2 Fire RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.40E-02	R21-DG_-FS-DGB	DG-B FAILS TO START AND LOAD
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
58	1.07E-10	2.22E-03	%F2100	
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
59	1.07E-10	2.22E-03	%F2100	
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
60	1.06E-10	4.10E-03	%F1152	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
		1.61E-01	XXX-XHE-FO-DEPRESS	OPERATOR FAILS TO RECOGNIZE NEED OF DEPRESSURIZATION

Table 11B-10
Level 2 Fire RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.61E-03	XXX-XHE-FO-ICPCCS	OPERATOR FAILS TO RECOGNIZE THE NEED TO MAKEUP ICS/PCCS POOL LEVEL.
61	1.05E-10	4.10E-03	%F1152	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.08E-02	R21-FLT-PG-DGB	FILTER PLUGGED
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
62	9.81E-11	3.27E-05	%F3301_F3150	
		3.00E-05	C71-DTM-FC-R_ALL	CCF OF ALL COMPONENTS IN GROUP 'C71-DTM-FC-R'
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
63	9.80E-11	4.10E-03	%F1152	
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
64	9.57E-11	1.04E-03	%F9150	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE

Table 11B-10
Level 2 Fire RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		4.60E-02	R21-DG_-TM-DGB	STANDBY DIESEL GENERATOR "B" IN MAINTENANCE
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
65	9.53E-11	3.29E-04	%F3150	
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
66	9.37E-11	1.04E-03	%F9150	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
67	8.89E-11	4.10E-03	%F1152	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.08E-02	R21-FLT-PG-DGB	FILTER PLUGGED
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START

Table 11B-10
Level 2 Fire RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
68	8.76E-11	4.10E-03	%F1152	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
		1.61E-01	XXX-XHE-FO-DEPRESS	OPERATOR FAILS TO RECOGNIZE NEED OF DEPRESSURIZATION
69	8.42E-11	2.59E-03	%F3270	
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		1.08E-02	R21-FLT-PG-DGB	FILTER PLUGGED
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
70	8.42E-11	2.59E-03	%F3270	
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		1.08E-02	R21-FLT-PG-DGB	FILTER PLUGGED
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

Table 11B-10
Level 2 Fire RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
71	8.37E-11	1.97E-05	%F1341_F1321	
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.76E-01	B32-XHE-FO-VENT	OPERATOR FAILS TO OPEN VENT
		1.61E-01	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
72	8.37E-11	1.97E-05	%F1341_F1321	
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.76E-01	B32-XHE-FO-VENT	OPERATOR FAILS TO OPEN VENT
		1.61E-01	XXX-XHE-FO-DEPRESS	OPERATOR FAILS TO RECOGNIZE NEED OF DEPRESSURIZATION
73	8.37E-11	1.97E-05	%F1341_F1321	
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.76E-01	B32-XHE-FO-VENT	OPERATOR FAILS TO OPEN VENT
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
		1.61E-01	XXX-XHE-FO-DEPRESS	OPERATOR FAILS TO RECOGNIZE NEED OF DEPRESSURIZATION

Table 11B-10
Level 2 Fire RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
74	8.26E-11	4.10E-03	%F1152	
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
75	8.20E-11	1.93E-05	%F1331_F1311	
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.76E-01	B32-XHE-FO-VENT	OPERATOR FAILS TO OPEN VENT
		1.61E-01	XXX-XHE-FO-DEPRESS	OPERATOR FAILS TO RECOGNIZE NEED OF DEPRESSURIZATION
76	8.20E-11	1.93E-05	%F1331_F1311	
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.76E-01	B32-XHE-FO-VENT	OPERATOR FAILS TO OPEN VENT
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
		1.61E-01	XXX-XHE-FO-DEPRESS	OPERATOR FAILS TO RECOGNIZE NEED OF DEPRESSURIZATION

Table 11B-10
Level 2 Fire RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
77	8.12E-11	1.91E-05	%F1311_F1331	
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.76E-01	B32-XHE-FO-VENT	OPERATOR FAILS TO OPEN VENT
		1.61E-01	XXX-XHE-FO-DEPRESS	OPERATOR FAILS TO RECOGNIZE NEED OF DEPRESSURIZATION
78	8.12E-11	1.91E-05	%F1311_F1331	
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.76E-01	B32-XHE-FO-VENT	OPERATOR FAILS TO OPEN VENT
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
		1.61E-01	XXX-XHE-FO-DEPRESS	OPERATOR FAILS TO RECOGNIZE NEED OF DEPRESSURIZATION
79	8.05E-11	4.10E-03	%F1152	
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
		4.60E-02	R21-DG_-TM-DGB	STANDBY DIESEL GENERATOR "B" IN MAINTENANCE
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN

Table 11B-10
Level 2 Fire RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
80	7.85E-11	4.10E-03	%F1152	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		8.07E-03	P21-TRN-RE-HX1B	FAILURE TO RESTORE RCCW TRAIN 1B HX
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
81	7.85E-11	4.10E-03	%F1152	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		8.07E-03	P21-TRN-RE-HX2B	FAILURE TO RESTORE RCCW TRAIN 2B HX
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
82	7.85E-11	4.10E-03	%F1152	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		8.07E-03	P21-TRN-RE-HX3B	FAILURE TO RESTORE RCCW TRAIN 3B HX
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

Table 11B-10
Level 2 Fire RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
83	7.85E-11	4.10E-03	%F1152	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		8.07E-03	P21-TRN-RE-PUMP1B	FAILURE TO RESTORE RCCW TRAIN 1B PUMP
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
84	7.85E-11	4.10E-03	%F1152	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		8.07E-03	P21-TRN-RE-PUMP2B	FAILURE TO RESTORE RCCW TRAIN 2B PUMP
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
85	7.85E-11	4.10E-03	%F1152	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		8.07E-03	P21-TRN-RE-PUMP3B	FAILURE TO RESTORE RCCW TRAIN 3B PUMP
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
86	7.82E-11	1.84E-05	%F1321_F1341	
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'

Table 11B-10
Level 2 Fire RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.76E-01	B32-XHE-FO-VENT	OPERATOR FAILS TO OPEN VENT
		1.61E-01	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
87	7.82E-11	1.84E-05	%F1321_F1341	
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.76E-01	B32-XHE-FO-VENT	OPERATOR FAILS TO OPEN VENT
		1.61E-01	XXX-XHE-FO-DEPRESS	OPERATOR FAILS TO RECOGNIZE NEED OF DEPRESSURIZATION
88	7.82E-11	1.84E-05	%F1321_F1341	
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.76E-01	B32-XHE-FO-VENT	OPERATOR FAILS TO OPEN VENT
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
		1.61E-01	XXX-XHE-FO-DEPRESS	OPERATOR FAILS TO RECOGNIZE NEED OF DEPRESSURIZATION
89	7.75E-11	3.27E-05	%F3301_F3150	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE

Table 11B-10
Level 2 Fire RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
90	7.70E-11	1.04E-03	%F9150	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		4.60E-02	R21-DG_-TM-DGB	STANDBY DIESEL GENERATOR "B" IN MAINTENANCE
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
91	7.51E-11	4.10E-03	%F1152	
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
		1.61E-03	XXX-XHE-FO-ICPCCS	OPERATOR FAILS TO RECOGNIZE THE NEED TO MAKEUP ICS/PCCS POOL LEVEL.
92	7.39E-11	4.10E-03	%F1152	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

Table 11B-10
Level 2 Fire RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.61E-01	XXX-XHE-FO-DEPRESS	OPERATOR FAILS TO RECOGNIZE NEED OF DEPRESSURIZATION
93	7.20E-11	4.10E-03	%F1152	
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		1.09E-03	C63-LDD-FC-S1B32F104A-A	LOAD DRIVER FAILS DURING OPERATION
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
94	7.20E-11	4.10E-03	%F1152	
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		1.09E-03	C63-LDD-FC-S2B32F104A-A	LOAD DRIVER FAILS DURING OPERATION
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
95	7.20E-11	4.10E-03	%F1152	
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		1.09E-03	C63-LDD-FC-S3B32F104A-A	LOAD DRIVER FAILS DURING OPERATION
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

Table 11B-10
Level 2 Fire RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
96	7.20E-11	4.10E-03	%F1152	
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		1.09E-03	C63-LDD-FC-S1B32F104B-A	LOAD DRIVER FAILS DURING OPERATION
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
97	7.20E-11	4.10E-03	%F1152	
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		1.09E-03	C63-LDD-FC-S2B32F104B-A	LOAD DRIVER FAILS DURING OPERATION
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
98	7.20E-11	4.10E-03	%F1152	
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		1.09E-03	C63-LDD-FC-S3B32F104B-A	LOAD DRIVER FAILS DURING OPERATION
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
99	7.20E-11	4.10E-03	%F1152	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE

Table 11B-10
Level 2 Fire RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		4.60E-02	R21-DG_-TM-DGB	STANDBY DIESEL GENERATOR "B" IN MAINTENANCE
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
		1.61E-01	XXX-XHE-FO-DEPRESS	OPERATOR FAILS TO RECOGNIZE NEED OF DEPRESSURIZATION
100	7.20E-11	2.98E-06	%F1321_F1220	
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		1.61E-01	XXX-XHE-FO-DEPRESS	OPERATOR FAILS TO RECOGNIZE NEED OF DEPRESSURIZATION

**Table 11B-11
Shutdown Fire Focus Top 100 Cutsets**

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
1	1.97E-07	1.97E-03	%F4197_M5	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
2	1.85E-07	6.16E-04	%F4197_M6U	
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
3	1.62E-07	6.16E-04	%F4197_M6U	
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED
4	1.62E-07	6.16E-04	%F4197_M6U	
		2.63E-04	E50-BV_-OC-F004D	MAINTENANCE VALVE F004D PLUGS/TRANSFERS CLOSED
5	1.48E-07	4.93E-04	%F4197_M5O	
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
6	1.30E-07	4.93E-04	%F4197_M5O	
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED
7	1.30E-07	4.93E-04	%F4197_M5O	
		2.63E-04	E50-BV_-OC-F004D	MAINTENANCE VALVE F004D PLUGS/TRANSFERS CLOSED
8	9.24E-08	6.16E-04	%F4197_M6U	
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
9	7.40E-08	4.93E-04	%F4197_M5O	
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'

Table 11B-11
Shutdown Fire Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
10	7.40E-08	4.93E-04	%F4197_M5O	
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
11	6.16E-08	6.16E-04	%F4197_M6U	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
12	5.91E-08	1.97E-03	%F4197_M5	
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
13	5.70E-08	5.70E-04	%FSWYD_M5	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
14	5.34E-08	1.78E-04	%FSWYD_M6U	
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
15	4.93E-08	4.93E-04	%F4197_M5O	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
16	4.68E-08	1.78E-04	%FSWYD_M6U	
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED
17	4.68E-08	1.78E-04	%FSWYD_M6U	
		2.63E-04	E50-BV_-OC-F004D	MAINTENANCE VALVE F004D PLUGS/TRANSFERS CLOSED
18	4.26E-08	1.42E-04	%FSWYD_M5O	
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
19	3.73E-08	1.42E-04	%FSWYD_M5O	

Table 11B-11
Shutdown Fire Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED
20	3.73E-08	1.42E-04	%FSWYD_M5O	
		2.63E-04	E50-BV_-OC-F004D	MAINTENANCE VALVE F004D PLUGS/TRANSFERS CLOSED
21	3.55E-08	1.97E-03	%F4197_M5	
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
22	2.67E-08	1.78E-04	%FSWYD_M6U	
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
23	2.27E-08	1.97E-03	%F4197_M5	
		3.84E-02	B32-TM-LOOPA-IND	ICS LOOP A IN TEST OR MAINTENANCE BY ITSELF
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
24	2.27E-08	1.97E-03	%F4197_M5	
		3.84E-02	B32-TM-LOOPB-IND	ICS LOOP B IN TEST OR MAINTENANCE BY ITSELF
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
25	2.13E-08	1.42E-04	%FSWYD_M5O	
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
26	2.13E-08	1.42E-04	%FSWYD_M5O	
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
27	1.99E-08	1.97E-03	%F4197_M5	

Table 11B-11
Shutdown Fire Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		3.84E-02	B32-TM-LOOPA-IND	ICS LOOP A IN TEST OR MAINTENANCE BY ITSELF
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED
28	1.99E-08	1.97E-03	%F4197_M5	
		3.84E-02	B32-TM-LOOPA-IND	ICS LOOP A IN TEST OR MAINTENANCE BY ITSELF
		2.63E-04	E50-BV_-OC-F004D	MAINTENANCE VALVE F004D PLUGS/TRANSFERS CLOSED
29	1.99E-08	1.97E-03	%F4197_M5	
		3.84E-02	B32-TM-LOOPB-IND	ICS LOOP B IN TEST OR MAINTENANCE BY ITSELF
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED
30	1.99E-08	1.97E-03	%F4197_M5	
		3.84E-02	B32-TM-LOOPB-IND	ICS LOOP B IN TEST OR MAINTENANCE BY ITSELF
		2.63E-04	E50-BV_-OC-F004D	MAINTENANCE VALVE F004D PLUGS/TRANSFERS CLOSED
31	1.85E-08	6.16E-04	%F4197_M6U	
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
32	1.78E-08	1.78E-04	%FSWYD_M6U	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
33	1.71E-08	5.70E-04	%FSWYD_M5	
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
34	1.48E-08	4.93E-04	%F4197_M5O	

Table 11B-11
Shutdown Fire Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
35	1.47E-08	6.16E-04	%F4197_M6U	
		2.38E-05	E50-SQV-CC-INJ_1_5	CCF OF TWO COMPONENTS: E50-SQV-CC-INJ-F002A & E50-SQV-CC-INJ-F002E
36	1.47E-08	6.16E-04	%F4197_M6U	
		2.38E-05	E50-SQV-CC-INJ_4_8	CCF OF TWO COMPONENTS: E50-SQV-CC-INJ-F002D & E50-SQV-CC-INJ-F002H
37	1.42E-08	1.42E-04	%FSWYD_M5O	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
38	1.17E-08	4.93E-04	%F4197_M5O	
		2.38E-05	E50-SQV-CC-INJ_1_5	CCF OF TWO COMPONENTS: E50-SQV-CC-INJ-F002A & E50-SQV-CC-INJ-F002E
39	1.17E-08	4.93E-04	%F4197_M5O	
		2.38E-05	E50-SQV-CC-INJ_4_8	CCF OF TWO COMPONENTS: E50-SQV-CC-INJ-F002D & E50-SQV-CC-INJ-F002H
40	1.13E-08	1.97E-03	%F4197_M5	
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		3.84E-02	B32-TM-LOOPA-IND	ICS LOOP A IN TEST OR MAINTENANCE BY ITSELF
41	1.13E-08	1.97E-03	%F4197_M5	
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'

Table 11B-11
Shutdown Fire Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		3.84E-02	B32-TM-LOOPB-IND	ICS LOOP B IN TEST OR MAINTENANCE BY ITSELF
42	1.13E-08	1.97E-03	%F4197_M5	
		3.84E-02	B32-TM-LOOPA-IND	ICS LOOP A IN TEST OR MAINTENANCE BY ITSELF
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
43	1.13E-08	1.97E-03	%F4197_M5	
		3.84E-02	B32-TM-LOOPB-IND	ICS LOOP B IN TEST OR MAINTENANCE BY ITSELF
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
44	1.11E-08	6.16E-04	%F4197_M6U	
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
45	1.06E-08	6.16E-04	%F4197_M6U	
		1.72E-05	E50-UV_-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-UV_-CC-INJ'
46	1.03E-08	5.70E-04	%FSWYD_M5	
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
47	9.85E-09	1.97E-03	%F4197_M5	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		5.00E-02	MS-TOP2	TWO DPVS FAIL TO OPEN (MANUAL)
48	8.87E-09	4.93E-04	%F4197_M5O	
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'

Table 11B-11
Shutdown Fire Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
49	8.46E-09	4.93E-04	%F4197_M5O	
		1.72E-05	E50-UV_-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-UV_-CC-INJ'
50	7.40E-09	4.93E-04	%F4197_M5O	
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
		5.00E-02	MS-TOP2	TWO DPVS FAIL TO OPEN (MANUAL)
51	7.39E-09	6.16E-04	%F4197_M6U	
		1.20E-05	E50-STR-PG_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-STR-PG'
52	7.09E-09	1.97E-03	%F4197_M5	
		3.60E-06	C63-LT_-NO-ESFRX_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LT_-NO-ESFRX'
53	7.00E-09	6.16E-04	%F4197_M6U	
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'
54	6.57E-09	5.70E-04	%FSWYD_M5	
		3.84E-02	B32-TM-LOOPA-IND	ICS LOOP A IN TEST OR MAINTENANCE BY ITSELF
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
55	6.57E-09	5.70E-04	%FSWYD_M5	
		3.84E-02	B32-TM-LOOPB-IND	ICS LOOP B IN TEST OR MAINTENANCE BY ITSELF
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
56	6.48E-09	4.93E-04	%F4197_M5O	

Table 11B-11
Shutdown Fire Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED
		5.00E-02	MS-TOP2	TWO DPVS FAIL TO OPEN (MANUAL)
57	6.48E-09	4.93E-04	%F4197_M5O	
		2.63E-04	E50-BV_-OC-F004D	MAINTENANCE VALVE F004D PLUGS/TRANSFERS CLOSED
		5.00E-02	MS-TOP2	TWO DPVS FAIL TO OPEN (MANUAL)
58	5.92E-09	4.93E-04	%F4197_M5O	
		1.20E-05	E50-STR-PG_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-STR-PG'
59	5.91E-09	6.16E-04	%F4197_M6U	
		9.60E-06	E50-SQV-CO-F009A	SQUIB DELUGE VALVE F009A SPUR. OPENING [#7]
60	5.91E-09	6.16E-04	%F4197_M6U	
		9.60E-06	E50-SQV-CO-F009D	SQUIB DELUGE VALVE F009D SPUR. OPENING [#7]
61	5.91E-09	6.16E-04	%F4197_M6U	
		9.60E-06	E50-SQV-CO-F009E	SQUIB DELUGE VALVE F009E SPUR. OPENING [#7]
62	5.91E-09	6.16E-04	%F4197_M6U	
		9.60E-06	E50-SQV-CO-F009H	SQUIB DELUGE VALVE F009H SPUR. OPENING [#7]
63	5.91E-09	6.16E-04	%F4197_M6U	
		9.60E-06	E50-SQV-CO-F009J	SQUIB DELUGE VALVE F009J SPUR. OPENING [#7]
64	5.91E-09	6.16E-04	%F4197_M6U	

Table 11B-11
Shutdown Fire Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		9.60E-06	E50-SQV-CO-F009M	SQUIB DELUGE VALVE F009M SPUR. OPENING [#7]
65	5.75E-09	5.70E-04	%FSWYD_M5	
		3.84E-02	B32-TM-LOOPA-IND	ICS LOOP A IN TEST OR MAINTENANCE BY ITSELF
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED
66	5.75E-09	5.70E-04	%FSWYD_M5	
		3.84E-02	B32-TM-LOOPA-IND	ICS LOOP A IN TEST OR MAINTENANCE BY ITSELF
		2.63E-04	E50-BV_-OC-F004D	MAINTENANCE VALVE F004D PLUGS/TRANSFERS CLOSED
67	5.75E-09	5.70E-04	%FSWYD_M5	
		3.84E-02	B32-TM-LOOPB-IND	ICS LOOP B IN TEST OR MAINTENANCE BY ITSELF
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED
68	5.75E-09	5.70E-04	%FSWYD_M5	
		3.84E-02	B32-TM-LOOPB-IND	ICS LOOP B IN TEST OR MAINTENANCE BY ITSELF
		2.63E-04	E50-BV_-OC-F004D	MAINTENANCE VALVE F004D PLUGS/TRANSFERS CLOSED
69	5.61E-09	4.93E-04	%F4197_M5O	
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'
70	5.54E-09	6.16E-04	%F4197_M6U	
		3.00E-03	E50-SQV-CC-INJ-F002A	SQUIB VALVE F002A FAILS TO OPERATE

**Table 11B-11
Shutdown Fire Focus Top 100 Cutsets**

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		3.00E-03	E50-SQV-CC-INJ-F002E	SQUIB VALVE F002E FAILS TO OPERATE
71	5.54E-09	6.16E-04	%F4197_M6U	
		3.00E-03	E50-SQV-CC-INJ-F002D	SQUIB VALVE F002D FAILS TO OPERATE
		3.00E-03	E50-SQV-CC-INJ-F002H	SQUIB VALVE F002H FAILS TO OPERATE
72	5.34E-09	1.78E-04	%FSWYD_M6U	
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
73	4.73E-09	4.93E-04	%F4197_M5O	
		9.60E-06	E50-SQV-CO-F009A	SQUIB DELUGE VALVE F009A SPUR. OPENING [#7]
74	4.73E-09	4.93E-04	%F4197_M5O	
		9.60E-06	E50-SQV-CO-F009D	SQUIB DELUGE VALVE F009D SPUR. OPENING [#7]
75	4.73E-09	4.93E-04	%F4197_M5O	
		9.60E-06	E50-SQV-CO-F009E	SQUIB DELUGE VALVE F009E SPUR. OPENING [#7]
76	4.73E-09	4.93E-04	%F4197_M5O	
		9.60E-06	E50-SQV-CO-F009H	SQUIB DELUGE VALVE F009H SPUR. OPENING [#7]
77	4.73E-09	4.93E-04	%F4197_M5O	
		9.60E-06	E50-SQV-CO-F009J	SQUIB DELUGE VALVE F009J SPUR. OPENING [#7]
78	4.73E-09	4.93E-04	%F4197_M5O	
		9.60E-06	E50-SQV-CO-F009M	SQUIB DELUGE VALVE F009M SPUR. OPENING [#7]

Table 11B-11
Shutdown Fire Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
79	4.44E-09	4.93E-04	%F4197_M5O	
		3.00E-03	E50-SQV-CC-INJ-F002A	SQUIB VALVE F002A FAILS TO OPERATE
		3.00E-03	E50-SQV-CC-INJ-F002E	SQUIB VALVE F002E FAILS TO OPERATE
80	4.44E-09	4.93E-04	%F4197_M5O	
		3.00E-03	E50-SQV-CC-INJ-F002D	SQUIB VALVE F002D FAILS TO OPERATE
		3.00E-03	E50-SQV-CC-INJ-F002H	SQUIB VALVE F002H FAILS TO OPERATE
81	4.44E-09	6.16E-04	%F4197_M6U	
		7.20E-06	E50-POL-RP-POOLA	GDCS POOLS A LEAKS CATASTROPHICALLY
82	4.44E-09	6.16E-04	%F4197_M6U	
		7.20E-06	E50-POL-RP-POOLD	GDCS POOL D LEAKS CATASTROPHICALLY
83	4.44E-09	6.16E-04	%F4197_M6U	
		7.20E-06	T23-POL-RP-SP	SUPPRESSION POOL LEAKS CATASTROPHICALLY
84	4.26E-09	1.42E-04	%FSWYD_M5O	
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
85	4.24E-09	1.78E-04	%FSWYD_M6U	
		2.38E-05	E50-SQV-CC-INJ_1_5	CCF OF TWO COMPONENTS: E50-SQV-CC-INJ-F002A & E50-SQV-CC-INJ-F002E
86	4.24E-09	1.78E-04	%FSWYD_M6U	

Table 11B-11
Shutdown Fire Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		2.38E-05	E50-SQV-CC-INJ_4_8	CCF OF TWO COMPONENTS: E50-SQV-CC-INJ-F002D & E50-SQV-CC-INJ-F002H
87	3.94E-09	1.97E-03	%F4197_M5	
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.76E-01	B32-XHE-FO-VENT	OPERATOR FAILS TO OPEN VENT
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'
88	3.70E-09	4.93E-04	%F4197_M5O	
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		5.00E-02	MS-TOP2	TWO DPVS FAIL TO OPEN (MANUAL)
89	3.70E-09	4.93E-04	%F4197_M5O	
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
		5.00E-02	MS-TOP2	TWO DPVS FAIL TO OPEN (MANUAL)
90	3.66E-09	1.97E-03	%F4197_M5	
		1.86E-06	C63-LDD-FC-ESFLOADS	CCF OF ALL ESF LOAD DRIVERS
91	3.55E-09	4.93E-04	%F4197_M5O	
		7.20E-06	E50-POL-RP-POOLA	GDACS POOLS A LEAKS CATASTROPHICALLY
92	3.55E-09	4.93E-04	%F4197_M5O	
		7.20E-06	E50-POL-RP-POOLD	GDACS POOL D LEAKS CATASTROPHICALLY
93	3.55E-09	4.93E-04	%F4197_M5O	

Table 11B-11
Shutdown Fire Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		7.20E-06	T23-POL-RP-SP	SUPPRESSION POOL LEAKS CATASTROPHICALLY
94	3.38E-09	1.42E-04	%FSWYD_M5O	
		2.38E-05	E50-SQV-CC-INJ_1_5	CCF OF TWO COMPONENTS: E50-SQV-CC-INJ-F002A & E50-SQV-CC-INJ-F002E
95	3.38E-09	1.42E-04	%FSWYD_M5O	
		2.38E-05	E50-SQV-CC-INJ_4_8	CCF OF TWO COMPONENTS: E50-SQV-CC-INJ-F002D & E50-SQV-CC-INJ-F002H
96	3.36E-09	6.72E-06	%F1152_F1162_M5	
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		5.00E-04	R16-BDC-TM-R1611	DC BUS R16-11 IN MAINTENANCE
97	3.36E-09	6.72E-06	%F1152_F1162_M5	
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		5.00E-04	R16-BDC-TM-R1612	DC BUS R16-12 IN MAINTENANCE
98	3.36E-09	6.72E-06	%F1152_F1162_M5	
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		5.00E-04	R16-BT_-TM-R16BT11	BATTERY R16-BT11 IN TEST AND MAINTENANCE.
99	3.36E-09	6.72E-06	%F1152_F1162_M5	
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING

Table 11B-11
Shutdown Fire Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		5.00E-04	R16-BT_-TM-R16BT12	BATTERY R16-BT12 IN TEST AND MAINTENANCE
100	3.28E-09	5.70E-04	%FSWYD_M5	
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		3.84E-02	B32-TM-LOOPA-IND	ICS LOOP A IN TEST OR MAINTENANCE BY ITSELF

Table 11B-12
Shutdown Fire RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
1	9.85E-09	1.97E-03	%F4197_M5	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		5.00E-02	MS-TOP2	TWO DPVS FAIL TO OPEN (MANUAL)
2	4.44E-09	6.16E-04	%F4197_M6U	
		7.20E-06	T23-POL-RP-SP	SUPPRESSION POOL LEAKS CATASTROPHICALLY
3	3.70E-09	4.93E-04	%F4197_M5O	
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		5.00E-02	MS-TOP2	TWO DPVS FAIL TO OPEN (MANUAL)
4	3.55E-09	4.93E-04	%F4197_M5O	
		7.20E-06	T23-POL-RP-SP	SUPPRESSION POOL LEAKS CATASTROPHICALLY
5	3.17E-09	1.97E-03	%F4197_M5	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
6	2.98E-09	6.16E-04	%F4197_M6U	
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
7	2.96E-09	1.97E-03	%F4197_M5	

Table 11B-12
Shutdown Fire RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
		5.00E-02	MS-TOP2	TWO DPVS FAIL TO OPEN (MANUAL)
8	2.85E-09	5.70E-04	%FSWYD_M5	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		5.00E-02	MS-TOP2	TWO DPVS FAIL TO OPEN (MANUAL)
9	2.61E-09	6.16E-04	%F4197_M6U	
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
10	2.61E-09	6.16E-04	%F4197_M6U	
		2.63E-04	E50-BV_-OC-F004D	MAINTENANCE VALVE F004D PLUGS/TRANSFERS CLOSED
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
11	2.47E-09	4.93E-04	%F4197_M5O	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		5.00E-02	MS-TOP2	TWO DPVS FAIL TO OPEN (MANUAL)
12	2.38E-09	4.93E-04	%F4197_M5O	
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION

Table 11B-12
Shutdown Fire RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
13	2.09E-09	4.93E-04	%F4197_M5O	
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
14	2.09E-09	4.93E-04	%F4197_M5O	
		2.63E-04	E50-BV_-OC-F004D	MAINTENANCE VALVE F004D PLUGS/TRANSFERS CLOSED
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
15	1.77E-09	1.97E-03	%F4197_M5	
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
		5.00E-02	MS-TOP2	TWO DPVS FAIL TO OPEN (MANUAL)
16	1.49E-09	6.16E-04	%F4197_M6U	
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
17	1.28E-09	1.78E-04	%FSWYD_M6U	
		7.20E-06	T23-POL-RP-SP	SUPPRESSION POOL LEAKS CATASTROPHICALLY
18	1.19E-09	4.93E-04	%F4197_M5O	
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'

Table 11B-12
Shutdown Fire RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
19	1.19E-09	4.93E-04	%F4197_M5O	
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
20	1.07E-09	1.42E-04	%FSWYD_M5O	
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		5.00E-02	MS-TOP2	TWO DPVS FAIL TO OPEN (MANUAL)
21	1.02E-09	1.42E-04	%FSWYD_M5O	
		7.20E-06	T23-POL-RP-SP	SUPPRESSION POOL LEAKS CATASTROPHICALLY
22	9.92E-10	6.16E-04	%F4197_M6U	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
23	9.52E-10	1.97E-03	%F4197_M5	
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
24	9.18E-10	5.70E-04	%FSWYD_M5	

Table 11B-12
Shutdown Fire RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
25	8.69E-10	1.97E-03	%F4197_M5	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		4.41E-03	R21-DG_-FR-CCF_1_2	CCF OF TWO COMPONENTS: R21-DG_-FR-DGA & R21-DG_-FR-DGB
26	8.60E-10	1.78E-04	%FSWYD_M6U	
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
27	8.55E-10	5.70E-04	%FSWYD_M5	
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
		5.00E-02	MS-TOP2	TWO DPVS FAIL TO OPEN (MANUAL)
28	8.15E-10	6.16E-04	%F4197_M6U	
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
		4.41E-03	R21-DG_-FR-CCF_1_2	CCF OF TWO COMPONENTS: R21-DG_-FR-DGA & R21-DG_-FR-DGB
29	7.94E-10	4.93E-04	%F4197_M5O	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE

Table 11B-12
Shutdown Fire RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
30	7.53E-10	1.78E-04	%FSWYD_M6U	
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
31	7.53E-10	1.78E-04	%FSWYD_M6U	
		2.63E-04	E50-BV_-OC-F004D	MAINTENANCE VALVE F004D PLUGS/TRANSFERS CLOSED
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
32	7.40E-10	4.93E-04	%F4197_M5O	
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
		5.00E-02	MS-TOP2	TWO DPVS FAIL TO OPEN (MANUAL)
33	7.14E-10	6.16E-04	%F4197_M6U	
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED
		4.41E-03	R21-DG_-FR-CCF_1_2	CCF OF TWO COMPONENTS: R21-DG_-FR-DGA & R21-DG_-FR-DGB
34	7.14E-10	6.16E-04	%F4197_M6U	
		2.63E-04	E50-BV_-OC-F004D	MAINTENANCE VALVE F004D PLUGS/TRANSFERS CLOSED
		4.41E-03	R21-DG_-FR-CCF_1_2	CCF OF TWO COMPONENTS: R21-DG_-FR-DGA & R21-DG_-FR-DGB

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Shutdown Fire RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
35	7.10E-10	1.42E-04	%FSWYD_M5O	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		5.00E-02	MS-TOP2	TWO DPVS FAIL TO OPEN (MANUAL)
36	6.86E-10	1.42E-04	%FSWYD_M5O	
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
37	6.72E-10	6.72E-06	%F1152_F1162_M5	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
38	6.52E-10	4.93E-04	%F4197_M5O	
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
		4.41E-03	R21-DG_-FR-CCF_1_2	CCF OF TWO COMPONENTS: R21-DG_-FR-DGA & R21-DG_-FR-DGB
39	6.30E-10	2.10E-06	%F1152_F1162_M6U	
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
40	6.17E-10	1.97E-03	%F4197_M5	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START

Table 11B-12
Shutdown Fire RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
41	6.01E-10	1.42E-04	%FSWYD_M5O	
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
42	6.01E-10	1.42E-04	%FSWYD_M5O	
		2.63E-04	E50-BV_-OC-F004D	MAINTENANCE VALVE F004D PLUGS/TRANSFERS CLOSED
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
43	5.79E-10	6.16E-04	%F4197_M6U	
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
44	5.71E-10	4.93E-04	%F4197_M5O	
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED
		4.41E-03	R21-DG_-FR-CCF_1_2	CCF OF TWO COMPONENTS: R21-DG_-FR-DGA & R21-DG_-FR-DGB
45	5.71E-10	4.93E-04	%F4197_M5O	
		2.63E-04	E50-BV_-OC-F004D	MAINTENANCE VALVE F004D PLUGS/TRANSFERS CLOSED
		4.41E-03	R21-DG_-FR-CCF_1_2	CCF OF TWO COMPONENTS: R21-DG_-FR-DGA & R21-DG_-FR-DGB

Table 11B-12
Shutdown Fire RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
46	5.71E-10	1.97E-03	%F4197_M5	
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
47	5.67E-10	1.97E-03	%F4197_M5	
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		3.84E-02	B32-TM-LOOPA-IND	ICS LOOP A IN TEST OR MAINTENANCE BY ITSELF
		5.00E-02	MS-TOP2	TWO DPVS FAIL TO OPEN (MANUAL)
48	5.67E-10	1.97E-03	%F4197_M5	
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		3.84E-02	B32-TM-LOOPB-IND	ICS LOOP B IN TEST OR MAINTENANCE BY ITSELF
		5.00E-02	MS-TOP2	TWO DPVS FAIL TO OPEN (MANUAL)
49	5.52E-10	2.10E-06	%F1152_F1162_M6U	
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED
50	5.52E-10	2.10E-06	%F1152_F1162_M6U	
		2.63E-04	E50-BV_-OC-F004D	MAINTENANCE VALVE F004D PLUGS/TRANSFERS CLOSED
51	5.45E-10	1.97E-03	%F4197_M5	
		3.84E-02	B32-TM-LOOPA-IND	ICS LOOP A IN TEST OR MAINTENANCE BY ITSELF

Table 11B-12
Shutdown Fire RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		7.20E-06	T23-POL-RP-SP	SUPPRESSION POOL LEAKS CATASTROPHICALLY
52	5.45E-10	1.97E-03	%F4197_M5	
		3.84E-02	B32-TM-LOOPB-IND	ICS LOOP B IN TEST OR MAINTENANCE BY ITSELF
		7.20E-06	T23-POL-RP-SP	SUPPRESSION POOL LEAKS CATASTROPHICALLY
53	5.13E-10	5.70E-04	%FSWYD_M5	
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
		5.00E-02	MS-TOP2	TWO DPVS FAIL TO OPEN (MANUAL)
54	5.07E-10	1.97E-03	%F4197_M5	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGB	STANDBY DIESEL GENERATOR "B" IN MAINTENANCE
55	5.07E-10	1.97E-03	%F4197_M5	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGA	STANDBY DIESEL GENERATOR "A" IN MAINTENANCE
56	5.07E-10	6.16E-04	%F4197_M6U	
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED

Table 11B-12
Shutdown Fire RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
57	5.07E-10	6.16E-04	%F4197_M6U	
		2.63E-04	E50-BV_-OC-F004D	MAINTENANCE VALVE F004D PLUGS/TRANSFERS CLOSED
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
58	5.04E-10	1.68E-06	%F1152_F1162_M5O	
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
59	4.76E-10	6.16E-04	%F4197_M6U	
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGB	STANDBY DIESEL GENERATOR "B" IN MAINTENANCE
60	4.76E-10	6.16E-04	%F4197_M6U	
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGA	STANDBY DIESEL GENERATOR "A" IN MAINTENANCE

Table 11B-12
Shutdown Fire RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
61	4.63E-10	4.93E-04	%F4197_M5O	
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
62	4.44E-10	4.93E-04	%F4197_M5O	
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
		5.00E-02	MS-TOP2	TWO DPVS FAIL TO OPEN (MANUAL)
63	4.41E-10	1.68E-06	%F1152_F1162_M5O	
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED
64	4.41E-10	1.68E-06	%F1152_F1162_M5O	
		2.63E-04	E50-BV_-OC-F004D	MAINTENANCE VALVE F004D PLUGS/TRANSFERS CLOSED
65	4.30E-10	1.78E-04	%FSWYD_M6U	
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
66	4.17E-10	6.16E-04	%F4197_M6U	
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED

Table 11B-12
Shutdown Fire RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGB	STANDBY DIESEL GENERATOR "B" IN MAINTENANCE
67	4.17E-10	6.16E-04	%F4197_M6U	
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGA	STANDBY DIESEL GENERATOR "A" IN MAINTENANCE
68	4.17E-10	6.16E-04	%F4197_M6U	
		2.63E-04	E50-BV_-OC-F004D	MAINTENANCE VALVE F004D PLUGS/TRANSFERS CLOSED
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGB	STANDBY DIESEL GENERATOR "B" IN MAINTENANCE
69	4.17E-10	6.16E-04	%F4197_M6U	
		2.63E-04	E50-BV_-OC-F004D	MAINTENANCE VALVE F004D PLUGS/TRANSFERS CLOSED
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGA	STANDBY DIESEL GENERATOR "A" IN MAINTENANCE
70	4.07E-10	6.16E-04	%F4197_M6U	
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'

Table 11B-12
Shutdown Fire RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		4.41E-03	R21-DG_-FR-CCF_1_2	CCF OF TWO COMPONENTS: R21-DG_-FR-DGA & R21-DG_-FR-DGB
71	4.06E-10	4.93E-04	%F4197_M5O	
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
72	4.06E-10	4.93E-04	%F4197_M5O	
		2.63E-04	E50-BV_-OC-F004D	MAINTENANCE VALVE F004D PLUGS/TRANSFERS CLOSED
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
73	3.94E-10	1.97E-03	%F4197_M5	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		2.00E-03	P21-ACV-OO-F0004	AIR OPERATED VALVE F0004 FAILS TO CLOSE
74	3.94E-10	1.97E-03	%F4197_M5	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		2.00E-03	P21-ACV-OO-F0027	AIR OPERATED VALVE F0027 FAILS TO CLOSE
75	3.94E-10	1.97E-03	%F4197_M5	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE

Table 11B-12
Shutdown Fire RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		2.00E-03	P21-ACV-OO-F0061	AIR OPERATED VALVE F0061 FAILS TO CLOSE
76	3.81E-10	4.93E-04	%F4197_M5O	
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGB	STANDBY DIESEL GENERATOR "B" IN MAINTENANCE
77	3.81E-10	4.93E-04	%F4197_M5O	
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGA	STANDBY DIESEL GENERATOR "A" IN MAINTENANCE
78	3.70E-10	6.16E-04	%F4197_M6U	
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
		2.00E-03	P21-ACV-OO-F0004	AIR OPERATED VALVE F0004 FAILS TO CLOSE
79	3.70E-10	6.16E-04	%F4197_M6U	
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
		2.00E-03	P21-ACV-OO-F0027	AIR OPERATED VALVE F0027 FAILS TO CLOSE
80	3.70E-10	6.16E-04	%F4197_M6U	
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'

Table 11B-12
Shutdown Fire RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		2.00E-03	P21-ACV-OO-F0061	AIR OPERATED VALVE F0061 FAILS TO CLOSE
81	3.65E-10	1.97E-03	%F4197_M5	
		3.84E-02	B32-TM-LOOPA-IND	ICS LOOP A IN TEST OR MAINTENANCE BY ITSELF
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
82	3.65E-10	1.97E-03	%F4197_M5	
		3.84E-02	B32-TM-LOOPB-IND	ICS LOOP B IN TEST OR MAINTENANCE BY ITSELF
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
83	3.65E-10	3.65E-06	%F4250_F4260_M5	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
84	3.55E-10	1.97E-03	%F4197_M5	
		3.60E-06	C63-LT_-NO-ESFRX_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LT_-NO-ESFRX'
		5.00E-02	MS-TOP2	TWO DPVS FAIL TO OPEN (MANUAL)
85	3.43E-10	1.42E-04	%FSWYD_M5O	
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'

Table 11B-12
Shutdown Fire RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
86	3.43E-10	1.42E-04	%FSWYD_M5O	
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
87	3.42E-10	1.14E-06	%F4250_F4260_M6U	
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
88	3.34E-10	4.93E-04	%F4197_M5O	
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGB	STANDBY DIESEL GENERATOR "B" IN MAINTENANCE
89	3.34E-10	4.93E-04	%F4197_M5O	
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGA	STANDBY DIESEL GENERATOR "A" IN MAINTENANCE
90	3.34E-10	4.93E-04	%F4197_M5O	

Table 11B-12
Shutdown Fire RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		2.63E-04	E50-BV_-OC-F004D	MAINTENANCE VALVE F004D PLUGS/TRANSFERS CLOSED
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGB	STANDBY DIESEL GENERATOR "B" IN MAINTENANCE
91	3.34E-10	4.93E-04	%F4197_M5O	
		2.63E-04	E50-BV_-OC-F004D	MAINTENANCE VALVE F004D PLUGS/TRANSFERS CLOSED
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGA	STANDBY DIESEL GENERATOR "A" IN MAINTENANCE
92	3.26E-10	4.93E-04	%F4197_M5O	
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		4.41E-03	R21-DG_-FR-CCF_1_2	CCF OF TWO COMPONENTS: R21-DG_-FR-DGA & R21-DG_-FR-DGB
93	3.26E-10	4.93E-04	%F4197_M5O	
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
		4.41E-03	R21-DG_-FR-CCF_1_2	CCF OF TWO COMPONENTS: R21-DG_-FR-DGA & R21-DG_-FR-DGB
94	3.24E-10	6.16E-04	%F4197_M6U	
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED
		2.00E-03	P21-ACV-OO-F0004	AIR OPERATED VALVE F0004 FAILS TO CLOSE
95	3.24E-10	6.16E-04	%F4197_M6U	

Table 11B-12
Shutdown Fire RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED
		2.00E-03	P21-ACV-OO-F0027	AIR OPERATED VALVE F0027 FAILS TO CLOSE
96	3.24E-10	6.16E-04	%F4197_M6U	
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED
		2.00E-03	P21-ACV-OO-F0061	AIR OPERATED VALVE F0061 FAILS TO CLOSE
97	3.24E-10	6.16E-04	%F4197_M6U	
		2.63E-04	E50-BV_-OC-F004D	MAINTENANCE VALVE F004D PLUGS/TRANSFERS CLOSED
		2.00E-03	P21-ACV-OO-F0004	AIR OPERATED VALVE F0004 FAILS TO CLOSE
98	3.24E-10	6.16E-04	%F4197_M6U	
		2.63E-04	E50-BV_-OC-F004D	MAINTENANCE VALVE F004D PLUGS/TRANSFERS CLOSED
		2.00E-03	P21-ACV-OO-F0027	AIR OPERATED VALVE F0027 FAILS TO CLOSE
99	3.24E-10	6.16E-04	%F4197_M6U	
		2.63E-04	E50-BV_-OC-F004D	MAINTENANCE VALVE F004D PLUGS/TRANSFERS CLOSED
		2.00E-03	P21-ACV-OO-F0061	AIR OPERATED VALVE F0061 FAILS TO CLOSE
100	3.20E-10	1.97E-03	%F4197_M5	
		3.84E-02	B32-TM-LOOPA-IND	ICS LOOP A IN TEST OR MAINTENANCE BY ITSELF
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED

Table 11B-12
Shutdown Fire RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION

Table 11B-13
Level 1 Flood Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
1	4.30E-05	4.30E-05	%FL_RB3-P10-L	
2	1.32E-05	1.32E-05	%FL_RB4-VA-B32-L	
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
3	1.32E-05	1.32E-05	%FL_RB4-VB-B32-L	
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
4	4.30E-06	4.30E-05	%FL_RB3-P10-L	
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
5	2.13E-06	1.32E-05	%FL_RB4-VA-B32-L	
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
		1.61E-01	XXX-XHE-FO-DEPRESS	OPERATOR FAILS TO RECOGNIZE NEED OF DEPRESSURIZATION
6	2.13E-06	1.32E-05	%FL_RB4-VB-B32-L	
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
		1.61E-01	XXX-XHE-FO-DEPRESS	OPERATOR FAILS TO RECOGNIZE NEED OF DEPRESSURIZATION
7	7.06E-07	7.06E-03	%FL_FW1-U43-S	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
8	4.42E-07	4.42E-03	%FL_SF-P41A-S	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
9	4.42E-07	4.42E-03	%FL_SF-P41B-S	

Table 11B-13
Level 1 Flood Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
10	4.12E-07	4.12E-03	%FL_PH-N71-S	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
11	3.27E-07	3.27E-03	%FL_EB-U43-S	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
12	2.58E-07	4.30E-05	%FL_RB3-P10-L	
		6.00E-03	B21-SRV-OO-F006A	SAFETY/RELIEF VALVE F006A FAILS TO RE-CLOSE
13	2.58E-07	4.30E-05	%FL_RB3-P10-L	
		6.00E-03	B21-SRV-OO-F006B	SAFETY/RELIEF VALVE F006B FAILS TO RE-CLOSE
14	2.58E-07	4.30E-05	%FL_RB3-P10-L	
		6.00E-03	B21-SRV-OO-F006C	SAFETY/RELIEF VALVE F006C FAILS TO RE-CLOSE
15	2.58E-07	4.30E-05	%FL_RB3-P10-L	
		6.00E-03	B21-SRV-OO-F006D	SAFETY/RELIEF VALVE F006D FAILS TO RE-CLOSE
16	2.58E-07	4.30E-05	%FL_RB3-P10-L	
		6.00E-03	B21-SRV-OO-F006E	SAFETY/RELIEF VALVE F006E FAILS TO RE-CLOSE
17	2.58E-07	4.30E-05	%FL_RB3-P10-L	
		6.00E-03	B21-SRV-OO-F006F	SAFETY/RELIEF VALVE F006F FAILS TO RE-CLOSE
18	2.58E-07	4.30E-05	%FL_RB3-P10-L	
		6.00E-03	B21-SRV-OO-F006G	SAFETY/RELIEF VALVE F006G FAILS TO RE-CLOSE

Table 11B-13
Level 1 Flood Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
19	2.58E-07	4.30E-05	%FL_RB3-P10-L	
		6.00E-03	B21-SRV-OO-F006H	SAFETY/RELIEF VALVE F006H FAILS TO RE-CLOSE
20	2.58E-07	4.30E-05	%FL_RB3-P10-L	
		6.00E-03	B21-SRV-OO-F006J	SAFETY/RELIEF VALVE F006J FAILS TO RE-CLOSE
21	2.58E-07	4.30E-05	%FL_RB3-P10-L	
		6.00E-03	B21-SRV-OO-F006K	SAFETY/RELIEF VALVE F006K FAILS TO RE-CLOSE
22	2.49E-07	2.49E-03	%FL_RW-U43-S	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
23	2.12E-07	7.06E-03	%FL_FW1-U43-S	
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
24	1.79E-07	1.79E-03	%FL_TBC-B21A-S	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
25	1.79E-07	1.79E-03	%FL_TBC-B21B-S	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
26	1.40E-07	1.40E-03	%FL_EB1-U43-S	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
27	1.33E-07	4.42E-03	%FL_SF-P41A-S	
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
28	1.33E-07	4.42E-03	%FL_SF-P41B-S	

Table 11B-13
Level 1 Flood Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
29	1.31E-07	1.31E-03	%FL_AD-AT-R21A-S	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
30	1.31E-07	1.31E-03	%FL_AD-BT-R21B-S	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
31	1.27E-07	7.06E-03	%FL_FW1-U43-S	
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
32	1.24E-07	4.12E-03	%FL_PH-N71-S	
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
33	1.23E-07	1.23E-03	%FL_FW1-G21-S	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
34	1.10E-07	1.10E-03	%FL_FW2-U43-S	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
35	1.04E-07	1.04E-03	%FL_TBC-G31-S	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
36	9.81E-08	3.27E-03	%FL_EB-U43-S	
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
37	9.50E-08	9.50E-04	%FL_TBC-N11-S	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE

Table 11B-13
Level 1 Flood Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
38	8.03E-08	7.06E-03	%FL_FW1-U43-S	
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
39	7.96E-08	4.42E-03	%FL_SF-P41A-S	
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
40	7.96E-08	4.42E-03	%FL_SF-P41B-S	
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
41	7.92E-08	1.32E-05	%FL_RB4-VA-B32-L	
		6.00E-03	B21-SRV-OO-F006A	SAFETY/RELIEF VALVE F006A FAILS TO RE-CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
42	7.92E-08	1.32E-05	%FL_RB4-VA-B32-L	
		6.00E-03	B21-SRV-OO-F006B	SAFETY/RELIEF VALVE F006B FAILS TO RE-CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
43	7.92E-08	1.32E-05	%FL_RB4-VA-B32-L	
		6.00E-03	B21-SRV-OO-F006C	SAFETY/RELIEF VALVE F006C FAILS TO RE-CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
44	7.92E-08	1.32E-05	%FL_RB4-VA-B32-L	
		6.00E-03	B21-SRV-OO-F006D	SAFETY/RELIEF VALVE F006D FAILS TO RE-CLOSE

Table 11B-13
Level 1 Flood Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
45	7.92E-08	1.32E-05	%FL_RB4-VA-B32-L	
		6.00E-03	B21-SRV-OO-F006E	SAFETY/RELIEF VALVE F006E FAILS TO RE-CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
46	7.92E-08	1.32E-05	%FL_RB4-VA-B32-L	
		6.00E-03	B21-SRV-OO-F006F	SAFETY/RELIEF VALVE F006F FAILS TO RE-CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
47	7.92E-08	1.32E-05	%FL_RB4-VA-B32-L	
		6.00E-03	B21-SRV-OO-F006G	SAFETY/RELIEF VALVE F006G FAILS TO RE-CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
48	7.92E-08	1.32E-05	%FL_RB4-VA-B32-L	
		6.00E-03	B21-SRV-OO-F006H	SAFETY/RELIEF VALVE F006H FAILS TO RE-CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
49	7.92E-08	1.32E-05	%FL_RB4-VA-B32-L	
		6.00E-03	B21-SRV-OO-F006J	SAFETY/RELIEF VALVE F006J FAILS TO RE-CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
50	7.92E-08	1.32E-05	%FL_RB4-VA-B32-L	
		6.00E-03	B21-SRV-OO-F006K	SAFETY/RELIEF VALVE F006K FAILS TO RE-CLOSE

Table 11B-13
Level 1 Flood Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
51	7.92E-08	1.32E-05	%FL_RB4-VB-B32-L	
		6.00E-03	B21-SRV-OO-F006A	SAFETY/RELIEF VALVE F006A FAILS TO RE-CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
52	7.92E-08	1.32E-05	%FL_RB4-VB-B32-L	
		6.00E-03	B21-SRV-OO-F006B	SAFETY/RELIEF VALVE F006B FAILS TO RE-CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
53	7.92E-08	1.32E-05	%FL_RB4-VB-B32-L	
		6.00E-03	B21-SRV-OO-F006C	SAFETY/RELIEF VALVE F006C FAILS TO RE-CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
54	7.92E-08	1.32E-05	%FL_RB4-VB-B32-L	
		6.00E-03	B21-SRV-OO-F006D	SAFETY/RELIEF VALVE F006D FAILS TO RE-CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
55	7.92E-08	1.32E-05	%FL_RB4-VB-B32-L	
		6.00E-03	B21-SRV-OO-F006E	SAFETY/RELIEF VALVE F006E FAILS TO RE-CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
56	7.92E-08	1.32E-05	%FL_RB4-VB-B32-L	
		6.00E-03	B21-SRV-OO-F006F	SAFETY/RELIEF VALVE F006F FAILS TO RE-CLOSE

Table 11B-13
Level 1 Flood Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
57	7.92E-08	1.32E-05	%FL_RB4-VB-B32-L	
		6.00E-03	B21-SRV-OO-F006G	SAFETY/RELIEF VALVE F006G FAILS TO RE-CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
58	7.92E-08	1.32E-05	%FL_RB4-VB-B32-L	
		6.00E-03	B21-SRV-OO-F006H	SAFETY/RELIEF VALVE F006H FAILS TO RE-CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
59	7.92E-08	1.32E-05	%FL_RB4-VB-B32-L	
		6.00E-03	B21-SRV-OO-F006J	SAFETY/RELIEF VALVE F006J FAILS TO RE-CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
60	7.92E-08	1.32E-05	%FL_RB4-VB-B32-L	
		6.00E-03	B21-SRV-OO-F006K	SAFETY/RELIEF VALVE F006K FAILS TO RE-CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
61	7.47E-08	2.49E-03	%FL_RW-U43-S	
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
62	7.42E-08	4.12E-03	%FL_PH-N71-S	
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
63	7.19E-08	7.19E-04	%FL_TB-1-N21-L	

Table 11B-13
Level 1 Flood Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
64	7.06E-08	7.06E-03	%FL_FW1-U43-S	
		1.00E-04	C71-CCFSOFTWARE	RPS COMMON CAUSE SOFTWARE FAILURE
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
65	6.01E-08	6.01E-04	%FL_RB-2A-C12-L	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
66	5.98E-08	5.98E-04	%FL_FB-3-G21-L	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
67	5.93E-08	5.93E-04	%FL_TB2-N11-L	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
68	5.92E-08	5.92E-04	%FL_TB-N21-L	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
69	5.89E-08	3.27E-03	%FL_EB-U43-S	
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
70	5.82E-08	5.82E-04	%FL_TB-P41A-L	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
71	5.82E-08	5.82E-04	%FL_TB-P41B-L	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
72	5.42E-08	5.42E-04	%FL_TBC-N21-S	

Table 11B-13
Level 1 Flood Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
73	5.37E-08	1.79E-03	%FL_TBC-B21A-S	
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
74	5.37E-08	1.79E-03	%FL_TBC-B21B-S	
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
75	5.33E-08	5.33E-04	%FL_SF-P41A-L	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
76	5.33E-08	5.33E-04	%FL_SF-P41B-L	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
77	5.03E-08	4.42E-03	%FL_SF-P41A-S	
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
78	5.03E-08	4.42E-03	%FL_SF-P41B-S	
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
79	5.00E-08	5.00E-04	%FL_FW1-U43-L	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
80	4.73E-08	4.73E-04	%FL_CTA-U43-S	

Table 11B-13
Level 1 Flood Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
81	4.73E-08	4.73E-04	%FL_CTB-U43-S	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
82	4.68E-08	4.12E-03	%FL_PH-N71-S	
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
83	4.68E-08	4.68E-04	%FL_SF-Y41-S	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
84	4.48E-08	2.49E-03	%FL_RW-U43-S	
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
85	4.42E-08	4.42E-03	%FL_SF-P41A-S	
		1.00E-04	C71-CCFSOFTWARE	RPS COMMON CAUSE SOFTWARE FAILURE
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
86	4.42E-08	4.42E-03	%FL_SF-P41B-S	
		1.00E-04	C71-CCFSOFTWARE	RPS COMMON CAUSE SOFTWARE FAILURE
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
87	4.30E-08	4.30E-04	%FL_SF-P10-S	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE

Table 11B-13
Level 1 Flood Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
88	4.20E-08	1.40E-03	%FL_EB1-U43-S	
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
89	4.12E-08	4.12E-03	%FL_PH-N71-S	
		1.00E-04	C71-CCFSOFTWARE	RPS COMMON CAUSE SOFTWARE FAILURE
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
90	3.93E-08	1.31E-03	%FL_AD-AT-R21A-S	
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
91	3.93E-08	1.31E-03	%FL_AD-BT-R21B-S	
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
92	3.72E-08	3.27E-03	%FL_EB-U43-S	
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
93	3.69E-08	1.23E-03	%FL_FW1-G21-S	
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
94	3.44E-08	3.44E-04	%FL_FB-P-G21-S	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
95	3.30E-08	1.10E-03	%FL_FW2-U43-S	
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
96	3.27E-08	3.27E-03	%FL_EB-U43-S	

Table 11B-13
Level 1 Flood Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E-04	C71-CCFSOFTWARE	RPS COMMON CAUSE SOFTWARE FAILURE
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
97	3.27E-08	3.27E-04	%FL_EB-U43-L	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
98	3.23E-08	3.23E-04	%FL_TBSW-U43-S	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
99	3.22E-08	1.79E-03	%FL_TBC-B21A-S	
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
100	3.22E-08	1.79E-03	%FL_TBC-B21B-S	
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'

Table 11B-14
Level 1 Flood RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
1	2.12E-08	7.06E-03	%FL_FW1-U43-S	
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
2	2.12E-08	7.06E-03	%FL_FW1-U43-S	
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
3	9.81E-09	3.27E-03	%FL_EB-U43-S	
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
4	9.81E-09	3.27E-03	%FL_EB-U43-S	
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
5	7.47E-09	2.49E-03	%FL_RW-U43-S	
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
6	7.47E-09	2.49E-03	%FL_RW-U43-S	
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE

Table 11B-14
Level 1 Flood RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
7	4.30E-09	4.30E-05	%FL_RB3-P10-L	
		1.00E-04	C72-CCFSOFTWARE	COMMON CAUSE FAILURE OF DPS PROCESSORS
8	4.20E-09	1.40E-03	%FL_EB1-U43-S	
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
9	4.20E-09	1.40E-03	%FL_EB1-U43-S	
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
10	3.69E-09	1.23E-03	%FL_FW1-G21-S	
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
11	3.69E-09	1.23E-03	%FL_FW1-G21-S	
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
12	3.30E-09	1.10E-03	%FL_FW2-U43-S	
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE

Table 11B-14
Level 1 Flood RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
13	3.30E-09	1.10E-03	%FL_FW2-U43-S	
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
14	2.35E-09	7.06E-03	%FL_FW1-U43-S	
		3.33E-04	B32-SQV-CC-XCONN_1_2	CCF OF TWO COMPONENTS: B32-SQV-CC-F104A & B32-SQV-CC-F104B
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
15	2.35E-09	7.06E-03	%FL_FW1-U43-S	
		3.33E-04	B32-SQV-CC-XCONN_1_2	CCF OF TWO COMPONENTS: B32-SQV-CC-F104A & B32-SQV-CC-F104B
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
16	2.12E-09	7.06E-03	%FL_FW1-U43-S	
		1.00E-04	B32-NPO-CC-F105A	F105A FAILS TO OPEN
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
17	2.12E-09	7.06E-03	%FL_FW1-U43-S	
		1.00E-04	B32-NPO-CC-F105B	F105B FAILS TO OPEN
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

Table 11B-14
Level 1 Flood RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
18	1.79E-09	5.98E-04	%FL_FB-3-G21-L	
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
19	1.79E-09	5.98E-04	%FL_FB-3-G21-L	
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
20	1.50E-09	5.00E-04	%FL_FW1-U43-L	
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
21	1.50E-09	5.00E-04	%FL_FW1-U43-L	
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
22	1.42E-09	4.73E-04	%FL_CTA-U43-S	
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
23	1.42E-09	4.73E-04	%FL_CTA-U43-S	
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE

Table 11B-14
Level 1 Flood RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
24	1.42E-09	4.73E-04	%FL_CTB-U43-S	
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
25	1.42E-09	4.73E-04	%FL_CTB-U43-S	
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
26	1.38E-09	1.32E-05	%FL_RB4-VA-B32-L	
		4.41E-03	R21-DG_-FR-CCF_1_2	CCF OF TWO COMPONENTS: R21-DG_-FR-DGA & R21-DG_-FR-DGB
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
27	1.38E-09	1.32E-05	%FL_RB4-VB-B32-L	
		4.41E-03	R21-DG_-FR-CCF_1_2	CCF OF TWO COMPONENTS: R21-DG_-FR-DGA & R21-DG_-FR-DGB
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
28	1.16E-09	1.32E-05	%FL_RB4-VA-B32-L	
		4.41E-03	R21-DG_-FR-CCF_1_2	CCF OF TWO COMPONENTS: R21-DG_-FR-DGA & R21-DG_-FR-DGB

Table 11B-14
Level 1 Flood RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
29	1.16E-09	1.32E-05	%FL_RB4-VB-B32-L	
		4.41E-03	R21-DG_-FR-CCF_1_2	CCF OF TWO COMPONENTS: R21-DG_-FR-DGA & R21-DG_-FR-DGB
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
30	1.14E-09	4.30E-05	%FL_RB3-P10-L	
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.76E-01	B32-XHE-FO-VENT	OPERATOR FAILS TO OPEN VENT
31	1.14E-09	4.30E-05	%FL_RB3-P10-L	
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.76E-01	B32-XHE-FO-VENT	OPERATOR FAILS TO OPEN VENT
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
32	1.09E-09	3.27E-03	%FL_EB-U43-S	
		3.33E-04	B32-SQV-CC-XCONN_1_2	CCF OF TWO COMPONENTS: B32-SQV-CC-F104A & B32-SQV-CC-F104B
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

Table 11B-14
Level 1 Flood RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
33	1.09E-09	3.27E-03	%FL_EB-U43-S	
		3.33E-04	B32-SQV-CC-XCONN_1_2	CCF OF TWO COMPONENTS: B32-SQV-CC-F104A & B32-SQV-CC-F104B
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
34	1.03E-09	3.44E-04	%FL_FB-P-G21-S	
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
35	1.03E-09	3.44E-04	%FL_FB-P-G21-S	
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
36	9.81E-10	3.27E-04	%FL_EB-U43-L	
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
37	9.81E-10	3.27E-04	%FL_EB-U43-L	
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
38	9.81E-10	3.27E-03	%FL_EB-U43-S	
		1.00E-04	B32-NPO-CC-F105A	F105A FAILS TO OPEN
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN

Table 11B-14
Level 1 Flood RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
39	9.81E-10	3.27E-03	%FL_EB-U43-S	
		1.00E-04	B32-NPO-CC-F105B	F105B FAILS TO OPEN
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
40	9.81E-10	1.32E-05	%FL_RB4-VA-B32-L	
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
41	9.81E-10	1.32E-05	%FL_RB4-VB-B32-L	
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
42	9.69E-10	3.23E-04	%FL_TBSW-U43-S	
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE

Table 11B-14
Level 1 Flood RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
43	9.69E-10	3.23E-04	%FL_TBSW-U43-S	
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
44	9.37E-10	1.32E-05	%FL_RB4-VA-B32-L	
		4.41E-03	R21-DG_-FR-CCF_1_2	CCF OF TWO COMPONENTS: R21-DG_-FR-DGA & R21-DG_-FR-DGB
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
45	9.37E-10	1.32E-05	%FL_RB4-VB-B32-L	
		4.41E-03	R21-DG_-FR-CCF_1_2	CCF OF TWO COMPONENTS: R21-DG_-FR-DGA & R21-DG_-FR-DGB
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
46	8.30E-10	2.49E-03	%FL_RW-U43-S	
		3.33E-04	B32-SQV-CC-XCONN_1_2	CCF OF TWO COMPONENTS: B32-SQV-CC-F104A & B32-SQV-CC-F104B
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
47	8.30E-10	2.49E-03	%FL_RW-U43-S	

Table 11B-14
Level 1 Flood RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		3.33E-04	B32-SQV-CC-XCONN_1_2	CCF OF TWO COMPONENTS: B32-SQV-CC-F104A & B32-SQV-CC-F104B
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
48	8.27E-10	1.32E-05	%FL_RB4-VA-B32-L	
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
49	8.27E-10	1.32E-05	%FL_RB4-VB-B32-L	
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
50	8.06E-10	1.32E-05	%FL_RB4-VA-B32-L	
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGB	STANDBY DIESEL GENERATOR "B" IN MAINTENANCE
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN

Table 11B-14
Level 1 Flood RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
51	8.06E-10	1.32E-05	%FL_RB4-VA-B32-L	
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGA	STANDBY DIESEL GENERATOR "A" IN MAINTENANCE
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
52	8.06E-10	1.32E-05	%FL_RB4-VB-B32-L	
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGB	STANDBY DIESEL GENERATOR "B" IN MAINTENANCE
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
53	8.06E-10	1.32E-05	%FL_RB4-VB-B32-L	
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGA	STANDBY DIESEL GENERATOR "A" IN MAINTENANCE
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
54	7.47E-10	2.49E-04	%FL_RW-U43-L	

Table 11B-14
Level 1 Flood RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
55	7.47E-10	2.49E-04	%FL_RW-U43-L	
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
56	7.47E-10	2.49E-03	%FL_RW-U43-S	
		1.00E-04	B32-NPO-CC-F105A	F105A FAILS TO OPEN
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
57	7.47E-10	2.49E-03	%FL_RW-U43-S	
		1.00E-04	B32-NPO-CC-F105B	F105B FAILS TO OPEN
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
58	6.80E-10	1.32E-05	%FL_RB4-VA-B32-L	
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGB	STANDBY DIESEL GENERATOR "B" IN MAINTENANCE
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
59	6.80E-10	1.32E-05	%FL_RB4-VA-B32-L	

Table 11B-14
Level 1 Flood RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGA	STANDBY DIESEL GENERATOR "A" IN MAINTENANCE
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
60	6.80E-10	1.32E-05	%FL_RB4-VB-B32-L	
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGB	STANDBY DIESEL GENERATOR "B" IN MAINTENANCE
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
61	6.80E-10	1.32E-05	%FL_RB4-VB-B32-L	
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGA	STANDBY DIESEL GENERATOR "A" IN MAINTENANCE
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
62	6.66E-10	1.32E-05	%FL_RB4-VA-B32-L	
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START

Table 11B-14
Level 1 Flood RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
63	6.66E-10	1.32E-05	%FL_RB4-VB-B32-L	
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
64	6.42E-10	2.14E-04	%FL_PH-U43-S	
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
65	6.42E-10	2.14E-04	%FL_PH-U43-S	
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
66	6.26E-10	1.32E-05	%FL_RB4-VA-B32-L	
		2.00E-03	P21-ACV-OO-F0004	AIR OPERATED VALVE F0004 FAILS TO CLOSE

Table 11B-14
Level 1 Flood RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
67	6.26E-10	1.32E-05	%FL_RB4-VA-B32-L	
		2.00E-03	P21-ACV-OO-F0027	AIR OPERATED VALVE F0027 FAILS TO CLOSE
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
68	6.26E-10	1.32E-05	%FL_RB4-VA-B32-L	
		2.00E-03	P21-ACV-OO-F0061	AIR OPERATED VALVE F0061 FAILS TO CLOSE
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
69	6.26E-10	1.32E-05	%FL_RB4-VB-B32-L	
		2.00E-03	P21-ACV-OO-F0004	AIR OPERATED VALVE F0004 FAILS TO CLOSE
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
70	6.26E-10	1.32E-05	%FL_RB4-VB-B32-L	
		2.00E-03	P21-ACV-OO-F0027	AIR OPERATED VALVE F0027 FAILS TO CLOSE
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN

Table 11B-14
Level 1 Flood RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
71	6.26E-10	1.32E-05	%FL_RB4-VB-B32-L	
		2.00E-03	P21-ACV-OO-F0061	AIR OPERATED VALVE F0061 FAILS TO CLOSE
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
72	5.82E-10	1.94E-04	%FL_TB-1-U43-L	
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
73	5.82E-10	1.94E-04	%FL_TB-1-U43-L	
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
74	5.73E-10	1.91E-04	%FL_TB-U43-L	
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
75	5.73E-10	1.91E-04	%FL_TB-U43-L	
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

Table 11B-14
Level 1 Flood RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
76	5.65E-10	7.06E-03	%FL_FW1-U43-S	
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		2.67E-05	B32-UV_-OO-XCONN-ACC_1_2	CCF OF TWO COMPONENTS: B32-UV_-OO-F105A & B32-UV_-OO-F105B
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
77	5.65E-10	7.06E-03	%FL_FW1-U43-S	
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		2.67E-05	B32-UV_-OO-XCONN-ACC_1_2	CCF OF TWO COMPONENTS: B32-UV_-OO-F105A & B32-UV_-OO-F105B
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
78	5.47E-10	1.32E-05	%FL_RB4-VA-B32-L	
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGB	STANDBY DIESEL GENERATOR "B" IN MAINTENANCE
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
79	5.47E-10	1.32E-05	%FL_RB4-VA-B32-L	
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGA	STANDBY DIESEL GENERATOR "A" IN MAINTENANCE
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

**Table 11B-14
Level 1 Flood RTNSS Top 100 Cutsets**

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
80	5.47E-10	1.32E-05	%FL_RB4-VB-B32-L	
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGB	STANDBY DIESEL GENERATOR "B" IN MAINTENANCE
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
81	5.47E-10	1.32E-05	%FL_RB4-VB-B32-L	
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGA	STANDBY DIESEL GENERATOR "A" IN MAINTENANCE
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
82	5.37E-10	1.79E-03	%FL_TBC-B21A-S	
		3.00E-03	B21-SQV-CC-F004E	EXPLOSIVE VALVE DPV E FAILS TO OPERATE
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
83	5.37E-10	1.79E-03	%FL_TBC-B21A-S	
		3.00E-03	B21-SQV-CC-F004E	EXPLOSIVE VALVE DPV E FAILS TO OPERATE
		1.00E-04	C63-CCFSOFTWARE_S	ESF SPURIOUS COMMON CAUSE SOFTWARE FAILURE

Table 11B-14
Level 1 Flood RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
84	5.37E-10	1.79E-03	%FL_TBC-B21A-S	
		3.00E-03	B21-SQV-CC-F004F	EXPLOSIVE VALVE DPV F FAILS TO OPERATE
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
85	5.37E-10	1.79E-03	%FL_TBC-B21A-S	
		3.00E-03	B21-SQV-CC-F004F	EXPLOSIVE VALVE DPV F FAILS TO OPERATE
		1.00E-04	C63-CCFSOFTWARE_S	ESF SPURIOUS COMMON CAUSE SOFTWARE FAILURE
86	5.37E-10	1.79E-03	%FL_TBC-B21A-S	
		3.00E-03	B21-SQV-CC-F004G	EXPLOSIVE VALVE DPV G FAILS TO OPERATE
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
87	5.37E-10	1.79E-03	%FL_TBC-B21A-S	
		3.00E-03	B21-SQV-CC-F004G	EXPLOSIVE VALVE DPV G FAILS TO OPERATE
		1.00E-04	C63-CCFSOFTWARE_S	ESF SPURIOUS COMMON CAUSE SOFTWARE FAILURE
88	5.37E-10	1.79E-03	%FL_TBC-B21A-S	
		3.00E-03	B21-SQV-CC-F004H	EXPLOSIVE VALVE DPV H FAILS TO OPERATE
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING

**Table 11B-14
Level 1 Flood RTNSS Top 100 Cutsets**

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
89	5.37E-10	1.79E-03	%FL_TBC-B21A-S	
		3.00E-03	B21-SQV-CC-F004H	EXPLOSIVE VALVE DPV H FAILS TO OPERATE
		1.00E-04	C63-CCFSOFTWARE_S	ESF SPURIOUS COMMON CAUSE SOFTWARE FAILURE
90	5.37E-10	1.79E-03	%FL_TBC-B21B-S	
		3.00E-03	B21-SQV-CC-F004A	EXPLOSIVE VALVE DPV F004A FAILS TO OPERATE
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
91	5.37E-10	1.79E-03	%FL_TBC-B21B-S	
		3.00E-03	B21-SQV-CC-F004A	EXPLOSIVE VALVE DPV F004A FAILS TO OPERATE
		1.00E-04	C63-CCFSOFTWARE_S	ESF SPURIOUS COMMON CAUSE SOFTWARE FAILURE
92	5.37E-10	1.79E-03	%FL_TBC-B21B-S	
		3.00E-03	B21-SQV-CC-F004B	EXPLOSIVE VALVE DPV B FAILS TO OPERATE
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
93	5.37E-10	1.79E-03	%FL_TBC-B21B-S	
		3.00E-03	B21-SQV-CC-F004B	EXPLOSIVE VALVE DPV B FAILS TO OPERATE

Table 11B-14
Level 1 Flood RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E-04	C63-CCFSOFTWARE_S	ESF SPURIOUS COMMON CAUSE SOFTWARE FAILURE
94	5.37E-10	1.79E-03	%FL_TBC-B21B-S	
		3.00E-03	B21-SQV-CC-F004C	EXPLOSIVE VALVE DPV C FAILS TO OPERATE
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
95	5.37E-10	1.79E-03	%FL_TBC-B21B-S	
		3.00E-03	B21-SQV-CC-F004C	EXPLOSIVE VALVE DPV C FAILS TO OPERATE
		1.00E-04	C63-CCFSOFTWARE_S	ESF SPURIOUS COMMON CAUSE SOFTWARE FAILURE
96	5.37E-10	1.79E-03	%FL_TBC-B21B-S	
		3.00E-03	B21-SQV-CC-F004D	EXPLOSIVE VALVE DPV D FAILS TO OPERATE
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
97	5.37E-10	1.79E-03	%FL_TBC-B21B-S	
		3.00E-03	B21-SQV-CC-F004D	EXPLOSIVE VALVE DPV D FAILS TO OPERATE
		1.00E-04	C63-CCFSOFTWARE_S	ESF SPURIOUS COMMON CAUSE SOFTWARE FAILURE
98	5.28E-10	1.32E-05	%FL_RB4-VA-B32-L	
		2.00E-03	P21-ACV-OO-F0004	AIR OPERATED VALVE F0004 FAILS TO CLOSE

Table 11B-14
Level 1 Flood RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
99	5.28E-10	1.32E-05	%FL_RB4-VA-B32-L	
		2.00E-03	P21-ACV-OO-F0027	AIR OPERATED VALVE F0027 FAILS TO CLOSE
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
100	5.28E-10	1.32E-05	%FL_RB4-VA-B32-L	
		2.00E-03	P21-ACV-OO-F0061	AIR OPERATED VALVE F0061 FAILS TO CLOSE
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

Table 11B-15
Level 2 Flood Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
1	4.30E-05	4.30E-05	%FL_RB3-P10-L	
2	1.32E-05	1.32E-05	%FL_RB4-VA-B32-L	
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
3	1.32E-05	1.32E-05	%FL_RB4-VB-B32-L	
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
4	4.30E-06	4.30E-05	%FL_RB3-P10-L	
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
5	2.13E-06	1.32E-05	%FL_RB4-VA-B32-L	
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
		1.61E-01	XXX-XHE-FO-DEPRESS	OPERATOR FAILS TO RECOGNIZE NEED OF DEPRESSURIZATION
6	2.13E-06	1.32E-05	%FL_RB4-VB-B32-L	
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
		1.61E-01	XXX-XHE-FO-DEPRESS	OPERATOR FAILS TO RECOGNIZE NEED OF DEPRESSURIZATION
7	7.06E-07	7.06E-03	%FL_FW1-U43-S	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
8	4.42E-07	4.42E-03	%FL_SF-P41A-S	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
9	4.42E-07	4.42E-03	%FL_SF-P41B-S	

Table 11B-15
Level 2 Flood Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
10	4.12E-07	4.12E-03	%FL_PH-N71-S	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
11	3.27E-07	3.27E-03	%FL_EB-U43-S	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
12	2.58E-07	4.30E-05	%FL_RB3-P10-L	
		6.00E-03	B21-SRV-OO-F006A	SAFETY/RELIEF VALVE F006A FAILS TO RE-CLOSE
13	2.58E-07	4.30E-05	%FL_RB3-P10-L	
		6.00E-03	B21-SRV-OO-F006B	SAFETY/RELIEF VALVE F006B FAILS TO RE-CLOSE
14	2.58E-07	4.30E-05	%FL_RB3-P10-L	
		6.00E-03	B21-SRV-OO-F006C	SAFETY/RELIEF VALVE F006C FAILS TO RE-CLOSE
15	2.58E-07	4.30E-05	%FL_RB3-P10-L	
		6.00E-03	B21-SRV-OO-F006D	SAFETY/RELIEF VALVE F006D FAILS TO RE-CLOSE
16	2.58E-07	4.30E-05	%FL_RB3-P10-L	
		6.00E-03	B21-SRV-OO-F006E	SAFETY/RELIEF VALVE F006E FAILS TO RE-CLOSE
17	2.58E-07	4.30E-05	%FL_RB3-P10-L	
		6.00E-03	B21-SRV-OO-F006F	SAFETY/RELIEF VALVE F006F FAILS TO RE-CLOSE

Table 11B-15
Level 2 Flood Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
18	2.58E-07	4.30E-05	%FL_RB3-P10-L	
		6.00E-03	B21-SRV-OO-F006G	SAFETY/RELIEF VALVE F006G FAILS TO RE-CLOSE
19	2.58E-07	4.30E-05	%FL_RB3-P10-L	
		6.00E-03	B21-SRV-OO-F006H	SAFETY/RELIEF VALVE F006H FAILS TO RE-CLOSE
20	2.58E-07	4.30E-05	%FL_RB3-P10-L	
		6.00E-03	B21-SRV-OO-F006J	SAFETY/RELIEF VALVE F006J FAILS TO RE-CLOSE
21	2.58E-07	4.30E-05	%FL_RB3-P10-L	
		6.00E-03	B21-SRV-OO-F006K	SAFETY/RELIEF VALVE F006K FAILS TO RE-CLOSE
22	2.49E-07	2.49E-03	%FL_RW-U43-S	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
23	1.79E-07	1.79E-03	%FL_TBC-B21A-S	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
24	1.79E-07	1.79E-03	%FL_TBC-B21B-S	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
25	1.40E-07	1.40E-03	%FL_EB1-U43-S	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
26	1.31E-07	1.31E-03	%FL_AD-AT-R21A-S	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
27	1.31E-07	1.31E-03	%FL_AD-BT-R21B-S	

Table 11B-15
Level 2 Flood Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
28	1.27E-07	7.06E-03	%FL_FW1-U43-S	
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
29	1.23E-07	1.23E-03	%FL_FW1-G21-S	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
30	1.10E-07	1.10E-03	%FL_FW2-U43-S	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
31	1.04E-07	1.04E-03	%FL_TBC-G31-S	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
32	9.50E-08	9.50E-04	%FL_TBC-N11-S	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
33	8.03E-08	7.06E-03	%FL_FW1-U43-S	
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

Table 11B-15
Level 2 Flood Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
34	7.96E-08	4.42E-03	%FL_SF-P41A-S	
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
35	7.96E-08	4.42E-03	%FL_SF-P41B-S	
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
36	7.92E-08	1.32E-05	%FL_RB4-VA-B32-L	
		6.00E-03	B21-SRV-OO-F006A	SAFETY/RELIEF VALVE F006A FAILS TO RE-CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
37	7.92E-08	1.32E-05	%FL_RB4-VA-B32-L	
		6.00E-03	B21-SRV-OO-F006B	SAFETY/RELIEF VALVE F006B FAILS TO RE-CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
38	7.92E-08	1.32E-05	%FL_RB4-VA-B32-L	
		6.00E-03	B21-SRV-OO-F006C	SAFETY/RELIEF VALVE F006C FAILS TO RE-CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
39	7.92E-08	1.32E-05	%FL_RB4-VA-B32-L	
		6.00E-03	B21-SRV-OO-F006D	SAFETY/RELIEF VALVE F006D FAILS TO RE-CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

Table 11B-15
Level 2 Flood Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
40	7.92E-08	1.32E-05	%FL_RB4-VA-B32-L	
		6.00E-03	B21-SRV-OO-F006E	SAFETY/RELIEF VALVE F006E FAILS TO RE-CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
41	7.92E-08	1.32E-05	%FL_RB4-VA-B32-L	
		6.00E-03	B21-SRV-OO-F006F	SAFETY/RELIEF VALVE F006F FAILS TO RE-CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
42	7.92E-08	1.32E-05	%FL_RB4-VA-B32-L	
		6.00E-03	B21-SRV-OO-F006G	SAFETY/RELIEF VALVE F006G FAILS TO RE-CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
43	7.92E-08	1.32E-05	%FL_RB4-VA-B32-L	
		6.00E-03	B21-SRV-OO-F006H	SAFETY/RELIEF VALVE F006H FAILS TO RE-CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
44	7.92E-08	1.32E-05	%FL_RB4-VA-B32-L	
		6.00E-03	B21-SRV-OO-F006J	SAFETY/RELIEF VALVE F006J FAILS TO RE-CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
45	7.92E-08	1.32E-05	%FL_RB4-VA-B32-L	
		6.00E-03	B21-SRV-OO-F006K	SAFETY/RELIEF VALVE F006K FAILS TO RE-CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

Table 11B-15
Level 2 Flood Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
46	7.92E-08	1.32E-05	%FL_RB4-VB-B32-L	
		6.00E-03	B21-SRV-OO-F006A	SAFETY/RELIEF VALVE F006A FAILS TO RE-CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
47	7.92E-08	1.32E-05	%FL_RB4-VB-B32-L	
		6.00E-03	B21-SRV-OO-F006B	SAFETY/RELIEF VALVE F006B FAILS TO RE-CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
48	7.92E-08	1.32E-05	%FL_RB4-VB-B32-L	
		6.00E-03	B21-SRV-OO-F006C	SAFETY/RELIEF VALVE F006C FAILS TO RE-CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
49	7.92E-08	1.32E-05	%FL_RB4-VB-B32-L	
		6.00E-03	B21-SRV-OO-F006D	SAFETY/RELIEF VALVE F006D FAILS TO RE-CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
50	7.92E-08	1.32E-05	%FL_RB4-VB-B32-L	
		6.00E-03	B21-SRV-OO-F006E	SAFETY/RELIEF VALVE F006E FAILS TO RE-CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
51	7.92E-08	1.32E-05	%FL_RB4-VB-B32-L	
		6.00E-03	B21-SRV-OO-F006F	SAFETY/RELIEF VALVE F006F FAILS TO RE-CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

Table 11B-15
Level 2 Flood Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
52	7.92E-08	1.32E-05	%FL_RB4-VB-B32-L	
		6.00E-03	B21-SRV-OO-F006G	SAFETY/RELIEF VALVE F006G FAILS TO RE-CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
53	7.92E-08	1.32E-05	%FL_RB4-VB-B32-L	
		6.00E-03	B21-SRV-OO-F006H	SAFETY/RELIEF VALVE F006H FAILS TO RE-CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
54	7.92E-08	1.32E-05	%FL_RB4-VB-B32-L	
		6.00E-03	B21-SRV-OO-F006J	SAFETY/RELIEF VALVE F006J FAILS TO RE-CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
55	7.92E-08	1.32E-05	%FL_RB4-VB-B32-L	
		6.00E-03	B21-SRV-OO-F006K	SAFETY/RELIEF VALVE F006K FAILS TO RE-CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
56	7.42E-08	4.12E-03	%FL_PH-N71-S	
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
57	7.19E-08	7.19E-04	%FL_TB-1-N21-L	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

Table 11B-15
Level 2 Flood Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
58	7.06E-08	7.06E-03	%FL_FW1-U43-S	
		1.00E-04	C71-CCFSOFTWARE	RPS COMMON CAUSE SOFTWARE FAILURE
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
59	6.01E-08	6.01E-04	%FL_RB-2A-C12-L	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
60	5.98E-08	5.98E-04	%FL_FB-3-G21-L	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
61	5.93E-08	5.93E-04	%FL_TB2-N11-L	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
62	5.92E-08	5.92E-04	%FL_TB-N21-L	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
63	5.89E-08	3.27E-03	%FL_EB-U43-S	
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
64	5.82E-08	5.82E-04	%FL_TB-P41A-L	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE

Table 11B-15
Level 2 Flood Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
65	5.82E-08	5.82E-04	%FL_TB-P41B-L	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
66	5.42E-08	5.42E-04	%FL_TBC-N21-S	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
67	5.37E-08	1.79E-03	%FL_TBC-B21A-S	
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
68	5.37E-08	1.79E-03	%FL_TBC-B21B-S	
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
69	5.33E-08	5.33E-04	%FL_SF-P41A-L	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
70	5.33E-08	5.33E-04	%FL_SF-P41B-L	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
71	5.03E-08	4.42E-03	%FL_SF-P41A-S	
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

Table 11B-15
Level 2 Flood Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
72	5.03E-08	4.42E-03	%FL_SF-P41B-S	
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
73	5.00E-08	5.00E-04	%FL_FW1-U43-L	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
74	4.73E-08	4.73E-04	%FL_CTA-U43-S	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
75	4.73E-08	4.73E-04	%FL_CTB-U43-S	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
76	4.68E-08	4.12E-03	%FL_PH-N71-S	
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
77	4.68E-08	4.68E-04	%FL_SF-Y41-S	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
78	4.48E-08	2.49E-03	%FL_RW-U43-S	
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'

Table 11B-15
Level 2 Flood Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
79	4.42E-08	4.42E-03	%FL_SF-P41A-S	
		1.00E-04	C71-CCFSOFTWARE	RPS COMMON CAUSE SOFTWARE FAILURE
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
80	4.42E-08	4.42E-03	%FL_SF-P41B-S	
		1.00E-04	C71-CCFSOFTWARE	RPS COMMON CAUSE SOFTWARE FAILURE
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
81	4.30E-08	4.30E-04	%FL_SF-P10-S	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
82	4.12E-08	4.12E-03	%FL_PH-N71-S	
		1.00E-04	C71-CCFSOFTWARE	RPS COMMON CAUSE SOFTWARE FAILURE
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
83	3.72E-08	3.27E-03	%FL_EB-U43-S	
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
84	3.44E-08	3.44E-04	%FL_FB-P-G21-S	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE

Table 11B-15
Level 2 Flood Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
85	3.27E-08	3.27E-03	%FL_EB-U43-S	
		1.00E-04	C71-CCFSOFTWARE	RPS COMMON CAUSE SOFTWARE FAILURE
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
86	3.27E-08	3.27E-04	%FL_EB-U43-L	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
87	3.23E-08	3.23E-04	%FL_TBSW-U43-S	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
88	3.22E-08	1.79E-03	%FL_TBC-B21A-S	
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
89	3.22E-08	1.79E-03	%FL_TBC-B21B-S	
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
90	3.18E-08	7.06E-03	%FL_FW1-U43-S	
		4.50E-05	C71-SLU-FC-R_ALL	CCF OF ALL COMPONENTS IN GROUP 'C71-SLU-FC-R'
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
91	2.95E-08	2.95E-04	%FL_PH-N71-L	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE

Table 11B-15
Level 2 Flood Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
92	2.83E-08	2.49E-03	%FL_RW-U43-S	
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
93	2.66E-08	2.66E-04	%FL_TB-1-P41A-L	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
94	2.66E-08	2.66E-04	%FL_TB-1-P41B-L	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
95	2.65E-08	2.65E-04	%FL_RB-3A-G31A-L	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
96	2.65E-08	2.65E-04	%FL_RB-3B-G31B-L	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
97	2.52E-08	1.40E-03	%FL_EB1-U43-S	
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
98	2.49E-08	2.49E-04	%FL_RW-U43-L	

Table 11B-15
Level 2 Flood Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
99	2.49E-08	2.49E-03	%FL_RW-U43-S	
		1.00E-04	C71-CCFSOFTWARE	RPS COMMON CAUSE SOFTWARE FAILURE
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
100	2.36E-08	1.31E-03	%FL_AD-AT-R21A-S	
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

Table 11B-16
Level 2 Flood RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
1	9.81E-09	3.27E-03	%FL_EB-U43-S	
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
2	9.81E-09	3.27E-03	%FL_EB-U43-S	
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
3	4.30E-09	4.30E-05	%FL_RB3-P10-L	
		1.00E-04	C72-CCFSOFTWARE	COMMON CAUSE FAILURE OF DPS PROCESSORS
4	3.69E-09	1.23E-03	%FL_FW1-G21-S	
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
5	3.69E-09	1.23E-03	%FL_FW1-G21-S	
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
6	1.79E-09	5.98E-04	%FL_FB-3-G21-L	

Table 11B-16
Level 2 Flood RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
7	1.79E-09	5.98E-04	%FL_FB-3-G21-L	
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
8	1.38E-09	1.32E-05	%FL_RB4-VA-B32-L	
		4.41E-03	R21-DG_-FR-CCF_1_2	CCF OF TWO COMPONENTS: R21-DG_-FR-DGA & R21-DG_-FR-DGB
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
9	1.38E-09	1.32E-05	%FL_RB4-VB-B32-L	
		4.41E-03	R21-DG_-FR-CCF_1_2	CCF OF TWO COMPONENTS: R21-DG_-FR-DGA & R21-DG_-FR-DGB
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
10	1.16E-09	1.32E-05	%FL_RB4-VA-B32-L	
		4.41E-03	R21-DG_-FR-CCF_1_2	CCF OF TWO COMPONENTS: R21-DG_-FR-DGA & R21-DG_-FR-DGB
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START

Table 11B-16
Level 2 Flood RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
11	1.16E-09	1.32E-05	%FL_RB4-VB-B32-L	
		4.41E-03	R21-DG_-FR-CCF_1_2	CCF OF TWO COMPONENTS: R21-DG_-FR-DGA & R21-DG_-FR-DGB
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
12	1.09E-09	3.27E-03	%FL_EB-U43-S	
		3.33E-04	B32-SQV-CC-XCONN_1_2	CCF OF TWO COMPONENTS: B32-SQV-CC-F104A & B32-SQV-CC-F104B
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
13	1.09E-09	3.27E-03	%FL_EB-U43-S	
		3.33E-04	B32-SQV-CC-XCONN_1_2	CCF OF TWO COMPONENTS: B32-SQV-CC-F104A & B32-SQV-CC-F104B
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
14	1.03E-09	3.44E-04	%FL_FB-P-G21-S	
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
15	1.03E-09	3.44E-04	%FL_FB-P-G21-S	

Table 11B-16
Level 2 Flood RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
16	9.81E-10	3.27E-04	%FL_EB-U43-L	
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
17	9.81E-10	3.27E-04	%FL_EB-U43-L	
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
18	9.81E-10	3.27E-03	%FL_EB-U43-S	
		1.00E-04	B32-NPO-CC-F105A	F105A FAILS TO OPEN
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
19	9.81E-10	3.27E-03	%FL_EB-U43-S	
		1.00E-04	B32-NPO-CC-F105B	F105B FAILS TO OPEN
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
20	9.81E-10	1.32E-05	%FL_RB4-VA-B32-L	

Table 11B-16
Level 2 Flood RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
21	9.81E-10	1.32E-05	%FL_RB4-VB-B32-L	
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
22	9.37E-10	1.32E-05	%FL_RB4-VA-B32-L	
		4.41E-03	R21-DG_-FR-CCF_1_2	CCF OF TWO COMPONENTS: R21-DG_-FR-DGA & R21-DG_-FR-DGB
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
23	9.37E-10	1.32E-05	%FL_RB4-VB-B32-L	
		4.41E-03	R21-DG_-FR-CCF_1_2	CCF OF TWO COMPONENTS: R21-DG_-FR-DGA & R21-DG_-FR-DGB
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE

Table 11B-16
Level 2 Flood RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
24	8.27E-10	1.32E-05	%FL_RB4-VA-B32-L	
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
25	8.27E-10	1.32E-05	%FL_RB4-VB-B32-L	
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
26	8.06E-10	1.32E-05	%FL_RB4-VA-B32-L	
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGB	STANDBY DIESEL GENERATOR "B" IN MAINTENANCE
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
27	8.06E-10	1.32E-05	%FL_RB4-VA-B32-L	

Table 11B-16
Level 2 Flood RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGA	STANDBY DIESEL GENERATOR "A" IN MAINTENANCE
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
28	8.06E-10	1.32E-05	%FL_RB4-VB-B32-L	
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGB	STANDBY DIESEL GENERATOR "B" IN MAINTENANCE
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
29	8.06E-10	1.32E-05	%FL_RB4-VB-B32-L	
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGA	STANDBY DIESEL GENERATOR "A" IN MAINTENANCE
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
30	6.80E-10	1.32E-05	%FL_RB4-VA-B32-L	
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START

Table 11B-16
Level 2 Flood RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		4.60E-02	R21-DG_-TM-DGB	STANDBY DIESEL GENERATOR "B" IN MAINTENANCE
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
31	6.80E-10	1.32E-05	%FL_RB4-VA-B32-L	
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGA	STANDBY DIESEL GENERATOR "A" IN MAINTENANCE
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
32	6.80E-10	1.32E-05	%FL_RB4-VB-B32-L	
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGB	STANDBY DIESEL GENERATOR "B" IN MAINTENANCE
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
33	6.80E-10	1.32E-05	%FL_RB4-VB-B32-L	
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGA	STANDBY DIESEL GENERATOR "A" IN MAINTENANCE

Table 11B-16
Level 2 Flood RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
34	6.66E-10	1.32E-05	%FL_RB4-VA-B32-L	
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
35	6.66E-10	1.32E-05	%FL_RB4-VB-B32-L	
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
36	6.26E-10	1.32E-05	%FL_RB4-VA-B32-L	
		2.00E-03	P21-ACV-OO-F0004	AIR OPERATED VALVE F0004 FAILS TO CLOSE
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
37	6.26E-10	1.32E-05	%FL_RB4-VA-B32-L	

Table 11B-16
Level 2 Flood RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		2.00E-03	P21-ACV-OO-F0027	AIR OPERATED VALVE F0027 FAILS TO CLOSE
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
38	6.26E-10	1.32E-05	%FL_RB4-VA-B32-L	
		2.00E-03	P21-ACV-OO-F0061	AIR OPERATED VALVE F0061 FAILS TO CLOSE
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
39	6.26E-10	1.32E-05	%FL_RB4-VB-B32-L	
		2.00E-03	P21-ACV-OO-F0004	AIR OPERATED VALVE F0004 FAILS TO CLOSE
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
40	6.26E-10	1.32E-05	%FL_RB4-VB-B32-L	
		2.00E-03	P21-ACV-OO-F0027	AIR OPERATED VALVE F0027 FAILS TO CLOSE
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
41	6.26E-10	1.32E-05	%FL_RB4-VB-B32-L	
		2.00E-03	P21-ACV-OO-F0061	AIR OPERATED VALVE F0061 FAILS TO CLOSE

Table 11B-16
Level 2 Flood RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
42	5.73E-10	1.91E-04	%FL_TB-U43-L	
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
43	5.73E-10	1.91E-04	%FL_TB-U43-L	
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
44	5.47E-10	1.32E-05	%FL_RB4-VA-B32-L	
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGB	STANDBY DIESEL GENERATOR "B" IN MAINTENANCE
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
45	5.47E-10	1.32E-05	%FL_RB4-VA-B32-L	
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGA	STANDBY DIESEL GENERATOR "A" IN MAINTENANCE

Table 11B-16
Level 2 Flood RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
46	5.47E-10	1.32E-05	%FL_RB4-VB-B32-L	
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGB	STANDBY DIESEL GENERATOR "B" IN MAINTENANCE
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
47	5.47E-10	1.32E-05	%FL_RB4-VB-B32-L	
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGA	STANDBY DIESEL GENERATOR "A" IN MAINTENANCE
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
48	5.37E-10	1.79E-03	%FL_TBC-B21A-S	
		3.00E-03	B21-SQV-CC-F004E	EXPLOSIVE VALVE DPV E FAILS TO OPERATE
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
49	5.37E-10	1.79E-03	%FL_TBC-B21A-S	

Table 11B-16
Level 2 Flood RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		3.00E-03	B21-SQV-CC-F004E	EXPLOSIVE VALVE DPV E FAILS TO OPERATE
		1.00E-04	C63-CCFSOFTWARE_S	ESF SPURIOUS COMMON CAUSE SOFTWARE FAILURE
50	5.37E-10	1.79E-03	%FL_TBC-B21A-S	
		3.00E-03	B21-SQV-CC-F004F	EXPLOSIVE VALVE DPV F FAILS TO OPERATE
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
51	5.37E-10	1.79E-03	%FL_TBC-B21A-S	
		3.00E-03	B21-SQV-CC-F004F	EXPLOSIVE VALVE DPV F FAILS TO OPERATE
		1.00E-04	C63-CCFSOFTWARE_S	ESF SPURIOUS COMMON CAUSE SOFTWARE FAILURE
52	5.37E-10	1.79E-03	%FL_TBC-B21A-S	
		3.00E-03	B21-SQV-CC-F004G	EXPLOSIVE VALVE DPV G FAILS TO OPERATE
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
53	5.37E-10	1.79E-03	%FL_TBC-B21A-S	
		3.00E-03	B21-SQV-CC-F004G	EXPLOSIVE VALVE DPV G FAILS TO OPERATE
		1.00E-04	C63-CCFSOFTWARE_S	ESF SPURIOUS COMMON CAUSE SOFTWARE FAILURE
54	5.37E-10	1.79E-03	%FL_TBC-B21A-S	

Table 11B-16
Level 2 Flood RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		3.00E-03	B21-SQV-CC-F004H	EXPLOSIVE VALVE DPV H FAILS TO OPERATE
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
55	5.37E-10	1.79E-03	%FL_TBC-B21A-S	
		3.00E-03	B21-SQV-CC-F004H	EXPLOSIVE VALVE DPV H FAILS TO OPERATE
		1.00E-04	C63-CCFSOFTWARE_S	ESF SPURIOUS COMMON CAUSE SOFTWARE FAILURE
56	5.37E-10	1.79E-03	%FL_TBC-B21B-S	
		3.00E-03	B21-SQV-CC-F004A	EXPLOSIVE VALVE DPV F004A FAILS TO OPERATE
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
57	5.37E-10	1.79E-03	%FL_TBC-B21B-S	
		3.00E-03	B21-SQV-CC-F004A	EXPLOSIVE VALVE DPV F004A FAILS TO OPERATE
		1.00E-04	C63-CCFSOFTWARE_S	ESF SPURIOUS COMMON CAUSE SOFTWARE FAILURE
58	5.37E-10	1.79E-03	%FL_TBC-B21B-S	
		3.00E-03	B21-SQV-CC-F004B	EXPLOSIVE VALVE DPV B FAILS TO OPERATE
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE

Table 11B-16
Level 2 Flood RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
59	5.37E-10	1.79E-03	%FL_TBC-B21B-S	
		3.00E-03	B21-SQV-CC-F004B	EXPLOSIVE VALVE DPV B FAILS TO OPERATE
		1.00E-04	C63-CCFSOFTWARE_S	ESF SPURIOUS COMMON CAUSE SOFTWARE FAILURE
60	5.37E-10	1.79E-03	%FL_TBC-B21B-S	
		3.00E-03	B21-SQV-CC-F004C	EXPLOSIVE VALVE DPV C FAILS TO OPERATE
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
61	5.37E-10	1.79E-03	%FL_TBC-B21B-S	
		3.00E-03	B21-SQV-CC-F004C	EXPLOSIVE VALVE DPV C FAILS TO OPERATE
		1.00E-04	C63-CCFSOFTWARE_S	ESF SPURIOUS COMMON CAUSE SOFTWARE FAILURE
62	5.37E-10	1.79E-03	%FL_TBC-B21B-S	
		3.00E-03	B21-SQV-CC-F004D	EXPLOSIVE VALVE DPV D FAILS TO OPERATE
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
63	5.37E-10	1.79E-03	%FL_TBC-B21B-S	
		3.00E-03	B21-SQV-CC-F004D	EXPLOSIVE VALVE DPV D FAILS TO OPERATE
		1.00E-04	C63-CCFSOFTWARE_S	ESF SPURIOUS COMMON CAUSE SOFTWARE FAILURE
64	5.28E-10	1.32E-05	%FL_RB4-VA-B32-L	

Table 11B-16
Level 2 Flood RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		2.00E-03	P21-ACV-OO-F0004	AIR OPERATED VALVE F0004 FAILS TO CLOSE
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
65	5.28E-10	1.32E-05	%FL_RB4-VA-B32-L	
		2.00E-03	P21-ACV-OO-F0027	AIR OPERATED VALVE F0027 FAILS TO CLOSE
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
66	5.28E-10	1.32E-05	%FL_RB4-VA-B32-L	
		2.00E-03	P21-ACV-OO-F0061	AIR OPERATED VALVE F0061 FAILS TO CLOSE
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
67	5.28E-10	1.32E-05	%FL_RB4-VB-B32-L	
		2.00E-03	P21-ACV-OO-F0004	AIR OPERATED VALVE F0004 FAILS TO CLOSE
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
68	5.28E-10	1.32E-05	%FL_RB4-VB-B32-L	
		2.00E-03	P21-ACV-OO-F0027	AIR OPERATED VALVE F0027 FAILS TO CLOSE

Table 11B-16
Level 2 Flood RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
69	5.28E-10	1.32E-05	%FL_RB4-VB-B32-L	
		2.00E-03	P21-ACV-OO-F0061	AIR OPERATED VALVE F0061 FAILS TO CLOSE
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
70	4.89E-10	4.30E-05	%FL_RB3-P10-L	
		1.14E-05	R13-INV-FC-CCFNSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFNSR'
71	4.30E-10	4.30E-05	%FL_RB3-P10-L	
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
		1.00E-04	C72-CCFSOFTWARE	COMMON CAUSE FAILURE OF DPS PROCESSORS
72	4.30E-10	4.30E-05	%FL_RB3-P10-L	
		1.00E-05	C72-LOG-FC-D_1_2	CCF OF TWO COMPONENTS: C72-LOG-FC-D1DPS & C72-LOG-FC-D2DPS
73	4.30E-10	4.30E-05	%FL_RB3-P10-L	
		1.00E-05	C72-LOG-FC-D_1_3	CCF OF TWO COMPONENTS: C72-LOG-FC-D1DPS & C72-LOG-FC-D3DPS
74	4.30E-10	4.30E-05	%FL_RB3-P10-L	
		1.00E-05	C72-LOG-FC-D_2_3	CCF OF TWO COMPONENTS: C72-LOG-FC-D2DPS & C72-LOG-FC-D3DPS
75	4.25E-10	1.32E-05	%FL_RB4-VA-B32-L	

Table 11B-16
Level 2 Flood RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		2.00E-03	P21-ACV-OO-F0004	AIR OPERATED VALVE F0004 FAILS TO CLOSE
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
76	4.25E-10	1.32E-05	%FL_RB4-VA-B32-L	
		2.00E-03	P21-ACV-OO-F0027	AIR OPERATED VALVE F0027 FAILS TO CLOSE
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
77	4.25E-10	1.32E-05	%FL_RB4-VA-B32-L	
		2.00E-03	P21-ACV-OO-F0061	AIR OPERATED VALVE F0061 FAILS TO CLOSE
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
78	4.25E-10	1.32E-05	%FL_RB4-VB-B32-L	
		2.00E-03	P21-ACV-OO-F0004	AIR OPERATED VALVE F0004 FAILS TO CLOSE
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
79	4.25E-10	1.32E-05	%FL_RB4-VB-B32-L	
		2.00E-03	P21-ACV-OO-F0027	AIR OPERATED VALVE F0027 FAILS TO CLOSE

Table 11B-16
Level 2 Flood RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
80	4.25E-10	1.32E-05	%FL_RB4-VB-B32-L	
		2.00E-03	P21-ACV-OO-F0061	AIR OPERATED VALVE F0061 FAILS TO CLOSE
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
81	4.10E-10	1.23E-03	%FL_FW1-G21-S	
		3.33E-04	B32-SQV-CC-XCONN_1_2	CCF OF TWO COMPONENTS: B32-SQV-CC-F104A & B32-SQV-CC-F104B
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
82	4.10E-10	1.23E-03	%FL_FW1-G21-S	
		3.33E-04	B32-SQV-CC-XCONN_1_2	CCF OF TWO COMPONENTS: B32-SQV-CC-F104A & B32-SQV-CC-F104B
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
83	3.87E-10	1.29E-04	%FL_FB-2A-G21-S	
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE

Table 11B-16
Level 2 Flood RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
84	3.87E-10	1.29E-04	%FL_FB-2A-G21-S	
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
85	3.69E-10	1.23E-03	%FL_FW1-G21-S	
		1.00E-04	B32-NPO-CC-F105A	F105A FAILS TO OPEN
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
86	3.69E-10	1.23E-03	%FL_FW1-G21-S	
		1.00E-04	B32-NPO-CC-F105B	F105B FAILS TO OPEN
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
87	3.14E-10	4.42E-03	%FL_SF-P41A-S	
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
88	3.14E-10	4.42E-03	%FL_SF-P41A-S	
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN

Table 11B-16
Level 2 Flood RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
89	3.14E-10	4.42E-03	%FL_SF-P41B-S	
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
90	3.14E-10	4.42E-03	%FL_SF-P41B-S	
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
91	2.65E-10	4.42E-03	%FL_SF-P41A-S	
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

Table 11B-16
Level 2 Flood RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
92	2.65E-10	4.42E-03	%FL_SF-P41A-S	
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
93	2.65E-10	4.42E-03	%FL_SF-P41B-S	
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
94	2.65E-10	4.42E-03	%FL_SF-P41B-S	
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
95	2.62E-10	3.27E-03	%FL_EB-U43-S	
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		2.67E-05	B32-UV_-OO-XCONN-ACC_1_2	CCF OF TWO COMPONENTS: B32-UV_-OO-F105A & B32-UV_-OO-F105B

Table 11B-16
Level 2 Flood RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
96	2.62E-10	3.27E-03	%FL_EB-U43-S	
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		2.67E-05	B32-UV_-OO-XCONN-ACC_1_2	CCF OF TWO COMPONENTS: B32-UV_-OO-F105A & B32-UV_-OO-F105B
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
97	2.57E-10	8.58E-05	%FL_FW1-G21-L	
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
98	2.57E-10	8.58E-05	%FL_FW1-G21-L	
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
99	2.46E-10	8.20E-05	%FL_TB2-U43-L	
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
100	2.46E-10	8.20E-05	%FL_TB2-U43-L	
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN

Table 11B-16
Level 2 Flood RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

Table 11B-17
Shutdown Flood Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
1	1.08E-07	4.73E-07	%FL_RB3-P30-L-M5	
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
2	7.72E-08	3.54E-07	%FL_RBCNT-E50A-L-M6U	
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
3	7.72E-08	3.54E-07	%FL_RBCNT-E50D-L-M6U	
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
4	6.43E-08	2.81E-07	%FL_RBCNT-E50A-L-M5O	
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
5	6.43E-08	2.81E-07	%FL_RBCNT-E50D-L-M5O	
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
6	3.18E-08	1.46E-07	%FL_RB3-P30-L-M6U	
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
7	2.66E-08	1.16E-07	%FL_RB3-P30-L-M5O	
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
8	1.00E-08	1.14E-06	%FL_RBCNT-E50A-L-M5	
		3.84E-02	B32-TM-LOOPA-IND	ICS LOOP A IN TEST OR MAINTENANCE BY ITSELF
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
9	1.00E-08	1.14E-06	%FL_RBCNT-E50A-L-M5	

Table 11B-17
Shutdown Flood Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		3.84E-02	B32-TM-LOOPB-IND	ICS LOOP B IN TEST OR MAINTENANCE BY ITSELF
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
10	1.00E-08	1.14E-06	%FL_RBCNT-E50D-L-M5	
		3.84E-02	B32-TM-LOOPA-IND	ICS LOOP A IN TEST OR MAINTENANCE BY ITSELF
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
11	1.00E-08	1.14E-06	%FL_RBCNT-E50D-L-M5	
		3.84E-02	B32-TM-LOOPB-IND	ICS LOOP B IN TEST OR MAINTENANCE BY ITSELF
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
12	5.42E-09	4.73E-07	%FL_RB3-P30-L-M5	
		5.00E-02	MS-TOP2	TWO DPVS FAIL TO OPEN (MANUAL)
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
13	3.22E-09	2.81E-07	%FL_RBCNT-E50A-L-M5O	
		5.00E-02	MS-TOP2	TWO DPVS FAIL TO OPEN (MANUAL)
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
14	3.22E-09	2.81E-07	%FL_RBCNT-E50D-L-M5O	
		5.00E-02	MS-TOP2	TWO DPVS FAIL TO OPEN (MANUAL)
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
15	1.78E-09	7.77E-05	%FL_FW1-U43-S-M5	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE

Table 11B-17
Shutdown Flood Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
16	1.57E-09	2.40E-05	%FL_FW1-U43-S-M6U	
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
17	1.37E-09	2.40E-05	%FL_FW1-U43-S-M6U	
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
18	1.37E-09	2.40E-05	%FL_FW1-U43-S-M6U	
		2.63E-04	E50-BV_-OC-F004D	MAINTENANCE VALVE F004D PLUGS/TRANSFERS CLOSED
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
19	1.33E-09	1.16E-07	%FL_RB3-P30-L-M5O	
		5.00E-02	MS-TOP2	TWO DPVS FAIL TO OPEN (MANUAL)
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
20	1.31E-09	1.91E-05	%FL_FW1-U43-S-M5O	
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
21	1.15E-09	1.91E-05	%FL_FW1-U43-S-M5O	
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED

Table 11B-17
Shutdown Flood Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
22	1.15E-09	1.91E-05	%FL_FW1-U43-S-M5O	
		2.63E-04	E50-BV_-OC-F004D	MAINTENANCE VALVE F004D PLUGS/TRANSFERS CLOSED
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
23	1.11E-09	4.86E-05	%FL_SF-P41A-S-M5	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
24	1.11E-09	4.86E-05	%FL_SF-P41B-S-M5	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
25	9.81E-10	1.50E-05	%FL_SF-P41A-S-M6U	
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
26	9.81E-10	1.50E-05	%FL_SF-P41B-S-M6U	
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
27	8.59E-10	1.50E-05	%FL_SF-P41A-S-M6U	
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED

Table 11B-17
Shutdown Flood Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
28	8.59E-10	1.50E-05	%FL_SF-P41A-S-M6U	
		2.63E-04	E50-BV_-OC-F004D	MAINTENANCE VALVE F004D PLUGS/TRANSFERS CLOSED
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
29	8.59E-10	1.50E-05	%FL_SF-P41B-S-M6U	
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
30	8.59E-10	1.50E-05	%FL_SF-P41B-S-M6U	
		2.63E-04	E50-BV_-OC-F004D	MAINTENANCE VALVE F004D PLUGS/TRANSFERS CLOSED
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
31	8.22E-10	3.59E-05	%FL_EB-U43-S-M5	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
32	8.18E-10	1.19E-05	%FL_SF-P41A-S-M5O	
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
33	8.18E-10	1.19E-05	%FL_SF-P41B-S-M5O	
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'

Table 11B-17
Shutdown Flood Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
34	7.85E-10	2.40E-05	%FL_FW1-U43-S-M6U	
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
35	7.26E-10	1.11E-05	%FL_EB-U43-S-M6U	
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
36	7.16E-10	1.19E-05	%FL_SF-P41A-S-M5O	
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
37	7.16E-10	1.19E-05	%FL_SF-P41A-S-M5O	
		2.63E-04	E50-BV_-OC-F004D	MAINTENANCE VALVE F004D PLUGS/TRANSFERS CLOSED
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
38	7.16E-10	1.19E-05	%FL_SF-P41B-S-M5O	
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
39	7.16E-10	1.19E-05	%FL_SF-P41B-S-M5O	
		2.63E-04	E50-BV_-OC-F004D	MAINTENANCE VALVE F004D PLUGS/TRANSFERS CLOSED

Table 11B-17
Shutdown Flood Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
40	6.56E-10	1.91E-05	%FL_FW1-U43-S-M5O	
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
41	6.56E-10	1.91E-05	%FL_FW1-U43-S-M5O	
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
42	6.36E-10	1.11E-05	%FL_EB-U43-S-M6U	
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
43	6.36E-10	1.11E-05	%FL_EB-U43-S-M6U	
		2.63E-04	E50-BV_-OC-F004D	MAINTENANCE VALVE F004D PLUGS/TRANSFERS CLOSED
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
44	6.27E-10	2.74E-05	%FL_RW-U43-S-M5	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
45	6.06E-10	8.82E-06	%FL_EB-U43-S-M5O	
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'

Table 11B-17
Shutdown Flood Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
46	5.91E-10	2.58E-05	%FL_TB1-P10-L-M5	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
47	5.55E-10	8.48E-06	%FL_RW-U43-S-M6U	
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
48	5.34E-10	7.77E-05	%FL_FW1-U43-S-M5	
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
49	5.31E-10	8.82E-06	%FL_EB-U43-S-M5O	
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
50	5.31E-10	8.82E-06	%FL_EB-U43-S-M5O	
		2.63E-04	E50-BV_-OC-F004D	MAINTENANCE VALVE F004D PLUGS/TRANSFERS CLOSED
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
51	5.23E-10	2.40E-05	%FL_FW1-U43-S-M6U	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE

Table 11B-17
Shutdown Flood Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
52	5.01E-10	1.14E-06	%FL_RBCNT-E50A-L-M5	
		3.84E-02	B32-TM-LOOPA-IND	ICS LOOP A IN TEST OR MAINTENANCE BY ITSELF
		5.00E-02	MS-TOP2	TWO DPVS FAIL TO OPEN (MANUAL)
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
53	5.01E-10	1.14E-06	%FL_RBCNT-E50A-L-M5	
		3.84E-02	B32-TM-LOOPB-IND	ICS LOOP B IN TEST OR MAINTENANCE BY ITSELF
		5.00E-02	MS-TOP2	TWO DPVS FAIL TO OPEN (MANUAL)
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
54	5.01E-10	1.14E-06	%FL_RBCNT-E50D-L-M5	
		3.84E-02	B32-TM-LOOPA-IND	ICS LOOP A IN TEST OR MAINTENANCE BY ITSELF
		5.00E-02	MS-TOP2	TWO DPVS FAIL TO OPEN (MANUAL)
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
55	5.01E-10	1.14E-06	%FL_RBCNT-E50D-L-M5	
		3.84E-02	B32-TM-LOOPB-IND	ICS LOOP B IN TEST OR MAINTENANCE BY ITSELF
		5.00E-02	MS-TOP2	TWO DPVS FAIL TO OPEN (MANUAL)
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
56	4.90E-10	1.50E-05	%FL_SF-P41A-S-M6U	
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'

Table 11B-17
Shutdown Flood Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
57	4.90E-10	1.50E-05	%FL_SF-P41B-S-M6U	
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
58	4.86E-10	8.48E-06	%FL_RW-U43-S-M6U	
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
59	4.86E-10	8.48E-06	%FL_RW-U43-S-M6U	
		2.63E-04	E50-BV_-OC-F004D	MAINTENANCE VALVE F004D PLUGS/TRANSFERS CLOSED
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
60	4.62E-10	6.73E-06	%FL_RW-U43-S-M5O	
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
61	4.51E-10	1.97E-05	%FL_TBC-B21A-S-M5	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
62	4.51E-10	1.97E-05	%FL_TBC-B21B-S-M5	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE

Table 11B-17
Shutdown Flood Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
63	4.39E-10	6.39E-06	%FL_RB3-C41-L-M50	
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
64	4.37E-10	1.91E-05	%FL_FW1-U43-S-M50	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
65	4.09E-10	1.19E-05	%FL_SF-P41A-S-M50	
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
66	4.09E-10	1.19E-05	%FL_SF-P41A-S-M50	
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
67	4.09E-10	1.19E-05	%FL_SF-P41B-S-M50	
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
68	4.09E-10	1.19E-05	%FL_SF-P41B-S-M50	
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'

Table 11B-17
Shutdown Flood Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
69	4.05E-10	6.73E-06	%FL_RW-U43-S-M50	
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
70	4.05E-10	6.73E-06	%FL_RW-U43-S-M50	
		2.63E-04	E50-BV_-OC-F004D	MAINTENANCE VALVE F004D PLUGS/TRANSFERS CLOSED
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
71	3.98E-10	6.08E-06	%FL_TBC-B21A-S-M6U	
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
72	3.98E-10	6.08E-06	%FL_TBC-B21B-S-M6U	
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
73	3.84E-10	6.39E-06	%FL_RB3-C41-L-M50	
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
74	3.84E-10	6.39E-06	%FL_RB3-C41-L-M50	
		2.63E-04	E50-BV_-OC-F004D	MAINTENANCE VALVE F004D PLUGS/TRANSFERS CLOSED

Table 11B-17
Shutdown Flood Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
75	3.63E-10	1.11E-05	%FL_EB-U43-S-M6U	
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
76	3.58E-10	1.14E-06	%FL_RBCNT-E50A-L-M5	
		1.37E-03	B32-TM-LOOPA-MULT	ICS LOOP A IN TEST OR MAINTENANCE, MULTIPLE LOOPS
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
77	3.58E-10	1.14E-06	%FL_RBCNT-E50A-L-M5	
		1.37E-03	B32-TM-LOOPB-MULT	ICS LOOP B IN TEST OR MAINTENANCE, MULTIPLE LOOPS
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
78	3.58E-10	1.14E-06	%FL_RBCNT-E50D-L-M5	
		1.37E-03	B32-TM-LOOPA-MULT	ICS LOOP A IN TEST OR MAINTENANCE, MULTIPLE LOOPS
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
79	3.58E-10	1.14E-06	%FL_RBCNT-E50D-L-M5	
		1.37E-03	B32-TM-LOOPB-MULT	ICS LOOP B IN TEST OR MAINTENANCE, MULTIPLE LOOPS
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
80	3.53E-10	1.54E-05	%FL_EB1-U43-S-M5	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE

Table 11B-17
Shutdown Flood Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
81	3.48E-10	6.08E-06	%FL_TBC-B21A-S-M6U	
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
82	3.48E-10	6.08E-06	%FL_TBC-B21A-S-M6U	
		2.63E-04	E50-BV_-OC-F004D	MAINTENANCE VALVE F004D PLUGS/TRANSFERS CLOSED
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
83	3.48E-10	6.08E-06	%FL_TBC-B21B-S-M6U	
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
84	3.48E-10	6.08E-06	%FL_TBC-B21B-S-M6U	
		2.63E-04	E50-BV_-OC-F004D	MAINTENANCE VALVE F004D PLUGS/TRANSFERS CLOSED
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
85	3.34E-10	4.86E-05	%FL_SF-P41A-S-M5	
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
86	3.34E-10	4.86E-05	%FL_SF-P41B-S-M5	
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'

Table 11B-17
Shutdown Flood Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
87	3.32E-10	4.83E-06	%FL_TBC-B21A-S-M5O	
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
88	3.32E-10	4.83E-06	%FL_TBC-B21B-S-M5O	
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
89	3.30E-10	1.44E-05	%FL_AD-AT-R21A-S-M5	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
90	3.30E-10	1.44E-05	%FL_AD-BT-R21B-S-M5	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
91	3.27E-10	1.50E-05	%FL_SF-P41A-S-M6U	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
92	3.27E-10	1.50E-05	%FL_SF-P41B-S-M6U	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE

Table 11B-17
Shutdown Flood Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
93	3.20E-10	7.77E-05	%FL_FW1-U43-S-M5	
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
94	3.11E-10	4.75E-06	%FL_EB1-U43-S-M6U	
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
95	3.09E-10	1.35E-05	%FL_FW1-G21-S-M5	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
96	3.06E-10	4.45E-06	%FL_AD-AT-R21A-S-M6U	
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
97	3.03E-10	8.82E-06	%FL_EB-U43-S-M5O	
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
98	3.03E-10	8.82E-06	%FL_EB-U43-S-M5O	
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'

Table 11B-17
Shutdown Flood Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
99	2.91E-10	4.45E-06	%FL_AD-BT-R21B-S-M6U	
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
100	2.91E-10	4.83E-06	%FL_TBC-B21A-S-M5O	
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY

Table 11B-18
Shutdown Flood RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
1	1.08E-07	4.73E-07	%FL_RB3-P30-L-M5	
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
2	3.18E-08	1.46E-07	%FL_RB3-P30-L-M6U	
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
3	2.66E-08	1.16E-07	%FL_RB3-P30-L-M5O	
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
4	5.42E-09	4.73E-07	%FL_RB3-P30-L-M5	
		5.00E-02	MS-TOP2	TWO DPVS FAIL TO OPEN (MANUAL)
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
5	1.33E-09	1.16E-07	%FL_RB3-P30-L-M5O	
		5.00E-02	MS-TOP2	TWO DPVS FAIL TO OPEN (MANUAL)
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
6	1.24E-09	3.54E-07	%FL_RBCNT-E50A-L-M6U	
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
7	1.24E-09	3.54E-07	%FL_RBCNT-E50D-L-M6U	
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
8	1.11E-09	1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
		4.86E-05	%FL_SF-P41A-S-M5	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
9	1.11E-09	2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
		4.86E-05	%FL_SF-P41B-S-M5	

Table 11B-18
Shutdown Flood RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
10	1.04E-09	2.81E-07	%FL_RBCNT-E50A-L-M5O	
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
11	1.04E-09	2.81E-07	%FL_RBCNT-E50D-L-M5O	
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
12	9.81E-10	1.50E-05	%FL_SF-P41A-S-M6U	
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
13	9.81E-10	1.50E-05	%FL_SF-P41B-S-M6U	
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
14	8.59E-10	1.50E-05	%FL_SF-P41A-S-M6U	
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
15	8.59E-10	1.50E-05	%FL_SF-P41A-S-M6U	
		2.63E-04	E50-BV_-OC-F004D	MAINTENANCE VALVE F004D PLUGS/TRANSFERS CLOSED

Table 11B-18
Shutdown Flood RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
16	8.59E-10	1.50E-05	%FL_SF-P41B-S-M6U	
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
17	8.59E-10	1.50E-05	%FL_SF-P41B-S-M6U	
		2.63E-04	E50-BV_-OC-F004D	MAINTENANCE VALVE F004D PLUGS/TRANSFERS CLOSED
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
18	8.22E-10	3.59E-05	%FL_EB-U43-S-M5	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
19	8.18E-10	1.19E-05	%FL_SF-P41A-S-M5O	
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
20	8.18E-10	1.19E-05	%FL_SF-P41B-S-M5O	
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
21	7.26E-10	1.11E-05	%FL_EB-U43-S-M6U	
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
22	7.16E-10	1.19E-05	%FL_SF-P41A-S-M5O	
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
23	7.16E-10	1.19E-05	%FL_SF-P41A-S-M5O	

Table 11B-18
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#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		2.63E-04	E50-BV_-OC-F004D	MAINTENANCE VALVE F004D PLUGS/TRANSFERS CLOSED
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
24	7.16E-10	1.19E-05	%FL_SF-P41B-S-M5O	
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
25	7.16E-10	1.19E-05	%FL_SF-P41B-S-M5O	
		2.63E-04	E50-BV_-OC-F004D	MAINTENANCE VALVE F004D PLUGS/TRANSFERS CLOSED
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
26	6.36E-10	1.11E-05	%FL_EB-U43-S-M6U	
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
27	6.36E-10	1.11E-05	%FL_EB-U43-S-M6U	
		2.63E-04	E50-BV_-OC-F004D	MAINTENANCE VALVE F004D PLUGS/TRANSFERS CLOSED
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
28	6.06E-10	8.82E-06	%FL_EB-U43-S-M5O	
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
29	5.91E-10	2.58E-05	%FL_TB1-P10-L-M5	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
30	5.31E-10	8.82E-06	%FL_EB-U43-S-M5O	
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED

Table 11B-18
Shutdown Flood RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
31	5.31E-10	8.82E-06	%FL_EB-U43-S-M5O	
		2.63E-04	E50-BV_-OC-F004D	MAINTENANCE VALVE F004D PLUGS/TRANSFERS CLOSED
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
32	4.90E-10	1.50E-05	%FL_SF-P41A-S-M6U	
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
33	4.90E-10	1.50E-05	%FL_SF-P41B-S-M6U	
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
34	4.51E-10	1.97E-05	%FL_TBC-B21A-S-M5	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
35	4.09E-10	1.19E-05	%FL_SF-P41A-S-M5O	
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
36	4.09E-10	1.19E-05	%FL_SF-P41A-S-M5O	
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
37	4.09E-10	1.19E-05	%FL_SF-P41B-S-M5O	
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
38	4.09E-10	1.19E-05	%FL_SF-P41B-S-M5O	

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#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
39	3.98E-10	6.08E-06	%FL_TBC-B21A-S-M6U	
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
40	3.63E-10	1.11E-05	%FL_EB-U43-S-M6U	
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
41	3.48E-10	6.08E-06	%FL_TBC-B21A-S-M6U	
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
42	3.48E-10	6.08E-06	%FL_TBC-B21A-S-M6U	
		2.63E-04	E50-BV_-OC-F004D	MAINTENANCE VALVE F004D PLUGS/TRANSFERS CLOSED
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
43	3.40E-10	3.54E-07	%FL_RBCNT-E50A-L-M6U	
		4.41E-03	R21-DG_-FR-CCF_1_2	CCF OF TWO COMPONENTS: R21-DG_-FR-DGA & R21-DG_-FR-DGB
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
44	3.40E-10	3.54E-07	%FL_RBCNT-E50D-L-M6U	

Table 11B-18
Shutdown Flood RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		4.41E-03	R21-DG_-FR-CCF_1_2	CCF OF TWO COMPONENTS: R21-DG_-FR-DGA & R21-DG_-FR-DGB
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
45	3.34E-10	4.86E-05	%FL_SF-P41A-S-M5	
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
46	3.34E-10	4.86E-05	%FL_SF-P41B-S-M5	
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
47	3.32E-10	4.83E-06	%FL_TBC-B21A-S-M5O	
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
48	3.27E-10	1.50E-05	%FL_SF-P41A-S-M6U	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
49	3.27E-10	1.50E-05	%FL_SF-P41B-S-M6U	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
50	3.09E-10	1.35E-05	%FL_FW1-G21-S-M5	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
51	3.03E-10	8.82E-06	%FL_EB-U43-S-M5O	
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY

Table 11B-18
Shutdown Flood RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
52	3.03E-10	8.82E-06	%FL_EB-U43-S-M50	
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
53	2.91E-10	4.83E-06	%FL_TBC-B21A-S-M50	
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
54	2.91E-10	4.83E-06	%FL_TBC-B21A-S-M50	
		2.63E-04	E50-BV_-OC-F004D	MAINTENANCE VALVE F004D PLUGS/TRANSFERS CLOSED
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
55	2.84E-10	2.81E-07	%FL_RBCNT-E50A-L-M50	
		4.41E-03	R21-DG_-FR-CCF_1_2	CCF OF TWO COMPONENTS: R21-DG_-FR-DGA & R21-DG_-FR-DGB
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
56	2.84E-10	2.81E-07	%FL_RBCNT-E50D-L-M50	
		4.41E-03	R21-DG_-FR-CCF_1_2	CCF OF TWO COMPONENTS: R21-DG_-FR-DGA & R21-DG_-FR-DGB
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
57	2.73E-10	4.17E-06	%FL_FW1-G21-S-M6U	
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
58	2.73E-10	1.19E-05	%FL_SF-P41A-S-M50	

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#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
59	2.73E-10	1.19E-05	%FL_SF-P41B-S-M5O	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
60	2.47E-10	3.59E-05	%FL_EB-U43-S-M5	
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
61	2.42E-10	1.11E-05	%FL_EB-U43-S-M6U	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
62	2.42E-10	3.54E-07	%FL_RBCNT-E50A-L-M6U	
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
63	2.42E-10	3.54E-07	%FL_RBCNT-E50D-L-M6U	
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
64	2.39E-10	4.17E-06	%FL_FW1-G21-S-M6U	
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED

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#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
65	2.39E-10	4.17E-06	%FL_FW1-G21-S-M6U	
		2.63E-04	E50-BV_-OC-F004D	MAINTENANCE VALVE F004D PLUGS/TRANSFERS CLOSED
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
66	2.27E-10	3.31E-06	%FL_FW1-G21-S-M5O	
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
67	2.02E-10	8.82E-06	%FL_EB-U43-S-M5O	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
68	2.02E-10	2.81E-07	%FL_RBCNT-E50A-L-M5O	
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
69	2.02E-10	2.81E-07	%FL_RBCNT-E50D-L-M5O	
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
70	2.00E-10	4.86E-05	%FL_SF-P41A-S-M5	
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'

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#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
71	2.00E-10	4.86E-05	%FL_SF-P41B-S-M5	
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
72	1.99E-10	3.31E-06	%FL_FW1-G21-S-M50	
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
73	1.99E-10	3.31E-06	%FL_FW1-G21-S-M50	
		2.63E-04	E50-BV_-OC-F004D	MAINTENANCE VALVE F004D PLUGS/TRANSFERS CLOSED
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
74	1.99E-10	6.08E-06	%FL_TBC-B21A-S-M6U	
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
75	1.99E-10	3.54E-07	%FL_RBCNT-E50A-L-M6U	
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGB	STANDBY DIESEL GENERATOR "B" IN MAINTENANCE
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
76	1.99E-10	3.54E-07	%FL_RBCNT-E50A-L-M6U	
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START

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#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		4.60E-02	R21-DG_-TM-DGA	STANDBY DIESEL GENERATOR "A" IN MAINTENANCE
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
77	1.99E-10	3.54E-07	%FL_RBCNT-E50D-L-M6U	
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGB	STANDBY DIESEL GENERATOR "B" IN MAINTENANCE
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
78	1.99E-10	3.54E-07	%FL_RBCNT-E50D-L-M6U	
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGA	STANDBY DIESEL GENERATOR "A" IN MAINTENANCE
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
79	1.77E-10	2.58E-05	%FL_TB1-P10-L-M5	
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
80	1.66E-10	4.83E-06	%FL_TBC-B21A-S-M50	
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
81	1.66E-10	4.83E-06	%FL_TBC-B21A-S-M50	
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'

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#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
82	1.66E-10	2.81E-07	%FL_RBCNT-E50A-L-M50	
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGB	STANDBY DIESEL GENERATOR "B" IN MAINTENANCE
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
83	1.66E-10	2.81E-07	%FL_RBCNT-E50A-L-M50	
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGA	STANDBY DIESEL GENERATOR "A" IN MAINTENANCE
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
84	1.66E-10	2.81E-07	%FL_RBCNT-E50D-L-M50	
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGB	STANDBY DIESEL GENERATOR "B" IN MAINTENANCE
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
85	1.66E-10	2.81E-07	%FL_RBCNT-E50D-L-M50	
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGA	STANDBY DIESEL GENERATOR "A" IN MAINTENANCE
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY

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#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
86	1.61E-10	1.14E-06	%FL_RBCNT-E50A-L-M5	
		3.84E-02	B32-TM-LOOPA-IND	ICS LOOP A IN TEST OR MAINTENANCE BY ITSELF
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
87	1.61E-10	1.14E-06	%FL_RBCNT-E50A-L-M5	
		3.84E-02	B32-TM-LOOPB-IND	ICS LOOP B IN TEST OR MAINTENANCE BY ITSELF
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
88	1.61E-10	1.14E-06	%FL_RBCNT-E50D-L-M5	
		3.84E-02	B32-TM-LOOPA-IND	ICS LOOP A IN TEST OR MAINTENANCE BY ITSELF
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
89	1.61E-10	1.14E-06	%FL_RBCNT-E50D-L-M5	
		3.84E-02	B32-TM-LOOPB-IND	ICS LOOP B IN TEST OR MAINTENANCE BY ITSELF
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY

Table 11B-18
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#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
90	1.54E-10	3.54E-07	%FL_RBCNT-E50A-L-M6U	
		2.00E-03	P21-ACV-OO-F0004	AIR OPERATED VALVE F0004 FAILS TO CLOSE
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
91	1.54E-10	3.54E-07	%FL_RBCNT-E50A-L-M6U	
		2.00E-03	P21-ACV-OO-F0027	AIR OPERATED VALVE F0027 FAILS TO CLOSE
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
92	1.54E-10	3.54E-07	%FL_RBCNT-E50A-L-M6U	
		2.00E-03	P21-ACV-OO-F0061	AIR OPERATED VALVE F0061 FAILS TO CLOSE
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
93	1.54E-10	3.54E-07	%FL_RBCNT-E50D-L-M6U	
		2.00E-03	P21-ACV-OO-F0004	AIR OPERATED VALVE F0004 FAILS TO CLOSE
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
94	1.54E-10	3.54E-07	%FL_RBCNT-E50D-L-M6U	
		2.00E-03	P21-ACV-OO-F0027	AIR OPERATED VALVE F0027 FAILS TO CLOSE
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
95	1.54E-10	3.54E-07	%FL_RBCNT-E50D-L-M6U	

Table 11B-18
Shutdown Flood RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		2.00E-03	P21-ACV-OO-F0061	AIR OPERATED VALVE F0061 FAILS TO CLOSE
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC
96	1.51E-10	6.58E-06	%FL_FB-3-G21-L-M5	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
97	1.48E-10	3.59E-05	%FL_EB-U43-S-M5	
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
98	1.47E-10	6.40E-06	%FL_TB-P41A-L-M5	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
99	1.47E-10	6.40E-06	%FL_TB-P41B-L-M5	
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		2.29E-01	R-M5-G31	RWCU/SDC RECOVERY
100	1.36E-10	4.17E-06	%FL_FW1-G21-S-M6U	
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
		2.18E-01	R-M6-G31	FAILURE TO RECOVER RWCU/SDC

Table 11B-19
Level 1 High Winds Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
1	7.60E-06	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
2	2.28E-06	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
3	1.37E-06	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
4	8.64E-07	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
5	7.60E-07	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E-04	C71-CCFSOFTWARE	RPS COMMON CAUSE SOFTWARE FAILURE
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM

Table 11B-19
Level 1 High Winds Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
6	3.42E-07	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		4.50E-05	C71-SLU-FC-R_ALL	CCF OF ALL COMPONENTS IN GROUP 'C71-SLU-FC-R'
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
7	2.74E-07	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.60E-06	C63-LT_-NO-ESFRX_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LT_-NO-ESFRX'
8	2.28E-07	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
9	2.28E-07	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE

Table 11B-19
Level 1 High Winds Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
10	2.28E-07	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-05	C71-DTM-FC-R_ALL	CCF OF ALL COMPONENTS IN GROUP 'C71-DTM-FC-R'
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
11	1.52E-07	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.76E-01	B32-XHE-FO-VENT	OPERATOR FAILS TO OPEN VENT
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'
12	1.41E-07	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.86E-06	C63-LDD-FC-ESFLOADS	CCF OF ALL ESF LOAD DRIVERS
13	1.37E-07	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.80E-05	C71-OLU-FC-R_ALL	CCF OF ALL COMPONENTS IN GROUP 'C71-OLU-FC-R'

Table 11B-19
Level 1 High Winds Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
14	8.45E-08	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.11E-06	C63-DTM-FC-ESFLG_1_2_3	CCF OF THREE COMPONENTS: C63-DTM-FC-ESFD1 & C63-DTM-FC-ESFD2 & C63-DTM-FC-ESFD3
15	8.45E-08	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.11E-06	C63-DTM-FC-ESFLG_1_2_4	CCF OF THREE COMPONENTS: C63-DTM-FC-ESFD1 & C63-DTM-FC-ESFD2 & C63-DTM-FC-ESFD4
16	8.45E-08	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.11E-06	C63-DTM-FC-ESFLG_1_3_4	CCF OF THREE COMPONENTS: C63-DTM-FC-ESFD1 & C63-DTM-FC-ESFD3 & C63-DTM-FC-ESFD4
17	8.45E-08	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.11E-06	C63-DTM-FC-ESFLG_2_3_4	CCF OF THREE COMPONENTS: C63-DTM-FC-ESFD2 & C63-DTM-FC-ESFD3 & C63-DTM-FC-ESFD4
18	6.19E-08	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5

**Table 11B-19
Level 1 High Winds Focus Top 100 Cutsets**

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		8.14E-07	R16-BT_-LP-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R16-BT_-LP-CCFSR'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
19	4.56E-08	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-F006A	SAFETY/RELIEF VALVE F006A FAILS TO RE-CLOSE
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
20	4.56E-08	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-F006B	SAFETY/RELIEF VALVE F006B FAILS TO RE-CLOSE
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
21	4.56E-08	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-F006C	SAFETY/RELIEF VALVE F006C FAILS TO RE-CLOSE
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
22	4.56E-08	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5

Table 11B-19
Level 1 High Winds Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		6.00E-03	B21-SRV-OO-F006D	SAFETY/RELIEF VALVE F006D FAILS TO RE-CLOSE
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
23	4.56E-08	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-F006E	SAFETY/RELIEF VALVE F006E FAILS TO RE-CLOSE
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
24	4.56E-08	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-F006F	SAFETY/RELIEF VALVE F006F FAILS TO RE-CLOSE
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
25	4.56E-08	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-F006G	SAFETY/RELIEF VALVE F006G FAILS TO RE-CLOSE
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
26	4.56E-08	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5

Table 11B-19
Level 1 High Winds Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		6.00E-03	B21-SRV-OO-F006H	SAFETY/RELIEF VALVE F006H FAILS TO RE-CLOSE
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
27	4.56E-08	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-F006J	SAFETY/RELIEF VALVE F006J FAILS TO RE-CLOSE
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
28	4.56E-08	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-F006K	SAFETY/RELIEF VALVE F006K FAILS TO RE-CLOSE
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
29	2.74E-08	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.60E-06	C63-LT_-NO-RPSRX_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LT_-NO- RPSRX'
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
30	2.74E-08	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5

Table 11B-19
Level 1 High Winds Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		3.60E-07	C63-PSP-FO-ESFEP_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-PSP-FO-ESFEP'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
31	2.53E-08	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.33E-04	B32-SQV-CC-XCONN_1_2	CCF OF TWO COMPONENTS: B32-SQV-CC-F104A & B32-SQV-CC-F104B
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
32	2.53E-08	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.33E-04	B32-SQV-CC-XCONN_1_2	CCF OF TWO COMPONENTS: B32-SQV-CC-F104A & B32-SQV-CC-F104B
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
33	2.28E-08	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E-04	B32-NPO-CC-F105A	F105A FAILS TO OPEN
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN

Table 11B-19
Level 1 High Winds Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
34	2.28E-08	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E-04	B32-NPO-CC-F105B	F105B FAILS TO OPEN
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
35	1.90E-08	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		2.50E-07	C12-ROD-CF-SCRAM	CCF OF CONTROL RODS TO INSERT
36	1.37E-08	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-F006A	SAFETY/RELIEF VALVE F006A FAILS TO RE-CLOSE
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
37	1.37E-08	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-F006B	SAFETY/RELIEF VALVE F006B FAILS TO RE-CLOSE

Table 11B-19
Level 1 High Winds Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
38	1.37E-08	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-F006C	SAFETY/RELIEF VALVE F006C FAILS TO RE-CLOSE
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
39	1.37E-08	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-F006D	SAFETY/RELIEF VALVE F006D FAILS TO RE-CLOSE
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
40	1.37E-08	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-F006E	SAFETY/RELIEF VALVE F006E FAILS TO RE-CLOSE
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
41	1.37E-08	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-F006F	SAFETY/RELIEF VALVE F006F FAILS TO RE-CLOSE

Table 11B-19
Level 1 High Winds Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
42	1.37E-08	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-F006G	SAFETY/RELIEF VALVE F006G FAILS TO RE-CLOSE
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
43	1.37E-08	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-F006H	SAFETY/RELIEF VALVE F006H FAILS TO RE-CLOSE
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
44	1.37E-08	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-F006J	SAFETY/RELIEF VALVE F006J FAILS TO RE-CLOSE
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
45	1.37E-08	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-F006K	SAFETY/RELIEF VALVE F006K FAILS TO RE-CLOSE

Table 11B-19
Level 1 High Winds Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
46	1.27E-08	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.67E-06	C71-SLU-FC-R_1_2_3	CCF OF THREE COMPONENTS: C71-SLU-FC-RPSDIV1 & C71-SLU-FC-RPSDIV2 & C71-SLU-FC-RP
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
47	1.27E-08	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.67E-06	C71-SLU-FC-R_1_2_4	CCF OF THREE COMPONENTS: C71-SLU-FC-RPSDIV1 & C71-SLU-FC-RPSDIV2 & C71-SLU-FC-RP
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
48	1.27E-08	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.67E-06	C71-SLU-FC-R_1_3_4	CCF OF THREE COMPONENTS: C71-SLU-FC-RPSDIV1 & C71-SLU-FC-RPSDIV3 & C71-SLU-FC-RP
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
49	1.27E-08	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5

Table 11B-19
Level 1 High Winds Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.67E-06	C71-SLU-FC-R_2_3_4	CCF OF THREE COMPONENTS: C71-SLU-FC-RPSDIV2 & C71-SLU-FC-RPSDIV3 & C71-SLU-FC-RP
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
50	1.09E-08	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.76E-01	B32-XHE-FO-VENT	OPERATOR FAILS TO OPEN VENT
		8.14E-07	R16-BT_-LP-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R16-BT_-LP-CCFSR'
51	9.68E-09	9.68E-05	%T-LOPP-WRT23	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO CATEGORY F2/F3
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
52	8.45E-09	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.11E-06	C71-DTM-FC-R_1_2_3	CCF OF THREE COMPONENTS: C71-DTM-FC-RPSDIV1 & C71-DTM-FC-RPSDIV2 & C71-DTM-FC-RP
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM

Table 11B-19
Level 1 High Winds Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
53	8.45E-09	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.11E-06	C71-DTM-FC-R_1_2_4	CCF OF THREE COMPONENTS: C71-DTM-FC-RPSDIV1 & C71-DTM-FC-RPSDIV2 & C71-DTM-FC-RP
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
54	8.45E-09	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.11E-06	C71-DTM-FC-R_1_3_4	CCF OF THREE COMPONENTS: C71-DTM-FC-RPSDIV1 & C71-DTM-FC-RPSDIV3 & C71-DTM-FC-RP
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
55	8.45E-09	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.11E-06	C71-DTM-FC-R_2_3_4	CCF OF THREE COMPONENTS: C71-DTM-FC-RPSDIV2 & C71-DTM-FC-RPSDIV3 & C71-DTM-FC-RP
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
56	8.21E-09	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-F006A	SAFETY/RELIEF VALVE F006A FAILS TO RE-CLOSE

Table 11B-19
Level 1 High Winds Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
57	8.21E-09	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-F006B	SAFETY/RELIEF VALVE F006B FAILS TO RE-CLOSE
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
58	8.21E-09	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-F006C	SAFETY/RELIEF VALVE F006C FAILS TO RE-CLOSE
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
59	8.21E-09	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-F006D	SAFETY/RELIEF VALVE F006D FAILS TO RE-CLOSE
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
60	8.21E-09	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-F006E	SAFETY/RELIEF VALVE F006E FAILS TO RE-CLOSE

Table 11B-19
Level 1 High Winds Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
61	8.21E-09	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-F006F	SAFETY/RELIEF VALVE F006F FAILS TO RE-CLOSE
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
62	8.21E-09	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-F006G	SAFETY/RELIEF VALVE F006G FAILS TO RE-CLOSE
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
63	8.21E-09	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-F006H	SAFETY/RELIEF VALVE F006H FAILS TO RE-CLOSE
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
64	8.21E-09	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-F006J	SAFETY/RELIEF VALVE F006J FAILS TO RE-CLOSE

Table 11B-19
Level 1 High Winds Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
65	8.21E-09	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-F006K	SAFETY/RELIEF VALVE F006K FAILS TO RE-CLOSE
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
66	6.09E-09	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		2.67E-05	B32-UV_-OO-XCONN-ACC_1_2	CCF OF TWO COMPONENTS: B32-UV_-OO-F105A & B32-UV_-OO-F105B
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
67	6.09E-09	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		2.67E-05	B32-UV_-OO-XCONN-ACC_1_2	CCF OF TWO COMPONENTS: B32-UV_-OO-F105A & B32-UV_-OO-F105B
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

**Table 11B-19
Level 1 High Winds Focus Top 100 Cutsets**

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
68	5.47E-09	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		2.40E-05	B32-UV_-RL-F105A	CHECK VALVE REVERSE LEAKAGE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
69	5.47E-09	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		2.40E-05	B32-UV_-RL-F105B	CHECK VALVE REVERSE LEAKAGE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
70	4.82E-09	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.76E-01	B32-XHE-FO-VENT	OPERATOR FAILS TO OPEN VENT
		3.60E-07	C63-PSP-FO-ESFEP_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-PSP-FO-ESFEP'

Table 11B-19
Level 1 High Winds Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
71	2.90E-09	9.68E-05	%T-LOPP-WRT23	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO CATEGORY F2/F3
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
72	2.53E-09	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E-04	B32-NPO-CC-F105A	F105A FAILS TO OPEN
		3.33E-04	B32-SQV-CC-XCONN_1_2	CCF OF TWO COMPONENTS: B32-SQV-CC-F104A & B32-SQV-CC-F104B
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
73	2.53E-09	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E-04	B32-NPO-CC-F105B	F105B FAILS TO OPEN
		3.33E-04	B32-SQV-CC-XCONN_1_2	CCF OF TWO COMPONENTS: B32-SQV-CC-F104A & B32-SQV-CC-F104B
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
74	2.20E-09	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		9.65E-06	B32-NPO-CC-XCONN_1_2	CCF OF TWO COMPONENTS: B32-NPO-CC-F105A & B32-NPO-CC-F105B

Table 11B-19
Level 1 High Winds Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
75	2.20E-09	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		9.65E-06	B32-NPO-CC-XCONN_1_2	CCF OF TWO COMPONENTS: B32-NPO-CC-F105A & B32-NPO-CC-F105B
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
76	1.74E-09	9.68E-05	%T-LOPP-WRT23	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO CATEGORY F2/F3
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
77	1.64E-09	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-F006A	SAFETY/RELIEF VALVE F006A FAILS TO RE-CLOSE
		3.60E-06	C63-LT_-NO-ESFRX_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LT_-NO-ESFRX'
78	1.64E-09	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5

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Level 1 High Winds Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		6.00E-03	B21-SRV-OO-F006B	SAFETY/RELIEF VALVE F006B FAILS TO RE-CLOSE
		3.60E-06	C63-LT_-NO-ESFRX_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LT_-NO-ESFRX'
79	1.64E-09	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-F006C	SAFETY/RELIEF VALVE F006C FAILS TO RE-CLOSE
		3.60E-06	C63-LT_-NO-ESFRX_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LT_-NO-ESFRX'
80	1.64E-09	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-F006D	SAFETY/RELIEF VALVE F006D FAILS TO RE-CLOSE
		3.60E-06	C63-LT_-NO-ESFRX_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LT_-NO-ESFRX'
81	1.64E-09	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-F006E	SAFETY/RELIEF VALVE F006E FAILS TO RE-CLOSE
		3.60E-06	C63-LT_-NO-ESFRX_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LT_-NO-ESFRX'
82	1.64E-09	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5

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Level 1 High Winds Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		6.00E-03	B21-SRV-OO-F006F	SAFETY/RELIEF VALVE F006F FAILS TO RE-CLOSE
		3.60E-06	C63-LT_-NO-ESFRX_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LT_-NO-ESFRX'
83	1.64E-09	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-F006G	SAFETY/RELIEF VALVE F006G FAILS TO RE-CLOSE
		3.60E-06	C63-LT_-NO-ESFRX_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LT_-NO-ESFRX'
84	1.64E-09	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-F006H	SAFETY/RELIEF VALVE F006H FAILS TO RE-CLOSE
		3.60E-06	C63-LT_-NO-ESFRX_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LT_-NO-ESFRX'
85	1.64E-09	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-F006J	SAFETY/RELIEF VALVE F006J FAILS TO RE-CLOSE
		3.60E-06	C63-LT_-NO-ESFRX_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LT_-NO-ESFRX'
86	1.64E-09	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5

Table 11B-19
Level 1 High Winds Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		6.00E-03	B21-SRV-OO-F006K	SAFETY/RELIEF VALVE F006K FAILS TO RE-CLOSE
		3.60E-06	C63-LT_-NO-ESFRX_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LT_-NO-ESFRX'
87	1.45E-09	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.91E-08	C63-LT_-NO-ESFRX_1_2_3	CCF OF THREE COMPONENTS: C63-LT_-NO-ESFRXLVLA & C63-LT_-NO-ESFRXLVLB & C63-LT_-N
88	1.45E-09	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.91E-08	C63-LT_-NO-ESFRX_1_2_4	CCF OF THREE COMPONENTS: C63-LT_-NO-ESFRXLVLA & C63-LT_-NO-ESFRXLVLB & C63-LT_-N
89	1.45E-09	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.91E-08	C63-LT_-NO-ESFRX_1_3_4	CCF OF THREE COMPONENTS: C63-LT_-NO-ESFRXLVLA & C63-LT_-NO-ESFRXLVLC & C63-LT_-N
90	1.45E-09	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.91E-08	C63-LT_-NO-ESFRX_2_3_4	CCF OF THREE COMPONENTS: C63-LT_-NO-ESFRXLVLB & C63-LT_-NO-ESFRXLVLC & C63-LT_-N

Table 11B-19
Level 1 High Winds Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
91	1.14E-09	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		1.00E-04	C63-CCFSOFTWARE_S	ESF SPURIOUS COMMON CAUSE SOFTWARE FAILURE
92	1.14E-09	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E-04	C63-CCFSOFTWARE_S	ESF SPURIOUS COMMON CAUSE SOFTWARE FAILURE
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
93	1.10E-09	9.68E-05	%T-LOPP-WRT23	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO CATEGORY F2/F3
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
94	1.01E-09	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.33E-07	C63-LT_-NO-RPSRX_1_2_3	CCF OF THREE COMPONENTS: C63-LT_-NO-RPSRXLVLA & C63-LT_-NO-RPSRXLVLB & C63-LT_-N

Table 11B-19
Level 1 High Winds Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
95	1.01E-09	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.33E-07	C63-LT_-NO-RPSRX_1_2_4	CCF OF THREE COMPONENTS: C63-LT_-NO-RPSRXLVLA & C63-LT_-NO-RPSRXLVLB & C63-LT_-N
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
96	1.01E-09	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.33E-07	C63-LT_-NO-RPSRX_1_3_4	CCF OF THREE COMPONENTS: C63-LT_-NO-RPSRXLVLA & C63-LT_-NO-RPSRXLVLC & C63-LT_-N
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
97	1.01E-09	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.33E-07	C63-LT_-NO-RPSRX_2_3_4	CCF OF THREE COMPONENTS: C63-LT_-NO-RPSRXLVLB & C63-LT_-NO-RPSRXLVLC & C63-LT_-N
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
98	9.68E-10	9.68E-05	%T-LOPP-WRT23	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO CATEGORY F2/F3

Table 11B-19
Level 1 High Winds Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E-04	C71-CCFSOFTWARE	RPS COMMON CAUSE SOFTWARE FAILURE
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
99	9.13E-10	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-F006A	SAFETY/RELIEF VALVE F006A FAILS TO RE-CLOSE
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.76E-01	B32-XHE-FO-VENT	OPERATOR FAILS TO OPEN VENT
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'
100	9.13E-10	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-F006B	SAFETY/RELIEF VALVE F006B FAILS TO RE-CLOSE
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.76E-01	B32-XHE-FO-VENT	OPERATOR FAILS TO OPEN VENT
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'

Table 11B-20
Level 1 High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
1	3.67E-09	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
2	3.67E-09	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
3	7.60E-10	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E-04	C72-CCFSOFTWARE	COMMON CAUSE FAILURE OF DPS PROCESSORS
4	4.42E-10	4.42E-06	%T-LOPP-WRT4	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO CATEGORY F4

Table 11B-20
Level 1 High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
5	4.08E-10	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.33E-04	B32-SQV-CC-XCONN_1_2	CCF OF TWO COMPONENTS: B32-SQV-CC-F104A & B32-SQV-CC-F104B
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
6	4.08E-10	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.33E-04	B32-SQV-CC-XCONN_1_2	CCF OF TWO COMPONENTS: B32-SQV-CC-F104A & B32-SQV-CC-F104B
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
7	3.67E-10	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E-04	B32-NPO-CC-F105A	F105A FAILS TO OPEN
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE

Table 11B-20
Level 1 High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
8	3.67E-10	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E-04	B32-NPO-CC-F105B	F105B FAILS TO OPEN
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
9	3.67E-10	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
		1.61E-03	XXX-XHE-FO-ICPCCS	OPERATOR FAILS TO RECOGNIZE THE NEED TO MAKEUP ICS/PCCS POOL LEVEL.
10	3.67E-10	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
		1.61E-03	XXX-XHE-FO-ICPCCS	OPERATOR FAILS TO RECOGNIZE THE NEED TO MAKEUP ICS/PCCS POOL LEVEL.

Table 11B-20
Level 1 High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
11	3.03E-10	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
12	3.03E-10	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
13	2.55E-10	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START

Table 11B-20
Level 1 High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
14	2.55E-10	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
15	2.49E-10	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		4.60E-02	R21-DG_-TM-DGB	STANDBY DIESEL GENERATOR "B" IN MAINTENANCE
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
16	2.49E-10	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5

Table 11B-20
Level 1 High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		4.60E-02	R21-DG_-TM-DGB	STANDBY DIESEL GENERATOR "B" IN MAINTENANCE
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
17	2.28E-10	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
		1.00E-04	C72-CCFSOFTWARE	COMMON CAUSE FAILURE OF DPS PROCESSORS
18	2.10E-10	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		4.60E-02	R21-DG_-TM-DGB	STANDBY DIESEL GENERATOR "B" IN MAINTENANCE
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
19	2.10E-10	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5

Table 11B-20
Level 1 High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		4.60E-02	R21-DG_-TM-DGB	STANDBY DIESEL GENERATOR "B" IN MAINTENANCE
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
20	1.84E-10	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.61E-01	XXX-XHE-FO-DEPRESS	OPERATOR FAILS TO RECOGNIZE NEED OF DEPRESSURIZATION
21	1.84E-10	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		1.00E-04	C63-CCFSOFTWARE_S	ESF SPURIOUS COMMON CAUSE SOFTWARE FAILURE
		1.61E-01	XXX-XHE-FO-DEPRESS	OPERATOR FAILS TO RECOGNIZE NEED OF DEPRESSURIZATION

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Level 1 High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
22	1.84E-10	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
		1.61E-01	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
23	1.84E-10	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E-04	C63-CCFSOFTWARE_S	ESF SPURIOUS COMMON CAUSE SOFTWARE FAILURE
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
		1.61E-01	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
24	1.37E-10	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
		1.00E-04	C72-CCFSOFTWARE	COMMON CAUSE FAILURE OF DPS PROCESSORS

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Level 1 High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
25	1.33E-10	4.42E-06	%T-LOPP-WRT4	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO CATEGORY F4
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
26	1.14E-10	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-ANYSRV1	SAFETY/RELIEF VALVE FAILS TO RE-CLOSE
		2.50E-07	C12-ROD-CF-SCRAM	CCF OF CONTROL RODS TO INSERT
27	1.14E-10	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-ANYSRV10	SAFETY/RELIEF VALVE FAILS TO RE-CLOSE
		2.50E-07	C12-ROD-CF-SCRAM	CCF OF CONTROL RODS TO INSERT
28	1.14E-10	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-ANYSRV11	SAFETY/RELIEF VALVE FAILS TO RE-CLOSE
		2.50E-07	C12-ROD-CF-SCRAM	CCF OF CONTROL RODS TO INSERT
29	1.14E-10	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5

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Level 1 High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		6.00E-03	B21-SRV-OO-ANYSRV12	SAFETY/RELIEF VALVE FAILS TO RE-CLOSE
		2.50E-07	C12-ROD-CF-SCRAM	CCF OF CONTROL RODS TO INSERT
30	1.14E-10	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-ANYSRV13	SAFETY/RELIEF VALVE FAILS TO RE-CLOSE
		2.50E-07	C12-ROD-CF-SCRAM	CCF OF CONTROL RODS TO INSERT
31	1.14E-10	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-ANYSRV14	SAFETY/RELIEF VALVE FAILS TO RE-CLOSE
		2.50E-07	C12-ROD-CF-SCRAM	CCF OF CONTROL RODS TO INSERT
32	1.14E-10	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-ANYSRV15	SAFETY/RELIEF VALVE FAILS TO RE-CLOSE
		2.50E-07	C12-ROD-CF-SCRAM	CCF OF CONTROL RODS TO INSERT
33	1.14E-10	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5

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Level 1 High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		6.00E-03	B21-SRV-OO-ANYSRV16	SAFETY/RELIEF VALVE FAILS TO RE-CLOSE
		2.50E-07	C12-ROD-CF-SCRAM	CCF OF CONTROL RODS TO INSERT
34	1.14E-10	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-ANYSRV17	SAFETY/RELIEF VALVE FAILS TO RE-CLOSE
		2.50E-07	C12-ROD-CF-SCRAM	CCF OF CONTROL RODS TO INSERT
35	1.14E-10	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-ANYSRV18	SAFETY/RELIEF VALVE FAILS TO RE-CLOSE
		2.50E-07	C12-ROD-CF-SCRAM	CCF OF CONTROL RODS TO INSERT
36	1.14E-10	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-ANYSRV2	SAFETY/RELIEF VALVE FAILS TO RE-CLOSE
		2.50E-07	C12-ROD-CF-SCRAM	CCF OF CONTROL RODS TO INSERT
37	1.14E-10	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5

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Level 1 High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		6.00E-03	B21-SRV-OO-ANYSRV3	SAFETY/RELIEF VALVE FAILS TO RE-CLOSE
		2.50E-07	C12-ROD-CF-SCRAM	CCF OF CONTROL RODS TO INSERT
38	1.14E-10	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-ANYSRV4	SAFETY/RELIEF VALVE FAILS TO RE-CLOSE
		2.50E-07	C12-ROD-CF-SCRAM	CCF OF CONTROL RODS TO INSERT
39	1.14E-10	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-ANYSRV5	SAFETY/RELIEF VALVE FAILS TO RE-CLOSE
		2.50E-07	C12-ROD-CF-SCRAM	CCF OF CONTROL RODS TO INSERT
40	1.14E-10	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-ANYSRV6	SAFETY/RELIEF VALVE FAILS TO RE-CLOSE
		2.50E-07	C12-ROD-CF-SCRAM	CCF OF CONTROL RODS TO INSERT
41	1.14E-10	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5

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Level 1 High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		6.00E-03	B21-SRV-OO-ANYSRV7	SAFETY/RELIEF VALVE FAILS TO RE-CLOSE
		2.50E-07	C12-ROD-CF-SCRAM	CCF OF CONTROL RODS TO INSERT
42	1.14E-10	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-ANYSRV8	SAFETY/RELIEF VALVE FAILS TO RE-CLOSE
		2.50E-07	C12-ROD-CF-SCRAM	CCF OF CONTROL RODS TO INSERT
43	1.14E-10	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-ANYSRV9	SAFETY/RELIEF VALVE FAILS TO RE-CLOSE
		2.50E-07	C12-ROD-CF-SCRAM	CCF OF CONTROL RODS TO INSERT
44	9.80E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		2.67E-05	B32-UV_-OO-XCONN-ACC_1_2	CCF OF TWO COMPONENTS: B32-UV_-OO-F105A & B32-UV_-OO-F105B
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

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Level 1 High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
45	9.80E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		2.67E-05	B32-UV_-OO-XCONN-ACC_1_2	CCF OF TWO COMPONENTS: B32-UV_-OO-F105A & B32-UV_-OO-F105B
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
46	8.81E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		2.40E-05	B32-UV_-RL-F105A	CHECK VALVE REVERSE LEAKAGE
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
47	8.81E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		2.40E-05	B32-UV_-RL-F105B	CHECK VALVE REVERSE LEAKAGE
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE

Table 11B-20
Level 1 High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
48	8.64E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.14E-05	R13-INV-FC-CCFNSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFNSR'
49	7.96E-11	4.42E-06	%T-LOPP-WRT4	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO CATEGORY F4
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
50	7.60E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E-04	C71-CCFSOFTWARE	RPS COMMON CAUSE SOFTWARE FAILURE
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
		1.00E-04	C72-CCFSOFTWARE	COMMON CAUSE FAILURE OF DPS PROCESSORS
51	7.60E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE

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#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E-05	C72-LOG-FC-D_1_2	CCF OF TWO COMPONENTS: C72-LOG-FC-D1DPS & C72-LOG-FC-D2DPS
52	7.60E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E-05	C72-LOG-FC-D_1_3	CCF OF TWO COMPONENTS: C72-LOG-FC-D1DPS & C72-LOG-FC-D3DPS
53	7.60E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E-05	C72-LOG-FC-D_2_3	CCF OF TWO COMPONENTS: C72-LOG-FC-D2DPS & C72-LOG-FC-D3DPS
54	7.57E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		1.40E-02	R21-DG_-FS-DGB	DG-B FAILS TO START AND LOAD
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
55	7.57E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5

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Level 1 High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		1.40E-02	R21-DG_-FS-DGB	DG-B FAILS TO START AND LOAD
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
56	6.38E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		1.40E-02	R21-DG_-FS-DGB	DG-B FAILS TO START AND LOAD
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
57	6.38E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		1.40E-02	R21-DG_-FS-DGB	DG-B FAILS TO START AND LOAD
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

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Level 1 High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
58	5.86E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		1.08E-02	R21-FLT-PG-DGB	FILTER PLUGGED
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
59	5.86E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		1.08E-02	R21-FLT-PG-DGB	FILTER PLUGGED
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
60	5.02E-11	5.02E-07	%T-LOPP-WRT5	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO CATEGORY F5
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
61	4.94E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN

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Level 1 High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		1.08E-02	R21-FLT-PG-DGB	FILTER PLUGGED
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
62	4.94E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		1.08E-02	R21-FLT-PG-DGB	FILTER PLUGGED
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
63	4.42E-11	4.42E-06	%T-LOPP-WRT4	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO CATEGORY F4
		1.00E-04	C71-CCFSOFTWARE	RPS COMMON CAUSE SOFTWARE FAILURE
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
64	4.36E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE

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Level 1 High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		8.07E-03	P21-TRN-RE-HX1B	FAILURE TO RESTORE RCCW TRAIN 1B HX
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
65	4.36E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		8.07E-03	P21-TRN-RE-HX2B	FAILURE TO RESTORE RCCW TRAIN 2B HX
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
66	4.36E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		8.07E-03	P21-TRN-RE-HX3B	FAILURE TO RESTORE RCCW TRAIN 3B HX
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

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Level 1 High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
67	4.36E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		8.07E-03	P21-TRN-RE-PUMP1B	FAILURE TO RESTORE RCCW TRAIN 1B PUMP
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
68	4.36E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		8.07E-03	P21-TRN-RE-PUMP2B	FAILURE TO RESTORE RCCW TRAIN 2B PUMP
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
69	4.36E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		8.07E-03	P21-TRN-RE-PUMP3B	FAILURE TO RESTORE RCCW TRAIN 3B PUMP

Table 11B-20
Level 1 High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
70	4.36E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		8.07E-03	P21-TRN-RE-HX1B	FAILURE TO RESTORE RCCW TRAIN 1B HX
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
71	4.36E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		8.07E-03	P21-TRN-RE-HX2B	FAILURE TO RESTORE RCCW TRAIN 2B HX
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
72	4.36E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5

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Level 1 High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		8.07E-03	P21-TRN-RE-HX3B	FAILURE TO RESTORE RCCW TRAIN 3B HX
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
73	4.36E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		8.07E-03	P21-TRN-RE-PUMP1B	FAILURE TO RESTORE RCCW TRAIN 1B PUMP
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
74	4.36E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		8.07E-03	P21-TRN-RE-PUMP2B	FAILURE TO RESTORE RCCW TRAIN 2B PUMP
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN

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Level 1 High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
75	4.36E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		8.07E-03	P21-TRN-RE-PUMP3B	FAILURE TO RESTORE RCCW TRAIN 3B PUMP
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
76	4.08E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E-04	B32-NPO-CC-F105A	F105A FAILS TO OPEN
		3.33E-04	B32-SQV-CC-XCONN_1_2	CCF OF TWO COMPONENTS: B32-SQV-CC-F104A & B32-SQV-CC-F104B
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
77	4.08E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E-04	B32-NPO-CC-F105B	F105B FAILS TO OPEN
		3.33E-04	B32-SQV-CC-XCONN_1_2	CCF OF TWO COMPONENTS: B32-SQV-CC-F104A & B32-SQV-CC-F104B

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Level 1 High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
78	4.08E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.33E-04	B32-SQV-CC-XCONN_1_2	CCF OF TWO COMPONENTS: B32-SQV-CC-F104A & B32-SQV-CC-F104B
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
		1.61E-03	XXX-XHE-FO-ICPCCS	OPERATOR FAILS TO RECOGNIZE THE NEED TO MAKEUP ICS/PCCS POOL LEVEL.
79	4.08E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.33E-04	B32-SQV-CC-XCONN_1_2	CCF OF TWO COMPONENTS: B32-SQV-CC-F104A & B32-SQV-CC-F104B
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
		1.61E-03	XXX-XHE-FO-ICPCCS	OPERATOR FAILS TO RECOGNIZE THE NEED TO MAKEUP ICS/PCCS POOL LEVEL.
80	3.68E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE

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Level 1 High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		8.07E-03	P21-TRN-RE-HX1B	FAILURE TO RESTORE RCCW TRAIN 1B HX
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
81	3.68E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		8.07E-03	P21-TRN-RE-HX2B	FAILURE TO RESTORE RCCW TRAIN 2B HX
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
82	3.68E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		8.07E-03	P21-TRN-RE-HX3B	FAILURE TO RESTORE RCCW TRAIN 3B HX
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

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Level 1 High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
83	3.68E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		8.07E-03	P21-TRN-RE-PUMP1B	FAILURE TO RESTORE RCCW TRAIN 1B PUMP
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
84	3.68E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		8.07E-03	P21-TRN-RE-PUMP2B	FAILURE TO RESTORE RCCW TRAIN 2B PUMP
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
85	3.68E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		8.07E-03	P21-TRN-RE-PUMP3B	FAILURE TO RESTORE RCCW TRAIN 3B PUMP

Table 11B-20
Level 1 High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
86	3.68E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		8.07E-03	P21-TRN-RE-HX1B	FAILURE TO RESTORE RCCW TRAIN 1B HX
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
87	3.68E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		8.07E-03	P21-TRN-RE-HX2B	FAILURE TO RESTORE RCCW TRAIN 2B HX
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
88	3.68E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5

Table 11B-20
Level 1 High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		8.07E-03	P21-TRN-RE-HX3B	FAILURE TO RESTORE RCCW TRAIN 3B HX
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
89	3.68E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		8.07E-03	P21-TRN-RE-PUMP1B	FAILURE TO RESTORE RCCW TRAIN 1B PUMP
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
90	3.68E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		8.07E-03	P21-TRN-RE-PUMP2B	FAILURE TO RESTORE RCCW TRAIN 2B PUMP
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START

Table 11B-20
Level 1 High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
91	3.68E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		8.07E-03	P21-TRN-RE-PUMP3B	FAILURE TO RESTORE RCCW TRAIN 3B PUMP
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
92	3.67E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E-04	B32-NPO-CC-F105A	F105A FAILS TO OPEN
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
		1.61E-03	XXX-XHE-FO-ICPCCS	OPERATOR FAILS TO RECOGNIZE THE NEED TO MAKEUP ICS/PCCS POOL LEVEL.
93	3.67E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E-04	B32-NPO-CC-F105B	F105B FAILS TO OPEN
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

Table 11B-20
Level 1 High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.61E-03	XXX-XHE-FO-ICPCCS	OPERATOR FAILS TO RECOGNIZE THE NEED TO MAKEUP ICS/PCCS POOL LEVEL.
94	3.54E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		9.65E-06	B32-NPO-CC-XCONN_1_2	CCF OF TWO COMPONENTS: B32-NPO-CC-F105A & B32-NPO-CC-F105B
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
95	3.54E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		9.65E-06	B32-NPO-CC-XCONN_1_2	CCF OF TWO COMPONENTS: B32-NPO-CC-F105A & B32-NPO-CC-F105B
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
96	3.42E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		4.50E-05	C71-SLU-FC-R_ALL	CCF OF ALL COMPONENTS IN GROUP 'C71-SLU-FC-R'
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM

Table 11B-20
Level 1 High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E-04	C72-CCFSOFTWARE	COMMON CAUSE FAILURE OF DPS PROCESSORS
97	3.36E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.33E-04	B32-SQV-CC-XCONN_1_2	CCF OF TWO COMPONENTS: B32-SQV-CC-F104A & B32-SQV-CC-F104B
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
98	3.36E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.33E-04	B32-SQV-CC-XCONN_1_2	CCF OF TWO COMPONENTS: B32-SQV-CC-F104A & B32-SQV-CC-F104B
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
99	3.30E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5

Table 11B-20
Level 1 High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
		1.61E-01	XXX-XHE-FO-DEPRESS	OPERATOR FAILS TO RECOGNIZE NEED OF DEPRESSURIZATION
100	3.30E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
		1.61E-01	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION

Table 11B-21
Level 2 High Winds Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
1	7.60E-06	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
2	1.37E-06	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
3	8.64E-07	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
4	7.60E-07	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E-04	C71-CCFSOFTWARE	RPS COMMON CAUSE SOFTWARE FAILURE
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM

Table 11B-21
Level 2 High Winds Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
5	3.42E-07	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		4.50E-05	C71-SLU-FC-R_ALL	CCF OF ALL COMPONENTS IN GROUP 'C71-SLU-FC-R'
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
6	2.28E-07	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
7	2.28E-07	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
8	2.28E-07	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5

Table 11B-21
Level 2 High Winds Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		3.00E-05	C71-DTM-FC-R_ALL	CCF OF ALL COMPONENTS IN GROUP 'C71-DTM-FC-R'
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
9	1.52E-07	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.76E-01	B32-XHE-FO-VENT	OPERATOR FAILS TO OPEN VENT
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
10	1.41E-07	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.86E-06	C63-LDD-FC-ESFLOADS	CCF OF ALL ESF LOAD DRIVERS
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
11	1.37E-07	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.80E-05	C71-OLU-FC-R_ALL	CCF OF ALL COMPONENTS IN GROUP 'C71-OLU-FC-R'
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM

Table 11B-21
Level 2 High Winds Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
12	6.19E-08	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		8.14E-07	R16-BT_-LP-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R16-BT_-LP-CCFSR'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
13	4.56E-08	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-F006A	SAFETY/RELIEF VALVE F006A FAILS TO RE-CLOSE
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
14	4.56E-08	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-F006B	SAFETY/RELIEF VALVE F006B FAILS TO RE-CLOSE
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
15	4.56E-08	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5

Table 11B-21
Level 2 High Winds Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		6.00E-03	B21-SRV-OO-F006C	SAFETY/RELIEF VALVE F006C FAILS TO RE-CLOSE
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
16	4.56E-08	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-F006D	SAFETY/RELIEF VALVE F006D FAILS TO RE-CLOSE
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
17	4.56E-08	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-F006E	SAFETY/RELIEF VALVE F006E FAILS TO RE-CLOSE
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
18	4.56E-08	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-F006F	SAFETY/RELIEF VALVE F006F FAILS TO RE-CLOSE

Table 11B-21
Level 2 High Winds Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
19	4.56E-08	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-F006G	SAFETY/RELIEF VALVE F006G FAILS TO RE-CLOSE
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
20	4.56E-08	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-F006H	SAFETY/RELIEF VALVE F006H FAILS TO RE-CLOSE
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
21	4.56E-08	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-F006J	SAFETY/RELIEF VALVE F006J FAILS TO RE-CLOSE
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE

Table 11B-21
Level 2 High Winds Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
22	4.56E-08	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-F006K	SAFETY/RELIEF VALVE F006K FAILS TO RE-CLOSE
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
23	2.74E-08	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.60E-06	C63-LT_-NO-RPSRX_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LT_-NO-RPSRX'
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
24	2.74E-08	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.60E-07	C63-PSP-FO-ESFEP_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-PSP-FO-ESFEP'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
25	2.53E-08	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5

Table 11B-21
Level 2 High Winds Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		3.33E-04	B32-SQV-CC-XCONN_1_2	CCF OF TWO COMPONENTS: B32-SQV-CC-F104A & B32-SQV-CC-F104B
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
26	2.53E-08	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.33E-04	B32-SQV-CC-XCONN_1_2	CCF OF TWO COMPONENTS: B32-SQV-CC-F104A & B32-SQV-CC-F104B
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
27	2.28E-08	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E-04	B32-NPO-CC-F105A	F105A FAILS TO OPEN
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
28	2.28E-08	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E-04	B32-NPO-CC-F105B	F105B FAILS TO OPEN

Table 11B-21
Level 2 High Winds Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
29	1.27E-08	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.67E-06	C71-SLU-FC-R_1_2_3	CCF OF THREE COMPONENTS: C71-SLU-FC-RPSDIV1 & C71-SLU-FC-RPSDIV2 & C71-SLU-FC-RP
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
30	1.27E-08	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.67E-06	C71-SLU-FC-R_1_2_4	CCF OF THREE COMPONENTS: C71-SLU-FC-RPSDIV1 & C71-SLU-FC-RPSDIV2 & C71-SLU-FC-RP
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
31	1.27E-08	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.67E-06	C71-SLU-FC-R_1_3_4	CCF OF THREE COMPONENTS: C71-SLU-FC-RPSDIV1 & C71-SLU-FC-RPSDIV3 & C71-SLU-FC-RP
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM

**Table 11B-21
Level 2 High Winds Focus Top 100 Cutsets**

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
32	1.27E-08	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.67E-06	C71-SLU-FC-R_2_3_4	CCF OF THREE COMPONENTS: C71-SLU-FC-RPSDIV2 & C71-SLU-FC-RPSDIV3 & C71-SLU-FC-RP
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
33	1.09E-08	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.76E-01	B32-XHE-FO-VENT	OPERATOR FAILS TO OPEN VENT
		8.14E-07	R16-BT_-LP-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R16-BT_-LP-CCFSR'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
34	9.68E-09	9.68E-05	%T-LOPP-WRT23	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO CATEGORY F2/F3
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
35	8.45E-09	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5

Table 11B-21
Level 2 High Winds Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.11E-06	C71-DTM-FC-R_1_2_3	CCF OF THREE COMPONENTS: C71-DTM-FC-RPSDIV1 & C71-DTM-FC-RPSDIV2 & C71-DTM-FC-RP
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
36	8.45E-09	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.11E-06	C71-DTM-FC-R_1_2_4	CCF OF THREE COMPONENTS: C71-DTM-FC-RPSDIV1 & C71-DTM-FC-RPSDIV2 & C71-DTM-FC-RP
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
37	8.45E-09	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.11E-06	C71-DTM-FC-R_1_3_4	CCF OF THREE COMPONENTS: C71-DTM-FC-RPSDIV1 & C71-DTM-FC-RPSDIV3 & C71-DTM-FC-RP
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
38	8.45E-09	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.11E-06	C71-DTM-FC-R_2_3_4	CCF OF THREE COMPONENTS: C71-DTM-FC-RPSDIV2 & C71-DTM-FC-RPSDIV3 & C71-DTM-FC-RP
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM

Table 11B-21
Level 2 High Winds Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
39	8.21E-09	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-F006A	SAFETY/RELIEF VALVE F006A FAILS TO RE-CLOSE
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
40	8.21E-09	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-F006B	SAFETY/RELIEF VALVE F006B FAILS TO RE-CLOSE
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
41	8.21E-09	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-F006C	SAFETY/RELIEF VALVE F006C FAILS TO RE-CLOSE
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

Table 11B-21
Level 2 High Winds Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
42	8.21E-09	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-F006D	SAFETY/RELIEF VALVE F006D FAILS TO RE-CLOSE
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
43	8.21E-09	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-F006E	SAFETY/RELIEF VALVE F006E FAILS TO RE-CLOSE
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
44	8.21E-09	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-F006F	SAFETY/RELIEF VALVE F006F FAILS TO RE-CLOSE
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

Table 11B-21
Level 2 High Winds Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
45	8.21E-09	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-F006G	SAFETY/RELIEF VALVE F006G FAILS TO RE-CLOSE
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
46	8.21E-09	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-F006H	SAFETY/RELIEF VALVE F006H FAILS TO RE-CLOSE
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
47	8.21E-09	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-F006J	SAFETY/RELIEF VALVE F006J FAILS TO RE-CLOSE
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

Table 11B-21
Level 2 High Winds Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
48	8.21E-09	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-F006K	SAFETY/RELIEF VALVE F006K FAILS TO RE-CLOSE
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
49	7.60E-09	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E-03	B21-UV_-OO-F102A	CHECK VALVE F102A FAILS TO CLOSE
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
50	7.60E-09	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E-03	B21-UV_-OO-F102B	CHECK VALVE F102B FAILS TO CLOSE
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
51	6.09E-09	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN

Table 11B-21
Level 2 High Winds Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		2.67E-05	B32-UV_-OO-XCONN-ACC_1_2	CCF OF TWO COMPONENTS: B32-UV_-OO-F105A & B32-UV_-OO-F105B
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
52	6.09E-09	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		2.67E-05	B32-UV_-OO-XCONN-ACC_1_2	CCF OF TWO COMPONENTS: B32-UV_-OO-F105A & B32-UV_-OO-F105B
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
53	5.47E-09	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		2.40E-05	B32-UV_-RL-F105A	CHECK VALVE REVERSE LEAKAGE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
54	5.47E-09	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		2.40E-05	B32-UV_-RL-F105B	CHECK VALVE REVERSE LEAKAGE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

Table 11B-21

Level 2 High Winds Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
55	4.82E-09	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.76E-01	B32-XHE-FO-VENT	OPERATOR FAILS TO OPEN VENT
		3.60E-07	C63-PSP-FO-ESFEP_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-PSP-FO-ESFEP'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
56	3.67E-09	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
		1.61E-03	XXX-XHE-FO-ICPCCS	OPERATOR FAILS TO RECOGNIZE THE NEED TO MAKEUP ICS/PCCS POOL LEVEL.
57	2.53E-09	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E-04	B32-NPO-CC-F105A	F105A FAILS TO OPEN
		3.33E-04	B32-SQV-CC-XCONN_1_2	CCF OF TWO COMPONENTS: B32-SQV-CC-F104A & B32-SQV-CC-F104B
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

Table 11B-21
Level 2 High Winds Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
58	2.53E-09	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E-04	B32-NPO-CC-F105B	F105B FAILS TO OPEN
		3.33E-04	B32-SQV-CC-XCONN_1_2	CCF OF TWO COMPONENTS: B32-SQV-CC-F104A & B32-SQV-CC-F104B
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
59	2.28E-09	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E-03	B21-UV_-OO-F102A	CHECK VALVE F102A FAILS TO CLOSE
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
60	2.28E-09	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E-03	B21-UV_-OO-F102B	CHECK VALVE F102B FAILS TO CLOSE
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
61	2.20E-09	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		9.65E-06	B32-NPO-CC-XCONN_1_2	CCF OF TWO COMPONENTS: B32-NPO-CC-F105A & B32-NPO-CC-F105B

Table 11B-21
Level 2 High Winds Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
62	2.20E-09	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		9.65E-06	B32-NPO-CC-XCONN_1_2	CCF OF TWO COMPONENTS: B32-NPO-CC-F105A & B32-NPO-CC-F105B
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
63	2.07E-09	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		2.72E-04	L2-BI_FN-ESTIMATE	BIMAC PIPING PLUGS
64	1.74E-09	9.68E-05	%T-LOPP-WRT23	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO CATEGORY F2/F3
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

Table 11B-21
Level 2 High Winds Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
65	1.37E-09	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E-03	B21-UV_-OO-F102A	CHECK VALVE F102A FAILS TO CLOSE
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
66	1.37E-09	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E-03	B21-UV_-OO-F102B	CHECK VALVE F102B FAILS TO CLOSE
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
67	1.14E-09	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.50E-04	L2-E50-SQV-CC-DELUGE_ALL	CCF OF ALL COMPONENTS IN GROUP 'L2-E50-SQV-CC-DELUGE'
68	1.10E-09	9.68E-05	%T-LOPP-WRT23	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO CATEGORY F2/F3
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

**Table 11B-21
Level 2 High Winds Focus Top 100 Cutsets**

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
69	1.01E-09	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.33E-07	C63-LT_-NO-RPSRX_1_2_3	CCF OF THREE COMPONENTS: C63-LT_-NO-RPSRXLVLA & C63-LT_-NO-RPSRXLVLB & C63-LT_-N
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
70	1.01E-09	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.33E-07	C63-LT_-NO-RPSRX_1_2_4	CCF OF THREE COMPONENTS: C63-LT_-NO-RPSRXLVLA & C63-LT_-NO-RPSRXLVLB & C63-LT_-N
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
71	1.01E-09	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.33E-07	C63-LT_-NO-RPSRX_1_3_4	CCF OF THREE COMPONENTS: C63-LT_-NO-RPSRXLVLA & C63-LT_-NO-RPSRXLVLC & C63-LT_-N
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
72	1.01E-09	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5

Table 11B-21
Level 2 High Winds Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.33E-07	C63-LT_-NO-RPSRX_2_3_4	CCF OF THREE COMPONENTS: C63-LT_-NO-RPSRXVLB & C63-LT_-NO-RPSRXVLC & C63-LT_-N
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
73	9.68E-10	9.68E-05	%T-LOPP-WRT23	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO CATEGORY F2/F3
		1.00E-04	C71-CCFSOFTWARE	RPS COMMON CAUSE SOFTWARE FAILURE
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
74	9.13E-10	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-F006A	SAFETY/RELIEF VALVE F006A FAILS TO RE-CLOSE
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.76E-01	B32-XHE-FO-VENT	OPERATOR FAILS TO OPEN VENT
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
75	9.13E-10	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-F006B	SAFETY/RELIEF VALVE F006B FAILS TO RE-CLOSE

Table 11B-21
Level 2 High Winds Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.76E-01	B32-XHE-FO-VENT	OPERATOR FAILS TO OPEN VENT
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
76	9.13E-10	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-F006C	SAFETY/RELIEF VALVE F006C FAILS TO RE-CLOSE
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.76E-01	B32-XHE-FO-VENT	OPERATOR FAILS TO OPEN VENT
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
77	9.13E-10	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-F006D	SAFETY/RELIEF VALVE F006D FAILS TO RE-CLOSE
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.76E-01	B32-XHE-FO-VENT	OPERATOR FAILS TO OPEN VENT
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'

Table 11B-21
Level 2 High Winds Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
78	9.13E-10	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-F006E	SAFETY/RELIEF VALVE F006E FAILS TO RE-CLOSE
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.76E-01	B32-XHE-FO-VENT	OPERATOR FAILS TO OPEN VENT
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
79	9.13E-10	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-F006F	SAFETY/RELIEF VALVE F006F FAILS TO RE-CLOSE
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.76E-01	B32-XHE-FO-VENT	OPERATOR FAILS TO OPEN VENT
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
80	9.13E-10	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5

Table 11B-21
Level 2 High Winds Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		6.00E-03	B21-SRV-OO-F006G	SAFETY/RELIEF VALVE F006G FAILS TO RE-CLOSE
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.76E-01	B32-XHE-FO-VENT	OPERATOR FAILS TO OPEN VENT
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
81	9.13E-10	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-F006H	SAFETY/RELIEF VALVE F006H FAILS TO RE-CLOSE
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.76E-01	B32-XHE-FO-VENT	OPERATOR FAILS TO OPEN VENT
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
82	9.13E-10	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-F006J	SAFETY/RELIEF VALVE F006J FAILS TO RE-CLOSE
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.76E-01	B32-XHE-FO-VENT	OPERATOR FAILS TO OPEN VENT

Table 11B-21
Level 2 High Winds Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
83	9.13E-10	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-F006K	SAFETY/RELIEF VALVE F006K FAILS TO RE-CLOSE
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.76E-01	B32-XHE-FO-VENT	OPERATOR FAILS TO OPEN VENT
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
84	8.64E-10	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E-03	B21-UV_-OO-F102A	CHECK VALVE F102A FAILS TO CLOSE
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
85	8.64E-10	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5

Table 11B-21
Level 2 High Winds Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E-03	B21-UV_-OO-F102B	CHECK VALVE F102B FAILS TO CLOSE
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
86	8.48E-10	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-F006A	SAFETY/RELIEF VALVE F006A FAILS TO RE-CLOSE
		1.86E-06	C63-LDD-FC-ESFLOADS	CCF OF ALL ESF LOAD DRIVERS
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
87	8.48E-10	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-F006B	SAFETY/RELIEF VALVE F006B FAILS TO RE-CLOSE
		1.86E-06	C63-LDD-FC-ESFLOADS	CCF OF ALL ESF LOAD DRIVERS
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
88	8.48E-10	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-F006C	SAFETY/RELIEF VALVE F006C FAILS TO RE-CLOSE

Table 11B-21
Level 2 High Winds Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.86E-06	C63-LDD-FC-ESFLOADS	CCF OF ALL ESF LOAD DRIVERS
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
89	8.48E-10	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-F006D	SAFETY/RELIEF VALVE F006D FAILS TO RE-CLOSE
		1.86E-06	C63-LDD-FC-ESFLOADS	CCF OF ALL ESF LOAD DRIVERS
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
90	8.48E-10	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-F006E	SAFETY/RELIEF VALVE F006E FAILS TO RE-CLOSE
		1.86E-06	C63-LDD-FC-ESFLOADS	CCF OF ALL ESF LOAD DRIVERS
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
91	8.48E-10	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-F006F	SAFETY/RELIEF VALVE F006F FAILS TO RE-CLOSE
		1.86E-06	C63-LDD-FC-ESFLOADS	CCF OF ALL ESF LOAD DRIVERS

Table 11B-21
Level 2 High Winds Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
92	8.48E-10	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-F006G	SAFETY/RELIEF VALVE F006G FAILS TO RE-CLOSE
		1.86E-06	C63-LDD-FC-ESFLOADS	CCF OF ALL ESF LOAD DRIVERS
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
93	8.48E-10	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-F006H	SAFETY/RELIEF VALVE F006H FAILS TO RE-CLOSE
		1.86E-06	C63-LDD-FC-ESFLOADS	CCF OF ALL ESF LOAD DRIVERS
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
94	8.48E-10	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-F006J	SAFETY/RELIEF VALVE F006J FAILS TO RE-CLOSE
		1.86E-06	C63-LDD-FC-ESFLOADS	CCF OF ALL ESF LOAD DRIVERS
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

**Table 11B-21
Level 2 High Winds Focus Top 100 Cutsets**

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
95	8.48E-10	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		6.00E-03	B21-SRV-OO-F006K	SAFETY/RELIEF VALVE F006K FAILS TO RE-CLOSE
		1.86E-06	C63-LDD-FC-ESFLOADS	CCF OF ALL ESF LOAD DRIVERS
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
96	7.60E-10	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E-04	C71-CCFSOFTWARE	RPS COMMON CAUSE SOFTWARE FAILURE
97	6.76E-10	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.33E-04	B32-SQV-CC-XCONN_1_2	CCF OF TWO COMPONENTS: B32-SQV-CC-F104A & B32-SQV-CC-F104B
		2.67E-05	B32-UV_-OO-XCONN-ACC_1_2	CCF OF TWO COMPONENTS: B32-UV_-OO-F105A & B32-UV_-OO-F105B
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
98	6.20E-10	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5

Table 11B-21
Level 2 High Winds Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
		2.72E-04	L2-BI_FN-ESTIMATE	BIMAC PIPING PLUGS
99	6.08E-10	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.33E-04	B32-SQV-CC-XCONN_1_2	CCF OF TWO COMPONENTS: B32-SQV-CC-F104A & B32-SQV-CC-F104B
		2.40E-05	B32-UV_-RL-F105A	CHECK VALVE REVERSE LEAKAGE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
100	6.08E-10	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.33E-04	B32-SQV-CC-XCONN_1_2	CCF OF TWO COMPONENTS: B32-SQV-CC-F104A & B32-SQV-CC-F104B
		2.40E-05	B32-UV_-RL-F105B	CHECK VALVE REVERSE LEAKAGE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

Table 11B-22
Level 2 High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
1	7.60E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E-04	C71-CCFSOFTWARE	RPS COMMON CAUSE SOFTWARE FAILURE
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
		1.00E-04	C72-CCFSOFTWARE	COMMON CAUSE FAILURE OF DPS PROCESSORS
2	3.42E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		4.50E-05	C71-SLU-FC-R_ALL	CCF OF ALL COMPONENTS IN GROUP 'C71-SLU-FC-R'
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
		1.00E-04	C72-CCFSOFTWARE	COMMON CAUSE FAILURE OF DPS PROCESSORS
3	2.38E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		4.41E-03	R21-DG_-FR-CCF_1_2	CCF OF TWO COMPONENTS: R21-DG_-FR-DGA & R21-DG_-FR-DGB
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

Table 11B-22
Level 2 High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
4	2.38E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		4.41E-03	R21-DG_-FR-CCF_1_2	CCF OF TWO COMPONENTS: R21-DG_-FR-DGA & R21-DG_-FR-DGB
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
5	2.28E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-05	C71-DTM-FC-R_ALL	CCF OF ALL COMPONENTS IN GROUP 'C71-DTM-FC-R'
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
		1.00E-04	C72-CCFSOFTWARE	COMMON CAUSE FAILURE OF DPS PROCESSORS
6	2.01E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		4.41E-03	R21-DG_-FR-CCF_1_2	CCF OF TWO COMPONENTS: R21-DG_-FR-DGA & R21-DG_-FR-DGB
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

Table 11B-22
Level 2 High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
7	2.01E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		4.41E-03	R21-DG_-FR-CCF_1_2	CCF OF TWO COMPONENTS: R21-DG_-FR-DGA & R21-DG_-FR-DGB
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
		8	1.69E-11	7.60E-02
3.00E-03	B32-SQV-CC-F104A			F104A FAILS TO OPEN
1.00E-03	B32-UV_-OO-F105A			CHECK VALVE FAILS TO CLOSE
5.60E-02	R21-DG_-FR-DGA			DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
5.60E-02	R21-DG_-FR-DGB			DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
2.37E-02	U43-EDP-FR-P1A			DIESEL-DRIVEN PUMP FAILS TO RUN
1.00E+00	XHOS72H			HOUSE EVENT: 72 HOURS (VALUE =1)
9	1.69E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START

Table 11B-22
Level 2 High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
10	1.62E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		4.41E-03	R21-DG_-FR-CCF_1_2	CCF OF TWO COMPONENTS: R21-DG_-FR-DGA & R21-DG_-FR-DGB
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
11	1.62E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		4.41E-03	R21-DG_-FR-CCF_1_2	CCF OF TWO COMPONENTS: R21-DG_-FR-DGA & R21-DG_-FR-DGB
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
12	1.43E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE

Table 11B-22
Level 2 High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
13	1.43E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
14	1.39E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGB	STANDBY DIESEL GENERATOR "B" IN MAINTENANCE
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN

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Level 2 High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
15	1.39E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGA	STANDBY DIESEL GENERATOR "A" IN MAINTENANCE
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
16	1.39E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGB	STANDBY DIESEL GENERATOR "B" IN MAINTENANCE
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
17	1.39E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE

Table 11B-22
Level 2 High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGA	STANDBY DIESEL GENERATOR "A" IN MAINTENANCE
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
18	1.37E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.80E-05	C71-OLU-FC-R_ALL	CCF OF ALL COMPONENTS IN GROUP 'C71-OLU-FC-R'
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
		1.00E-04	C72-CCFSOFTWARE	COMMON CAUSE FAILURE OF DPS PROCESSORS
19	1.28E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.61E-02	R13-XHE-FO-ADG	OPERATOR FAILS TO ALIGN THE ADG BUSES TO UPS BUSES
		4.41E-03	R21-DG_-FR-CCF_1_2	CCF OF TWO COMPONENTS: R21-DG_-FR-DGA & R21-DG_-FR-DGB
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

Table 11B-22
Level 2 High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
20	1.28E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		4.41E-03	R21-DG_-FR-CCF_1_2	CCF OF TWO COMPONENTS: R21-DG_-FR-DGA & R21-DG_-FR-DGB
		1.61E-02	R21-XHE-FO-ADG	OPERATOR FAILS TO CONTROL THE LOADS ON ANCILLARY DG BUSES
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
21	1.28E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.61E-02	R13-XHE-FO-ADG	OPERATOR FAILS TO ALIGN THE ADG BUSES TO UPS BUSES
		4.41E-03	R21-DG_-FR-CCF_1_2	CCF OF TWO COMPONENTS: R21-DG_-FR-DGA & R21-DG_-FR-DGB
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
22	1.28E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE

Table 11B-22
Level 2 High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		4.41E-03	R21-DG_-FR-CCF_1_2	CCF OF TWO COMPONENTS: R21-DG_-FR-DGA & R21-DG_-FR-DGB
		1.61E-02	R21-XHE-FO-ADG	OPERATOR FAILS TO CONTROL THE LOADS ON ANCILLARY DG BUSES
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
23	1.22E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.00E-04	C72-CCFSOFTWARE	COMMON CAUSE FAILURE OF DPS PROCESSORS
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
24	1.17E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGB	STANDBY DIESEL GENERATOR "B" IN MAINTENANCE
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

Table 11B-22
Level 2 High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
25	1.17E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGA	STANDBY DIESEL GENERATOR "A" IN MAINTENANCE
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
26	1.17E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGB	STANDBY DIESEL GENERATOR "B" IN MAINTENANCE
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
27	1.17E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE

Table 11B-22
Level 2 High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGA	STANDBY DIESEL GENERATOR "A" IN MAINTENANCE
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
28	1.15E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
29	1.15E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START

Table 11B-22
Level 2 High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
30	1.08E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		2.00E-03	P21-ACV-OO-F0004	AIR OPERATED VALVE F0004 FAILS TO CLOSE
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
31	1.08E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		2.00E-03	P21-ACV-OO-F0027	AIR OPERATED VALVE F0027 FAILS TO CLOSE
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
32	1.08E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		2.00E-03	P21-ACV-OO-F0061	AIR OPERATED VALVE F0061 FAILS TO CLOSE

Table 11B-22
Level 2 High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
33	1.08E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		2.00E-03	P21-ACV-OO-F0004	AIR OPERATED VALVE F0004 FAILS TO CLOSE
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
34	1.08E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		2.00E-03	P21-ACV-OO-F0027	AIR OPERATED VALVE F0027 FAILS TO CLOSE
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
35	1.08E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		2.00E-03	P21-ACV-OO-F0061	AIR OPERATED VALVE F0061 FAILS TO CLOSE
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN

Table 11B-22
Level 2 High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
36	1.08E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.61E-02	R13-XHE-FO-ADG	OPERATOR FAILS TO ALIGN THE ADG BUSES TO UPS BUSES
		4.41E-03	R21-DG_-FR-CCF_1_2	CCF OF TWO COMPONENTS: R21-DG_-FR-DGA & R21-DG_-FR-DGB
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
37	1.08E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		4.41E-03	R21-DG_-FR-CCF_1_2	CCF OF TWO COMPONENTS: R21-DG_-FR-DGA & R21-DG_-FR-DGB
		1.61E-02	R21-XHE-FO-ADG	OPERATOR FAILS TO CONTROL THE LOADS ON ANCILLARY DG BUSES
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

Table 11B-22
Level 2 High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
38	1.08E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.61E-02	R13-XHE-FO-ADG	OPERATOR FAILS TO ALIGN THE ADG BUSES TO UPS BUSES
		4.41E-03	R21-DG_-FR-CCF_1_2	CCF OF TWO COMPONENTS: R21-DG_-FR-DGA & R21-DG_-FR-DGB
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
39	1.08E-11	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		4.41E-03	R21-DG_-FR-CCF_1_2	CCF OF TWO COMPONENTS: R21-DG_-FR-DGA & R21-DG_-FR-DGB
		1.61E-02	R21-XHE-FO-ADG	OPERATOR FAILS TO CONTROL THE LOADS ON ANCILLARY DG BUSES
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
40	9.45E-12	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE

Table 11B-22
Level 2 High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGB	STANDBY DIESEL GENERATOR "B" IN MAINTENANCE
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
41	9.45E-12	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGA	STANDBY DIESEL GENERATOR "A" IN MAINTENANCE
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
42	9.45E-12	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGB	STANDBY DIESEL GENERATOR "B" IN MAINTENANCE

Table 11B-22
Level 2 High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
43	9.45E-12	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGA	STANDBY DIESEL GENERATOR "A" IN MAINTENANCE
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
44	9.12E-12	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		2.00E-03	P21-ACV-OO-F0004	AIR OPERATED VALVE F0004 FAILS TO CLOSE
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
45	9.12E-12	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN

Table 11B-22
Level 2 High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		2.00E-03	P21-ACV-OO-F0027	AIR OPERATED VALVE F0027 FAILS TO CLOSE
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
46	9.12E-12	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		2.00E-03	P21-ACV-OO-F0061	AIR OPERATED VALVE F0061 FAILS TO CLOSE
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
47	9.12E-12	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		2.00E-03	P21-ACV-OO-F0004	AIR OPERATED VALVE F0004 FAILS TO CLOSE
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
48	9.12E-12	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5

Table 11B-22
Level 2 High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		2.00E-03	P21-ACV-OO-F0027	AIR OPERATED VALVE F0027 FAILS TO CLOSE
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
49	9.12E-12	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		2.00E-03	P21-ACV-OO-F0061	AIR OPERATED VALVE F0061 FAILS TO CLOSE
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
50	9.09E-12	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.61E-02	R13-XHE-FO-ADG	OPERATOR FAILS TO ALIGN THE ADG BUSES TO UPS BUSES
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START

Table 11B-22
Level 2 High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
51	9.09E-12	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		1.61E-02	R21-XHE-FO-ADG	OPERATOR FAILS TO CONTROL THE LOADS ON ANCILLARY DG BUSES
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
52	9.09E-12	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.61E-02	R13-XHE-FO-ADG	OPERATOR FAILS TO ALIGN THE ADG BUSES TO UPS BUSES
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START

Table 11B-22
Level 2 High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
53	9.09E-12	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		1.61E-02	R21-XHE-FO-ADG	OPERATOR FAILS TO CONTROL THE LOADS ON ANCILLARY DG BUSES
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
54	8.69E-12	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.61E-02	R13-XHE-FO-ADG	OPERATOR FAILS TO ALIGN THE ADG BUSES TO UPS BUSES
		4.41E-03	R21-DG_-FR-CCF_1_2	CCF OF TWO COMPONENTS: R21-DG_-FR-DGA & R21-DG_-FR-DGB

Table 11B-22
Level 2 High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
55	8.69E-12	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		4.41E-03	R21-DG_-FR-CCF_1_2	CCF OF TWO COMPONENTS: R21-DG_-FR-DGA & R21-DG_-FR-DGB
		1.61E-02	R21-XHE-FO-ADG	OPERATOR FAILS TO CONTROL THE LOADS ON ANCILLARY DG BUSES
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
56	8.69E-12	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.61E-02	R13-XHE-FO-ADG	OPERATOR FAILS TO ALIGN THE ADG BUSES TO UPS BUSES
		4.41E-03	R21-DG_-FR-CCF_1_2	CCF OF TWO COMPONENTS: R21-DG_-FR-DGA & R21-DG_-FR-DGB
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

Table 11B-22
Level 2 High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
57	8.69E-12	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		4.41E-03	R21-DG_-FR-CCF_1_2	CCF OF TWO COMPONENTS: R21-DG_-FR-DGA & R21-DG_-FR-DGB
		1.61E-02	R21-XHE-FO-ADG	OPERATOR FAILS TO CONTROL THE LOADS ON ANCILLARY DG BUSES
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
58	8.64E-12	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E-04	C71-CCFSOFTWARE	RPS COMMON CAUSE SOFTWARE FAILURE
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
		1.14E-05	R13-INV-FC-CCFNSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFNSR'
59	7.67E-12	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE

Table 11B-22
Level 2 High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.61E-02	R13-XHE-FO-ADG	OPERATOR FAILS TO ALIGN THE ADG BUSES TO UPS BUSES
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
60	7.67E-12	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		1.61E-02	R21-XHE-FO-ADG	OPERATOR FAILS TO CONTROL THE LOADS ON ANCILLARY DG BUSES
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
61	7.67E-12	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5

Table 11B-22
Level 2 High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.61E-02	R13-XHE-FO-ADG	OPERATOR FAILS TO ALIGN THE ADG BUSES TO UPS BUSES
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
62	7.67E-12	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		1.61E-02	R21-XHE-FO-ADG	OPERATOR FAILS TO CONTROL THE LOADS ON ANCILLARY DG BUSES
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
63	7.60E-12	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5

Table 11B-22
Level 2 High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E-04	C71-CCFSOFTWARE	RPS COMMON CAUSE SOFTWARE FAILURE
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
		1.00E-05	C72-LOG-FC-D_1_2	CCF OF TWO COMPONENTS: C72-LOG-FC-D1DPS & C72-LOG-FC-D2DPS
64	7.60E-12	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E-04	C71-CCFSOFTWARE	RPS COMMON CAUSE SOFTWARE FAILURE
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
		1.00E-05	C72-LOG-FC-D_1_3	CCF OF TWO COMPONENTS: C72-LOG-FC-D1DPS & C72-LOG-FC-D3DPS
65	7.60E-12	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E-04	C71-CCFSOFTWARE	RPS COMMON CAUSE SOFTWARE FAILURE
		1.00E-01	C71-XHE-FO-SCRAM	OPERATOR FAILS TO PERFORM MANUAL SCRAM
		1.00E-05	C72-LOG-FC-D_2_3	CCF OF TWO COMPONENTS: C72-LOG-FC-D2DPS & C72-LOG-FC-D3DPS
66	7.47E-12	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING

Table 11B-22
Level 2 High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.61E-02	R13-XHE-FO-ADG	OPERATOR FAILS TO ALIGN THE ADG BUSES TO UPS BUSES
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGB	STANDBY DIESEL GENERATOR "B" IN MAINTENANCE
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
67	7.47E-12	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.61E-02	R13-XHE-FO-ADG	OPERATOR FAILS TO ALIGN THE ADG BUSES TO UPS BUSES
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGA	STANDBY DIESEL GENERATOR "A" IN MAINTENANCE
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
68	7.47E-12	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5

Table 11B-22
Level 2 High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGB	STANDBY DIESEL GENERATOR "B" IN MAINTENANCE
		1.61E-02	R21-XHE-FO-ADG	OPERATOR FAILS TO CONTROL THE LOADS ON ANCILLARY DG BUSES
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
69	7.47E-12	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGA	STANDBY DIESEL GENERATOR "A" IN MAINTENANCE
		1.61E-02	R21-XHE-FO-ADG	OPERATOR FAILS TO CONTROL THE LOADS ON ANCILLARY DG BUSES
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

Table 11B-22
Level 2 High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
70	7.47E-12	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.61E-02	R13-XHE-FO-ADG	OPERATOR FAILS TO ALIGN THE ADG BUSES TO UPS BUSES
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGB	STANDBY DIESEL GENERATOR "B" IN MAINTENANCE
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
71	7.47E-12	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.61E-02	R13-XHE-FO-ADG	OPERATOR FAILS TO ALIGN THE ADG BUSES TO UPS BUSES
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGA	STANDBY DIESEL GENERATOR "A" IN MAINTENANCE
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
72	7.47E-12	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5

Table 11B-22
Level 2 High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGB	STANDBY DIESEL GENERATOR "B" IN MAINTENANCE
		1.61E-02	R21-XHE-FO-ADG	OPERATOR FAILS TO CONTROL THE LOADS ON ANCILLARY DG BUSES
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
73	7.47E-12	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGA	STANDBY DIESEL GENERATOR "A" IN MAINTENANCE
		1.61E-02	R21-XHE-FO-ADG	OPERATOR FAILS TO CONTROL THE LOADS ON ANCILLARY DG BUSES
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
74	7.34E-12	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE

Table 11B-22
Level 2 High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		2.00E-03	P21-ACV-OO-F0004	AIR OPERATED VALVE F0004 FAILS TO CLOSE
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
75	7.34E-12	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		2.00E-03	P21-ACV-OO-F0027	AIR OPERATED VALVE F0027 FAILS TO CLOSE
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
76	7.34E-12	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104A	F104A FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105A	CHECK VALVE FAILS TO CLOSE
		2.00E-03	P21-ACV-OO-F0061	AIR OPERATED VALVE F0061 FAILS TO CLOSE
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
77	7.34E-12	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN

Table 11B-22
Level 2 High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		2.00E-03	P21-ACV-OO-F0004	AIR OPERATED VALVE F0004 FAILS TO CLOSE
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
78	7.34E-12	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		2.00E-03	P21-ACV-OO-F0027	AIR OPERATED VALVE F0027 FAILS TO CLOSE
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
79	7.34E-12	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		3.00E-03	B32-SQV-CC-F104B	F104B FAILS TO OPEN
		1.00E-03	B32-UV_-OO-F105B	CHECK VALVE FAILS TO CLOSE
		2.00E-03	P21-ACV-OO-F0061	AIR OPERATED VALVE F0061 FAILS TO CLOSE
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
80	6.30E-12	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5

Table 11B-22
Level 2 High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.61E-02	R13-XHE-FO-ADG	OPERATOR FAILS TO ALIGN THE ADG BUSES TO UPS BUSES
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGB	STANDBY DIESEL GENERATOR "B" IN MAINTENANCE
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
81	6.30E-12	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.61E-02	R13-XHE-FO-ADG	OPERATOR FAILS TO ALIGN THE ADG BUSES TO UPS BUSES
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGA	STANDBY DIESEL GENERATOR "A" IN MAINTENANCE
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

Table 11B-22
Level 2 High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
82	6.30E-12	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGB	STANDBY DIESEL GENERATOR "B" IN MAINTENANCE
		1.61E-02	R21-XHE-FO-ADG	OPERATOR FAILS TO CONTROL THE LOADS ON ANCILLARY DG BUSES
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
83	6.30E-12	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGA	STANDBY DIESEL GENERATOR "A" IN MAINTENANCE
		1.61E-02	R21-XHE-FO-ADG	OPERATOR FAILS TO CONTROL THE LOADS ON ANCILLARY DG BUSES

Table 11B-22
Level 2 High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
84	6.30E-12	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.61E-02	R13-XHE-FO-ADG	OPERATOR FAILS TO ALIGN THE ADG BUSES TO UPS BUSES
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGB	STANDBY DIESEL GENERATOR "B" IN MAINTENANCE
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
85	6.30E-12	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.61E-02	R13-XHE-FO-ADG	OPERATOR FAILS TO ALIGN THE ADG BUSES TO UPS BUSES
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGA	STANDBY DIESEL GENERATOR "A" IN MAINTENANCE

Table 11B-22
Level 2 High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
86	6.30E-12	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGB	STANDBY DIESEL GENERATOR "B" IN MAINTENANCE
		1.61E-02	R21-XHE-FO-ADG	OPERATOR FAILS TO CONTROL THE LOADS ON ANCILLARY DG BUSES
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
87	6.30E-12	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGA	STANDBY DIESEL GENERATOR "A" IN MAINTENANCE
		1.61E-02	R21-XHE-FO-ADG	OPERATOR FAILS TO CONTROL THE LOADS ON ANCILLARY DG BUSES

Table 11B-22
Level 2 High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		2.00E-02	U43-EDP-FS-P1A	DIESEL-DRIVEN PUMP FAILS TO START
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
88	6.17E-12	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.61E-02	R13-XHE-FO-ADG	OPERATOR FAILS TO ALIGN THE ADG BUSES TO UPS BUSES
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
89	6.17E-12	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START

Table 11B-22
Level 2 High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		1.61E-02	R21-XHE-FO-ADG	OPERATOR FAILS TO CONTROL THE LOADS ON ANCILLARY DG BUSES
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
90	6.17E-12	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.61E-02	R13-XHE-FO-ADG	OPERATOR FAILS TO ALIGN THE ADG BUSES TO UPS BUSES
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
91	6.17E-12	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START

Table 11B-22
Level 2 High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		1.61E-02	R21-XHE-FO-ADG	OPERATOR FAILS TO CONTROL THE LOADS ON ANCILLARY DG BUSES
		1.61E-02	U43-XHE-FO-MAKEUP	OPERATOR FAILS TO ACTUATE U43 IN MAKE UP MODE
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
92	5.80E-12	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		2.00E-03	P21-ACV-OO-F0004	AIR OPERATED VALVE F0004 FAILS TO CLOSE
		1.61E-02	R13-XHE-FO-ADG	OPERATOR FAILS TO ALIGN THE ADG BUSES TO UPS BUSES
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
93	5.80E-12	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		2.00E-03	P21-ACV-OO-F0004	AIR OPERATED VALVE F0004 FAILS TO CLOSE

Table 11B-22
Level 2 High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.61E-02	R21-XHE-FO-ADG	OPERATOR FAILS TO CONTROL THE LOADS ON ANCILLARY DG BUSES
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
94	5.80E-12	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		2.00E-03	P21-ACV-OO-F0027	AIR OPERATED VALVE F0027 FAILS TO CLOSE
		1.61E-02	R13-XHE-FO-ADG	OPERATOR FAILS TO ALIGN THE ADG BUSES TO UPS BUSES
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
95	5.80E-12	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		2.00E-03	P21-ACV-OO-F0027	AIR OPERATED VALVE F0027 FAILS TO CLOSE
		1.61E-02	R21-XHE-FO-ADG	OPERATOR FAILS TO CONTROL THE LOADS ON ANCILLARY DG BUSES
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN

Table 11B-22
Level 2 High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
96	5.80E-12	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		2.00E-03	P21-ACV-OO-F0061	AIR OPERATED VALVE F0061 FAILS TO CLOSE
		1.61E-02	R13-XHE-FO-ADG	OPERATOR FAILS TO ALIGN THE ADG BUSES TO UPS BUSES
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
97	5.80E-12	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		2.00E-03	P21-ACV-OO-F0061	AIR OPERATED VALVE F0061 FAILS TO CLOSE
		1.61E-02	R21-XHE-FO-ADG	OPERATOR FAILS TO CONTROL THE LOADS ON ANCILLARY DG BUSES
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

Table 11B-22
Level 2 High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
98	5.80E-12	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		2.00E-03	P21-ACV-OO-F0004	AIR OPERATED VALVE F0004 FAILS TO CLOSE
		1.61E-02	R13-XHE-FO-ADG	OPERATOR FAILS TO ALIGN THE ADG BUSES TO UPS BUSES
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
99	5.80E-12	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		2.00E-03	P21-ACV-OO-F0004	AIR OPERATED VALVE F0004 FAILS TO CLOSE
		1.61E-02	R21-XHE-FO-ADG	OPERATOR FAILS TO CONTROL THE LOADS ON ANCILLARY DG BUSES
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)
100	5.80E-12	7.60E-02	%T-LOPP-WRH345	WEATHER RELATED LOSS OF PREFERRED POWER DUE TO HURRICANE H3/4/5
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		2.00E-03	P21-ACV-OO-F0027	AIR OPERATED VALVE F0027 FAILS TO CLOSE

Table 11B-22
Level 2 High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.61E-02	R13-XHE-FO-ADG	OPERATOR FAILS TO ALIGN THE ADG BUSES TO UPS BUSES
		2.37E-02	U43-EDP-FR-P1A	DIESEL-DRIVEN PUMP FAILS TO RUN
		1.00E+00	XHOS72H	HOUSE EVENT: 72 HOURS (VALUE =1)

Table 11B-23
Shutdown High Winds Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
1	1.39E-07	4.64E-04	%M5O_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
2	1.22E-07	4.64E-04	%M5O_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED
3	1.22E-07	4.64E-04	%M5O_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		2.63E-04	E50-BV_-OC-F004D	MAINTENANCE VALVE F004D PLUGS/TRANSFERS CLOSED
4	8.36E-08	8.36E-04	%M5_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5 - H345
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
5	8.36E-08	8.36E-04	%M5_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5 - H345
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
6	6.96E-08	4.64E-04	%M5O_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
7	6.96E-08	4.64E-04	%M5O_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'

Table 11B-23
Shutdown High Winds Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
8	4.64E-08	4.64E-04	%M5O_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
9	4.64E-08	4.64E-04	%M5O_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
10	2.51E-08	8.36E-04	%M5_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5 - H345
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
11	2.51E-08	8.36E-04	%M5_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5 - H345
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
12	1.50E-08	8.36E-04	%M5_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5 - H345
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
13	1.50E-08	8.36E-04	%M5_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5 - H345
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
14	1.39E-08	4.64E-04	%M5O_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
15	1.39E-08	4.64E-04	%M5O_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345

Table 11B-23
Shutdown High Winds Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
16	1.10E-08	4.64E-04	%M50_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		2.38E-05	E50-SQV-CC-INJ_1_5	CCF OF TWO COMPONENTS: E50-SQV-CC-INJ-F002A & E50-SQV-CC-INJ-F002E
17	1.10E-08	4.64E-04	%M50_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		2.38E-05	E50-SQV-CC-INJ_4_8	CCF OF TWO COMPONENTS: E50-SQV-CC-INJ-F002D & E50-SQV-CC-INJ-F002H
18	9.63E-09	8.36E-04	%M5_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5 - H345
		3.84E-02	B32-TM-LOOPA-IND	ICS LOOP A IN TEST OR MAINTENANCE BY ITSELF
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
19	9.63E-09	8.36E-04	%M5_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5 - H345
		3.84E-02	B32-TM-LOOPB-IND	ICS LOOP B IN TEST OR MAINTENANCE BY ITSELF
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
20	8.44E-09	8.36E-04	%M5_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5 - H345
		3.84E-02	B32-TM-LOOPA-IND	ICS LOOP A IN TEST OR MAINTENANCE BY ITSELF
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED
21	8.44E-09	8.36E-04	%M5_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5 - H345

Table 11B-23
Shutdown High Winds Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		3.84E-02	B32-TM-LOOPA-IND	ICS LOOP A IN TEST OR MAINTENANCE BY ITSELF
		2.63E-04	E50-BV_-OC-F004D	MAINTENANCE VALVE F004D PLUGS/TRANSFERS CLOSED
22	8.44E-09	8.36E-04	%M5_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5 - H345
		3.84E-02	B32-TM-LOOPB-IND	ICS LOOP B IN TEST OR MAINTENANCE BY ITSELF
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED
23	8.44E-09	8.36E-04	%M5_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5 - H345
		3.84E-02	B32-TM-LOOPB-IND	ICS LOOP B IN TEST OR MAINTENANCE BY ITSELF
		2.63E-04	E50-BV_-OC-F004D	MAINTENANCE VALVE F004D PLUGS/TRANSFERS CLOSED
24	8.35E-09	4.64E-04	%M5O_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5O - H345
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
25	8.35E-09	4.64E-04	%M5O_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5O - H345
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
26	7.97E-09	4.64E-04	%M5O_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5O - H345
		1.72E-05	E50-UV_-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-UV_-CC-INJ'
27	6.96E-09	4.64E-04	%M5O_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5O - H345

Table 11B-23
Shutdown High Winds Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
		5.00E-02	MS-TOP2	TWO DPVS FAIL TO OPEN (MANUAL)
28	6.10E-09	4.64E-04	%M5O_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED
		5.00E-02	MS-TOP2	TWO DPVS FAIL TO OPEN (MANUAL)
29	6.10E-09	4.64E-04	%M5O_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		2.63E-04	E50-BV_-OC-F004D	MAINTENANCE VALVE F004D PLUGS/TRANSFERS CLOSED
		5.00E-02	MS-TOP2	TWO DPVS FAIL TO OPEN (MANUAL)
30	5.57E-09	4.64E-04	%M5O_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		1.20E-05	E50-STR-PG_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-STR-PG'
31	5.28E-09	4.64E-04	%M5O_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'
32	5.28E-09	4.64E-04	%M5O_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'
33	4.82E-09	8.36E-04	%M5_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5 - H345
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'

**Table 11B-23
Shutdown High Winds Focus Top 100 Cutsets**

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		3.84E-02	B32-TM-LOOPA-IND	ICS LOOP A IN TEST OR MAINTENANCE BY ITSELF
34	4.82E-09	8.36E-04	%M5_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5 - H345
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		3.84E-02	B32-TM-LOOPB-IND	ICS LOOP B IN TEST OR MAINTENANCE BY ITSELF
35	4.82E-09	8.36E-04	%M5_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5 - H345
		3.84E-02	B32-TM-LOOPA-IND	ICS LOOP A IN TEST OR MAINTENANCE BY ITSELF
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
36	4.82E-09	8.36E-04	%M5_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5 - H345
		3.84E-02	B32-TM-LOOPB-IND	ICS LOOP B IN TEST OR MAINTENANCE BY ITSELF
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
37	4.45E-09	4.64E-04	%M5O_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5O - H345
		9.60E-06	E50-SQV-CO-F009A	SQUIB DELUGE VALVE F009A SPUR. OPENING [#7]
38	4.45E-09	4.64E-04	%M5O_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5O - H345
		9.60E-06	E50-SQV-CO-F009D	SQUIB DELUGE VALVE F009D SPUR. OPENING [#7]
39	4.45E-09	4.64E-04	%M5O_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5O - H345

Table 11B-23
Shutdown High Winds Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		9.60E-06	E50-SQV-CO-F009E	SQUIB DELUGE VALVE F009E SPUR. OPENING [#7]
40	4.45E-09	4.64E-04	%M50_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		9.60E-06	E50-SQV-CO-F009H	SQUIB DELUGE VALVE F009H SPUR. OPENING [#7]
41	4.45E-09	4.64E-04	%M50_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		9.60E-06	E50-SQV-CO-F009J	SQUIB DELUGE VALVE F009J SPUR. OPENING [#7]
42	4.45E-09	4.64E-04	%M50_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		9.60E-06	E50-SQV-CO-F009M	SQUIB DELUGE VALVE F009M SPUR. OPENING [#7]
43	4.18E-09	8.36E-04	%M5_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5 - H345
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		5.00E-02	MS-TOP2	TWO DPVS FAIL TO OPEN (MANUAL)
44	4.18E-09	4.64E-04	%M50_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		3.00E-03	E50-SQV-CC-INJ-F002A	SQUIB VALVE F002A FAILS TO OPERATE
		3.00E-03	E50-SQV-CC-INJ-F002E	SQUIB VALVE F002E FAILS TO OPERATE
45	4.18E-09	4.64E-04	%M50_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		3.00E-03	E50-SQV-CC-INJ-F002D	SQUIB VALVE F002D FAILS TO OPERATE

Table 11B-23
Shutdown High Winds Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		3.00E-03	E50-SQV-CC-INJ-F002H	SQUIB VALVE F002H FAILS TO OPERATE
46	3.48E-09	4.64E-04	%M50_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		5.00E-02	MS-TOP2	TWO DPVS FAIL TO OPEN (MANUAL)
47	3.48E-09	4.64E-04	%M50_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
		5.00E-02	MS-TOP2	TWO DPVS FAIL TO OPEN (MANUAL)
48	3.34E-09	4.64E-04	%M50_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		7.20E-06	E50-POL-RP-POOLA	GDSCS POOLS A LEAKS CATASTROPHICALLY
49	3.34E-09	4.64E-04	%M50_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		7.20E-06	E50-POL-RP-POOLD	GDSCS POOL D LEAKS CATASTROPHICALLY
50	3.34E-09	4.64E-04	%M50_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		7.20E-06	T23-POL-RP-SP	SUPPRESSION POOL LEAKS CATASTROPHICALLY
51	3.01E-09	8.36E-04	%M5_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5 - H345
		3.60E-06	C63-LT_-NO-ESFRX_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LT_-NO-ESFRX'
52	2.32E-09	4.64E-04	%M50_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345

Table 11B-23
Shutdown High Winds Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		5.00E-02	MS-TOP2	TWO DPVS FAIL TO OPEN (MANUAL)
53	2.32E-09	4.64E-04	%M5O_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		5.00E-02	MS-TOP2	TWO DPVS FAIL TO OPEN (MANUAL)
54	1.67E-09	8.36E-04	%M5_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5 - H345
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.76E-01	B32-XHE-FO-VENT	OPERATOR FAILS TO OPEN VENT
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'
55	1.67E-09	8.36E-04	%M5_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5 - H345
		1.00E+00	B32-NONCONDENSE	NON CONDENSABLE GASSES FORM IN ICS SUFFICIENTLY TO REQUIRE VENTING
		1.76E-01	B32-XHE-FO-VENT	OPERATOR FAILS TO OPEN VENT
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'
56	1.67E-09	4.64E-04	%M5O_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		3.60E-06	C63-LT_-NO-ESFRX_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LT_-NO-ESFRX'
57	1.55E-09	8.36E-04	%M5_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5 - H345
		1.86E-06	C63-LDD-FC-ESFLOADS	CCF OF ALL ESF LOAD DRIVERS

**Table 11B-23
Shutdown High Winds Focus Top 100 Cutsets**

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
58	1.55E-09	8.36E-04	%M5_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5 - H345
		1.86E-06	C63-LDD-FC-ESFLOADS	CCF OF ALL ESF LOAD DRIVERS
59	1.39E-09	4.64E-04	%M5O_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5O - H345
		3.00E-03	E50-SQV-CC-INJ-F002A	SQUIB VALVE F002A FAILS TO OPERATE
		1.00E-03	E50-UV_-CC-INJ-F003E	INJECTION CHECK VALVE F003E FAILS TO OPEN
60	1.39E-09	4.64E-04	%M5O_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5O - H345
		3.00E-03	E50-SQV-CC-INJ-F002D	SQUIB VALVE F002D FAILS TO OPERATE
		1.00E-03	E50-UV_-CC-INJ-F003H	INJECTION CHECK VALVE F003H FAILS TO OPEN
61	1.39E-09	4.64E-04	%M5O_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5O - H345
		3.00E-03	E50-SQV-CC-INJ-F002E	SQUIB VALVE F002E FAILS TO OPERATE
		1.00E-03	E50-UV_-CC-INJ-F003A	INJECTION CHECK VALVE F003A FAILS TO OPEN
62	1.39E-09	4.64E-04	%M5O_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5O - H345
		3.00E-03	E50-SQV-CC-INJ-F002H	SQUIB VALVE F002H FAILS TO OPERATE
		1.00E-03	E50-UV_-CC-INJ-F003D	INJECTION CHECK VALVE F003D FAILS TO OPEN
63	1.25E-09	8.36E-04	%M5_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5 - H345

**Table 11B-23
Shutdown High Winds Focus Top 100 Cutsets**

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
		5.00E-02	MS-TOP2	TWO DPVS FAIL TO OPEN (MANUAL)
64	9.29E-10	8.36E-04	%M5_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5 - H345
		1.11E-06	C63-DTM-FC-ESFLG_1_2_3	CCF OF THREE COMPONENTS: C63-DTM-FC-ESFD1 & C63-DTM-FC-ESFD2 & C63-DTM-FC-ESFD3
65	9.29E-10	8.36E-04	%M5_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5 - H345
		1.11E-06	C63-DTM-FC-ESFLG_1_2_3	CCF OF THREE COMPONENTS: C63-DTM-FC-ESFD1 & C63-DTM-FC-ESFD2 & C63-DTM-FC-ESFD3
66	9.29E-10	8.36E-04	%M5_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5 - H345
		1.11E-06	C63-DTM-FC-ESFLG_1_2_4	CCF OF THREE COMPONENTS: C63-DTM-FC-ESFD1 & C63-DTM-FC-ESFD2 & C63-DTM-FC-ESFD4
67	9.29E-10	8.36E-04	%M5_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5 - H345
		1.11E-06	C63-DTM-FC-ESFLG_1_2_4	CCF OF THREE COMPONENTS: C63-DTM-FC-ESFD1 & C63-DTM-FC-ESFD2 & C63-DTM-FC-ESFD4
68	9.29E-10	8.36E-04	%M5_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5 - H345
		1.11E-06	C63-DTM-FC-ESFLG_1_3_4	CCF OF THREE COMPONENTS: C63-DTM-FC-ESFD1 & C63-DTM-FC-ESFD3 & C63-DTM-FC-ESFD4
69	9.29E-10	8.36E-04	%M5_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5 - H345

**Table 11B-23
Shutdown High Winds Focus Top 100 Cutsets**

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.11E-06	C63-DTM-FC-ESFLG_1_3_4	CCF OF THREE COMPONENTS: C63-DTM-FC-ESFD1 & C63-DTM-FC-ESFD3 & C63-DTM-FC-ESFD4
70	9.29E-10	8.36E-04	%M5_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5 - H345
		1.11E-06	C63-DTM-FC-ESFLG_2_3_4	CCF OF THREE COMPONENTS: C63-DTM-FC-ESFD2 & C63-DTM-FC-ESFD3 & C63-DTM-FC-ESFD4
71	9.29E-10	8.36E-04	%M5_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5 - H345
		1.11E-06	C63-DTM-FC-ESFLG_2_3_4	CCF OF THREE COMPONENTS: C63-DTM-FC-ESFD2 & C63-DTM-FC-ESFD3 & C63-DTM-FC-ESFD4
72	8.63E-10	4.64E-04	%M5O_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5O - H345
		1.86E-06	C63-LDD-FC-ESFLOADS	CCF OF ALL ESF LOAD DRIVERS
73	8.63E-10	4.64E-04	%M5O_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5O - H345
		1.86E-06	C63-LDD-FC-ESFLOADS	CCF OF ALL ESF LOAD DRIVERS
74	7.97E-10	4.64E-04	%M5O_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5O - H345
		1.72E-06	E50-UV_-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-UV_-CC-EQU'
75	7.64E-10	8.36E-04	%M5_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5 - H345
		3.84E-02	B32-TM-LOOPA-IND	ICS LOOP A IN TEST OR MAINTENANCE BY ITSELF

Table 11B-23
Shutdown High Winds Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		2.38E-05	E50-SQV-CC-INJ_1_5	CCF OF TWO COMPONENTS: E50-SQV-CC-INJ-F002A & E50-SQV-CC-INJ-F002E
76	7.64E-10	8.36E-04	%M5_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5 - H345
		3.84E-02	B32-TM-LOOPA-IND	ICS LOOP A IN TEST OR MAINTENANCE BY ITSELF
		2.38E-05	E50-SQV-CC-INJ_4_8	CCF OF TWO COMPONENTS: E50-SQV-CC-INJ-F002D & E50-SQV-CC-INJ-F002H
77	7.64E-10	8.36E-04	%M5_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5 - H345
		3.84E-02	B32-TM-LOOPB-IND	ICS LOOP B IN TEST OR MAINTENANCE BY ITSELF
		2.38E-05	E50-SQV-CC-INJ_1_5	CCF OF TWO COMPONENTS: E50-SQV-CC-INJ-F002A & E50-SQV-CC-INJ-F002E
78	7.64E-10	8.36E-04	%M5_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5 - H345
		3.84E-02	B32-TM-LOOPB-IND	ICS LOOP B IN TEST OR MAINTENANCE BY ITSELF
		2.38E-05	E50-SQV-CC-INJ_4_8	CCF OF TWO COMPONENTS: E50-SQV-CC-INJ-F002D & E50-SQV-CC-INJ-F002H
79	7.52E-10	8.36E-04	%M5_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5 - H345
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
		5.00E-02	MS-TOP2	TWO DPVS FAIL TO OPEN (MANUAL)
80	6.96E-10	4.64E-04	%M5O_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5O - H345
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
		5.00E-02	MS-TOP2	TWO DPVS FAIL TO OPEN (MANUAL)

Table 11B-23
Shutdown High Winds Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
81	6.96E-10	4.64E-04	%M5O_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
		5.00E-02	MS-TOP2	TWO DPVS FAIL TO OPEN (MANUAL)
82	5.52E-10	4.64E-04	%M5O_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		2.38E-05	E50-SQV-CC-INJ_1_5	CCF OF TWO COMPONENTS: E50-SQV-CC-INJ-F002A & E50-SQV-CC-INJ-F002E
		5.00E-02	MS-TOP2	TWO DPVS FAIL TO OPEN (MANUAL)
83	5.52E-10	4.64E-04	%M5O_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		2.38E-05	E50-SQV-CC-INJ_4_8	CCF OF TWO COMPONENTS: E50-SQV-CC-INJ-F002D & E50-SQV-CC-INJ-F002H
		5.00E-02	MS-TOP2	TWO DPVS FAIL TO OPEN (MANUAL)
84	5.51E-10	8.36E-04	%M5_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5 - H345
		3.84E-02	B32-TM-LOOPA-IND	ICS LOOP A IN TEST OR MAINTENANCE BY ITSELF
		1.72E-05	E50-UV_-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-UV_-CC-INJ'
85	5.51E-10	8.36E-04	%M5_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5 - H345
		3.84E-02	B32-TM-LOOPB-IND	ICS LOOP B IN TEST OR MAINTENANCE BY ITSELF
		1.72E-05	E50-UV_-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-UV_-CC-INJ'
86	5.16E-10	4.64E-04	%M5O_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345

Table 11B-23
Shutdown High Winds Focus Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.11E-06	C63-DTM-FC-ESFLG_1_2_3	CCF OF THREE COMPONENTS: C63-DTM-FC-ESFD1 & C63-DTM-FC-ESFD2 & C63-DTM-FC-ESFD3
87	5.16E-10	4.64E-04	%M5O_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		1.11E-06	C63-DTM-FC-ESFLG_1_2_3	CCF OF THREE COMPONENTS: C63-DTM-FC-ESFD1 & C63-DTM-FC-ESFD2 & C63-DTM-FC-ESFD3
88	5.16E-10	4.64E-04	%M5O_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		1.11E-06	C63-DTM-FC-ESFLG_1_2_4	CCF OF THREE COMPONENTS: C63-DTM-FC-ESFD1 & C63-DTM-FC-ESFD2 & C63-DTM-FC-ESFD4
89	5.16E-10	4.64E-04	%M5O_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		1.11E-06	C63-DTM-FC-ESFLG_1_2_4	CCF OF THREE COMPONENTS: C63-DTM-FC-ESFD1 & C63-DTM-FC-ESFD2 & C63-DTM-FC-ESFD4
90	5.16E-10	4.64E-04	%M5O_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		1.11E-06	C63-DTM-FC-ESFLG_1_3_4	CCF OF THREE COMPONENTS: C63-DTM-FC-ESFD1 & C63-DTM-FC-ESFD3 & C63-DTM-FC-ESFD4
91	5.16E-10	4.64E-04	%M5O_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		1.11E-06	C63-DTM-FC-ESFLG_1_3_4	CCF OF THREE COMPONENTS: C63-DTM-FC-ESFD1 & C63-DTM-FC-ESFD3 & C63-DTM-FC-ESFD4
92	5.16E-10	4.64E-04	%M5O_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345

**Table 11B-23
Shutdown High Winds Focus Top 100 Cutsets**

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.11E-06	C63-DTM-FC-ESFLG_2_3_4	CCF OF THREE COMPONENTS: C63-DTM-FC-ESFD2 & C63-DTM-FC-ESFD3 & C63-DTM-FC-ESFD4
93	5.16E-10	4.64E-04	%M5O_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5O - H345
		1.11E-06	C63-DTM-FC-ESFLG_2_3_4	CCF OF THREE COMPONENTS: C63-DTM-FC-ESFD2 & C63-DTM-FC-ESFD3 & C63-DTM-FC-ESFD4
94	4.82E-10	8.36E-04	%M5_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5 - H345
		3.84E-02	B32-TM-LOOPA-IND	ICS LOOP A IN TEST OR MAINTENANCE BY ITSELF
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
		5.00E-02	MS-TOP2	TWO DPVS FAIL TO OPEN (MANUAL)
95	4.82E-10	8.36E-04	%M5_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5 - H345
		3.84E-02	B32-TM-LOOPB-IND	ICS LOOP B IN TEST OR MAINTENANCE BY ITSELF
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
		5.00E-02	MS-TOP2	TWO DPVS FAIL TO OPEN (MANUAL)
96	4.64E-10	4.64E-04	%M5O_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5O - H345
		1.00E-03	E50-UV_-CC-INJ-F003A	INJECTION CHECK VALVE F003A FAILS TO OPEN
		1.00E-03	E50-UV_-CC-INJ-F003E	INJECTION CHECK VALVE F003E FAILS TO OPEN
97	4.64E-10	4.64E-04	%M5O_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5O - H345

**Table 11B-23
Shutdown High Winds Focus Top 100 Cutsets**

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E-03	E50-UV_-CC-INJ-F003D	INJECTION CHECK VALVE F003D FAILS TO OPEN
		1.00E-03	E50-UV_-CC-INJ-F003H	INJECTION CHECK VALVE F003H FAILS TO OPEN
98	4.22E-10	8.36E-04	%M5_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5 - H345
		3.84E-02	B32-TM-LOOPA-IND	ICS LOOP A IN TEST OR MAINTENANCE BY ITSELF
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED
		5.00E-02	MS-TOP2	TWO DPVS FAIL TO OPEN (MANUAL)
99	4.22E-10	8.36E-04	%M5_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5 - H345
		3.84E-02	B32-TM-LOOPA-IND	ICS LOOP A IN TEST OR MAINTENANCE BY ITSELF
		2.63E-04	E50-BV_-OC-F004D	MAINTENANCE VALVE F004D PLUGS/TRANSFERS CLOSED
		5.00E-02	MS-TOP2	TWO DPVS FAIL TO OPEN (MANUAL)
100	4.22E-10	8.36E-04	%M5_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5 - H345
		3.84E-02	B32-TM-LOOPB-IND	ICS LOOP B IN TEST OR MAINTENANCE BY ITSELF
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED
		5.00E-02	MS-TOP2	TWO DPVS FAIL TO OPEN (MANUAL)

Table 11B-24
Shutdown High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
1	4.18E-09	8.36E-04	%M5_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5 - H345
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		5.00E-02	MS-TOP2	TWO DPVS FAIL TO OPEN (MANUAL)
2	3.48E-09	4.64E-04	%M5O_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5O - H345
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		5.00E-02	MS-TOP2	TWO DPVS FAIL TO OPEN (MANUAL)
3	3.34E-09	4.64E-04	%M5O_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5O - H345
		7.20E-06	T23-POL-RP-SP	SUPPRESSION POOL LEAKS CATASTROPHICALLY
4	2.32E-09	4.64E-04	%M5O_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5O - H345
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		5.00E-02	MS-TOP2	TWO DPVS FAIL TO OPEN (MANUAL)
5	2.24E-09	4.64E-04	%M5O_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5O - H345
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
6	1.96E-09	4.64E-04	%M5O_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5O - H345

Table 11B-24
Shutdown High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
7	1.96E-09	4.64E-04	%M5O_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5O - H345
		2.63E-04	E50-BV_-OC-F004D	MAINTENANCE VALVE F004D PLUGS/TRANSFERS CLOSED
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
8	1.35E-09	8.36E-04	%M5_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5 - H345
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
9	1.35E-09	8.36E-04	%M5_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5 - H345
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
10	1.25E-09	8.36E-04	%M5_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5 - H345

Table 11B-24
Shutdown High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
		5.00E-02	MS-TOP2	TWO DPVS FAIL TO OPEN (MANUAL)
11	1.12E-09	4.64E-04	%M50_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
12	1.12E-09	4.64E-04	%M50_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
13	7.52E-10	8.36E-04	%M5_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5 - H345
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
		5.00E-02	MS-TOP2	TWO DPVS FAIL TO OPEN (MANUAL)
14	7.47E-10	4.64E-04	%M50_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION

Table 11B-24
Shutdown High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
15	7.47E-10	4.64E-04	%M50_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
16	6.96E-10	4.64E-04	%M50_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
		5.00E-02	MS-TOP2	TWO DPVS FAIL TO OPEN (MANUAL)
17	6.14E-10	4.64E-04	%M50_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
		4.41E-03	R21-DG_-FR-CCF_1_2	CCF OF TWO COMPONENTS: R21-DG_-FR-DGA & R21-DG_-FR-DGB
18	5.38E-10	4.64E-04	%M50_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED
		4.41E-03	R21-DG_-FR-CCF_1_2	CCF OF TWO COMPONENTS: R21-DG_-FR-DGA & R21-DG_-FR-DGB
19	5.38E-10	4.64E-04	%M50_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		2.63E-04	E50-BV_-OC-F004D	MAINTENANCE VALVE F004D PLUGS/TRANSFERS CLOSED

Table 11B-24
Shutdown High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		4.41E-03	R21-DG_-FR-CCF_1_2	CCF OF TWO COMPONENTS: R21-DG_-FR-DGA & R21-DG_-FR-DGB
20	4.36E-10	4.64E-04	%M5O_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
21	4.18E-10	4.64E-04	%M5O_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
		5.00E-02	MS-TOP2	TWO DPVS FAIL TO OPEN (MANUAL)
22	4.04E-10	8.36E-04	%M5_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5 - H345
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
23	4.04E-10	8.36E-04	%M5_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5 - H345
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION

Table 11B-24
Shutdown High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
24	3.82E-10	4.64E-04	%M50_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
25	3.82E-10	4.64E-04	%M50_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		2.63E-04	E50-BV_-OC-F004D	MAINTENANCE VALVE F004D PLUGS/TRANSFERS CLOSED
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
26	3.69E-10	8.36E-04	%M5_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5 - H345
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		4.41E-03	R21-DG_-FR-CCF_1_2	CCF OF TWO COMPONENTS: R21-DG_-FR-DGA & R21-DG_-FR-DGB
27	3.69E-10	8.36E-04	%M5_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5 - H345
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		4.41E-03	R21-DG_-FR-CCF_1_2	CCF OF TWO COMPONENTS: R21-DG_-FR-DGA & R21-DG_-FR-DGB

Table 11B-24
Shutdown High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
28	3.58E-10	4.64E-04	%M50_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGB	STANDBY DIESEL GENERATOR "B" IN MAINTENANCE
29	3.58E-10	4.64E-04	%M50_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGA	STANDBY DIESEL GENERATOR "A" IN MAINTENANCE
30	3.14E-10	4.64E-04	%M50_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGB	STANDBY DIESEL GENERATOR "B" IN MAINTENANCE
31	3.14E-10	4.64E-04	%M50_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED

Table 11B-24
Shutdown High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGA	STANDBY DIESEL GENERATOR "A" IN MAINTENANCE
32	3.14E-10	4.64E-04	%M50_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		2.63E-04	E50-BV_-OC-F004D	MAINTENANCE VALVE F004D PLUGS/TRANSFERS CLOSED
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGB	STANDBY DIESEL GENERATOR "B" IN MAINTENANCE
33	3.14E-10	4.64E-04	%M50_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		2.63E-04	E50-BV_-OC-F004D	MAINTENANCE VALVE F004D PLUGS/TRANSFERS CLOSED
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGA	STANDBY DIESEL GENERATOR "A" IN MAINTENANCE
34	3.07E-10	4.64E-04	%M50_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		4.41E-03	R21-DG_-FR-CCF_1_2	CCF OF TWO COMPONENTS: R21-DG_-FR-DGA & R21-DG_-FR-DGB
35	3.07E-10	4.64E-04	%M50_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345

Table 11B-24
Shutdown High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
		4.41E-03	R21-DG_-FR-CCF_1_2	CCF OF TWO COMPONENTS: R21-DG_-FR-DGA & R21-DG_-FR-DGB
36	2.78E-10	4.64E-04	%M50_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
		2.00E-03	P21-ACV-OO-F0004	AIR OPERATED VALVE F0004 FAILS TO CLOSE
37	2.78E-10	4.64E-04	%M50_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
		2.00E-03	P21-ACV-OO-F0027	AIR OPERATED VALVE F0027 FAILS TO CLOSE
38	2.78E-10	4.64E-04	%M50_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
		2.00E-03	P21-ACV-OO-F0061	AIR OPERATED VALVE F0061 FAILS TO CLOSE
39	2.64E-10	4.64E-04	%M50_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		5.00E-02	MS-TOP2	TWO DPVS FAIL TO OPEN (MANUAL)
		1.14E-05	R13-INV-FC-CCFSR_ALL	CCF OF ALL COMPONENTS IN GROUP 'R13-INV-FC-CCFSR'
40	2.62E-10	8.36E-04	%M5_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5 - H345

Table 11B-24
Shutdown High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
41	2.62E-10	8.36E-04	%M5_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5 - H345
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
42	2.44E-10	4.64E-04	%M50_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED
		2.00E-03	P21-ACV-OO-F0004	AIR OPERATED VALVE F0004 FAILS TO CLOSE
43	2.44E-10	4.64E-04	%M50_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED
		2.00E-03	P21-ACV-OO-F0027	AIR OPERATED VALVE F0027 FAILS TO CLOSE
44	2.44E-10	4.64E-04	%M50_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345

Table 11B-24
Shutdown High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED
		2.00E-03	P21-ACV-OO-F0061	AIR OPERATED VALVE F0061 FAILS TO CLOSE
45	2.44E-10	4.64E-04	%M50_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		2.63E-04	E50-BV_-OC-F004D	MAINTENANCE VALVE F004D PLUGS/TRANSFERS CLOSED
		2.00E-03	P21-ACV-OO-F0004	AIR OPERATED VALVE F0004 FAILS TO CLOSE
46	2.44E-10	4.64E-04	%M50_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		2.63E-04	E50-BV_-OC-F004D	MAINTENANCE VALVE F004D PLUGS/TRANSFERS CLOSED
		2.00E-03	P21-ACV-OO-F0027	AIR OPERATED VALVE F0027 FAILS TO CLOSE
47	2.44E-10	4.64E-04	%M50_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		2.63E-04	E50-BV_-OC-F004D	MAINTENANCE VALVE F004D PLUGS/TRANSFERS CLOSED
		2.00E-03	P21-ACV-OO-F0061	AIR OPERATED VALVE F0061 FAILS TO CLOSE
48	2.42E-10	8.36E-04	%M5_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5 - H345
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION

Table 11B-24
Shutdown High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
49	2.42E-10	8.36E-04	%M5_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5 - H345
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
50	2.41E-10	8.36E-04	%M5_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5 - H345
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		3.84E-02	B32-TM-LOOPA-IND	ICS LOOP A IN TEST OR MAINTENANCE BY ITSELF
		5.00E-02	MS-TOP2	TWO DPVS FAIL TO OPEN (MANUAL)
51	2.41E-10	8.36E-04	%M5_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5 - H345
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		3.84E-02	B32-TM-LOOPB-IND	ICS LOOP B IN TEST OR MAINTENANCE BY ITSELF
		5.00E-02	MS-TOP2	TWO DPVS FAIL TO OPEN (MANUAL)
52	2.31E-10	8.36E-04	%M5_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5 - H345
		3.84E-02	B32-TM-LOOPA-IND	ICS LOOP A IN TEST OR MAINTENANCE BY ITSELF
		7.20E-06	T23-POL-RP-SP	SUPPRESSION POOL LEAKS CATASTROPHICALLY
53	2.31E-10	8.36E-04	%M5_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5 - H345

Table 11B-24
Shutdown High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		3.84E-02	B32-TM-LOOPB-IND	ICS LOOP B IN TEST OR MAINTENANCE BY ITSELF
		7.20E-06	T23-POL-RP-SP	SUPPRESSION POOL LEAKS CATASTROPHICALLY
54	2.24E-10	4.64E-04	%M50_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
55	2.24E-10	4.64E-04	%M50_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		3.00E-05	C63-DTM-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-DTM-FC-ESFLG'
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
56	2.24E-10	4.64E-04	%M50_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
		1.61E-03	G21-XHE-FO-LPCI	OPERATOR FAILS TO ALIGN AND ACTUATE FAPCS IN LPCI MODE
57	2.18E-10	4.64E-04	%M50_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'

Table 11B-24
Shutdown High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
58	2.18E-10	4.64E-04	%M50_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
59	2.15E-10	8.36E-04	%M5_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5 - H345
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGB	STANDBY DIESEL GENERATOR "B" IN MAINTENANCE
60	2.15E-10	8.36E-04	%M5_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5 - H345
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGA	STANDBY DIESEL GENERATOR "A" IN MAINTENANCE

Table 11B-24
Shutdown High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
61	2.15E-10	8.36E-04	%M5_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5 - H345
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGB	STANDBY DIESEL GENERATOR "B" IN MAINTENANCE
62	2.15E-10	8.36E-04	%M5_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5 - H345
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGA	STANDBY DIESEL GENERATOR "A" IN MAINTENANCE
63	2.05E-10	4.64E-04	%M50_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		4.41E-03	R21-DG_-FR-CCF_1_2	CCF OF TWO COMPONENTS: R21-DG_-FR-DGA & R21-DG_-FR-DGB
64	2.05E-10	4.64E-04	%M50_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		4.41E-03	R21-DG_-FR-CCF_1_2	CCF OF TWO COMPONENTS: R21-DG_-FR-DGA & R21-DG_-FR-DGB

Table 11B-24
Shutdown High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
65	1.96E-10	4.64E-04	%M50_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED
		1.61E-03	G21-XHE-FO-LPCI	OPERATOR FAILS TO ALIGN AND ACTUATE FAPCS IN LPCI MODE
66	1.96E-10	4.64E-04	%M50_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		2.63E-04	E50-BV_-OC-F004D	MAINTENANCE VALVE F004D PLUGS/TRANSFERS CLOSED
		1.61E-03	G21-XHE-FO-LPCI	OPERATOR FAILS TO ALIGN AND ACTUATE FAPCS IN LPCI MODE
67	1.79E-10	4.64E-04	%M50_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGB	STANDBY DIESEL GENERATOR "B" IN MAINTENANCE
68	1.79E-10	4.64E-04	%M50_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGA	STANDBY DIESEL GENERATOR "A" IN MAINTENANCE

Table 11B-24
Shutdown High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
69	1.79E-10	4.64E-04	%M50_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGB	STANDBY DIESEL GENERATOR "B" IN MAINTENANCE
70	1.79E-10	4.64E-04	%M50_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGA	STANDBY DIESEL GENERATOR "A" IN MAINTENANCE
71	1.78E-10	4.64E-04	%M50_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		2.38E-05	E50-SQV-CC-INJ_1_5	CCF OF TWO COMPONENTS: E50-SQV-CC-INJ-F002A & E50-SQV-CC-INJ-F002E
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
72	1.78E-10	4.64E-04	%M50_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		2.38E-05	E50-SQV-CC-INJ_4_8	CCF OF TWO COMPONENTS: E50-SQV-CC-INJ-F002D & E50-SQV-CC-INJ-F002H

Table 11B-24
Shutdown High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
73	1.67E-10	8.36E-04	%M5_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5 - H345
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		2.00E-03	P21-ACV-OO-F0004	AIR OPERATED VALVE F0004 FAILS TO CLOSE
74	1.67E-10	8.36E-04	%M5_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5 - H345
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		2.00E-03	P21-ACV-OO-F0027	AIR OPERATED VALVE F0027 FAILS TO CLOSE
75	1.67E-10	8.36E-04	%M5_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5 - H345
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		2.00E-03	P21-ACV-OO-F0061	AIR OPERATED VALVE F0061 FAILS TO CLOSE
76	1.67E-10	8.36E-04	%M5_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5 - H345
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		2.00E-03	P21-ACV-OO-F0004	AIR OPERATED VALVE F0004 FAILS TO CLOSE
77	1.67E-10	8.36E-04	%M5_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5 - H345

Table 11B-24
Shutdown High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		2.00E-03	P21-ACV-OO-F0027	AIR OPERATED VALVE F0027 FAILS TO CLOSE
78	1.67E-10	8.36E-04	%M5_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5 - H345
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		2.00E-03	P21-ACV-OO-F0061	AIR OPERATED VALVE F0061 FAILS TO CLOSE
79	1.67E-10	4.64E-04	%M5O_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5O - H345
		5.00E-02	MS-TOP2	TWO DPVS FAIL TO OPEN (MANUAL)
		7.20E-06	T23-POL-RP-SP	SUPPRESSION POOL LEAKS CATASTROPHICALLY
80	1.55E-10	8.36E-04	%M5_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5 - H345
		3.84E-02	B32-TM-LOOPA-IND	ICS LOOP A IN TEST OR MAINTENANCE BY ITSELF
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
81	1.55E-10	8.36E-04	%M5_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5 - H345
		3.84E-02	B32-TM-LOOPB-IND	ICS LOOP B IN TEST OR MAINTENANCE BY ITSELF

Table 11B-24
Shutdown High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		3.00E-04	E50-SQV-CC-EQU_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-EQU'
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
82	1.50E-10	8.36E-04	%M5_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5 - H345
		3.60E-06	C63-LT_-NO-ESFRX_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LT_-NO-ESFRX'
		5.00E-02	MS-TOP2	TWO DPVS FAIL TO OPEN (MANUAL)
83	1.45E-10	4.64E-04	%M5O_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5O - H345
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
84	1.45E-10	4.64E-04	%M5O_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5O - H345
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		5.60E-02	R21-DG_-FR-DGB	DIESEL GENERATOR "B" FAILS TO RUN GIVEN START
85	1.39E-10	4.64E-04	%M5O_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5O - H345

Table 11B-24
Shutdown High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		2.00E-03	P21-ACV-OO-F0004	AIR OPERATED VALVE F0004 FAILS TO CLOSE
86	1.39E-10	4.64E-04	%M50_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		2.00E-03	P21-ACV-OO-F0027	AIR OPERATED VALVE F0027 FAILS TO CLOSE
87	1.39E-10	4.64E-04	%M50_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		1.50E-04	B21-SQV-CC_ALL	CCF OF ALL COMPONENTS IN GROUP 'B21-SQV-CC'
		2.00E-03	P21-ACV-OO-F0061	AIR OPERATED VALVE F0061 FAILS TO CLOSE
88	1.39E-10	4.64E-04	%M50_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
		2.00E-03	P21-ACV-OO-F0004	AIR OPERATED VALVE F0004 FAILS TO CLOSE
89	1.39E-10	4.64E-04	%M50_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
		2.00E-03	P21-ACV-OO-F0027	AIR OPERATED VALVE F0027 FAILS TO CLOSE

Table 11B-24
Shutdown High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
90	1.39E-10	4.64E-04	%M50_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		1.50E-04	E50-SQV-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-SQV-CC-INJ'
		2.00E-03	P21-ACV-OO-F0061	AIR OPERATED VALVE F0061 FAILS TO CLOSE
91	1.36E-10	8.36E-04	%M5_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5 - H345
		3.84E-02	B32-TM-LOOPA-IND	ICS LOOP A IN TEST OR MAINTENANCE BY ITSELF
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
92	1.36E-10	8.36E-04	%M5_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5 - H345
		3.84E-02	B32-TM-LOOPA-IND	ICS LOOP A IN TEST OR MAINTENANCE BY ITSELF
		2.63E-04	E50-BV_-OC-F004D	MAINTENANCE VALVE F004D PLUGS/TRANSFERS CLOSED
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
93	1.36E-10	8.36E-04	%M5_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5 - H345
		3.84E-02	B32-TM-LOOPB-IND	ICS LOOP B IN TEST OR MAINTENANCE BY ITSELF

Table 11B-24
Shutdown High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		2.63E-04	E50-BV_-OC-F004A	MAINTENANCE VALVE F004A PLUGS/TRANSFERS CLOSED
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
94	1.36E-10	8.36E-04	%M5_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5 - H345
		3.84E-02	B32-TM-LOOPB-IND	ICS LOOP B IN TEST OR MAINTENANCE BY ITSELF
		2.63E-04	E50-BV_-OC-F004D	MAINTENANCE VALVE F004D PLUGS/TRANSFERS CLOSED
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
95	1.35E-10	8.36E-04	%M5_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5 - H345
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.61E-03	G21-XHE-FO-LPCI	OPERATOR FAILS TO ALIGN AND ACTUATE FAPCS IN LPCI MODE
96	1.35E-10	8.36E-04	%M5_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5 - H345
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		1.61E-03	G21-XHE-FO-LPCI	OPERATOR FAILS TO ALIGN AND ACTUATE FAPCS IN LPCI MODE
97	1.34E-10	4.64E-04	%M5O_LOPP-H345	LOSS OF PREFERRED POWER - MODE 5O - H345

Table 11B-24
Shutdown High Winds RTNSS Top 100 Cutsets

#	CUTSET PROB	EVENT PROB	EVENT	DESCRIPTION
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
98	1.34E-10	4.64E-04	%M50_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		1.80E-05	C63-LOG-FC-ESFLG_ALL	CCF OF ALL COMPONENTS IN GROUP 'C63-LOG-FC-ESFLG'
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
99	1.28E-10	4.64E-04	%M50_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		1.72E-05	E50-UV_-CC-INJ_ALL	CCF OF ALL COMPONENTS IN GROUP 'E50-UV_-CC-INJ'
		1.61E-02	XXX-XHE-FO-LPMAKEUP	OP. FAILS TO RECOG. NEED FOR LOW PRESS. MAKEUP AFTER DEPRESSURIZATION
100	1.19E-10	4.64E-04	%M50_LOPP-H345	LOSS OF PREFERRED POWER - MODE 50 - H345
		1.00E-04	C63-CCFSOFTWARE	COMMON CAUSE FAILURE OF SOFTWARE
		5.60E-02	R21-DG_-FR-DGA	DIESEL GENERATOR "A" FAILS TO RUN GIVEN START
		4.60E-02	R21-DG_-TM-DGB	STANDBY DIESEL GENERATOR "B" IN MAINTENANCE