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DCP/NRC1067
NSD-NRC-97-5363
Docket No.: 52-003

October 8, 1997

Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, DC 20555

ATTENTION: T. R. QUAY

SUBJECT: REVISED DRAFT AP600 PRA ATTACHMENT 54B - SURGE LINE FLOODING
EFFECT ON SHUTDOWN PRA

Dear Mr. Quay:

A telecon was held between the NRC and Westinghouse on October 1, 1997, to discuss draft AP600 PRA Attachment 54B that was submitted to NRC by Westinghouse letter DCP/NRC1057, dated September 26, 1997. Westinghouse agreed to revise draft Attachment 54B to address the following:

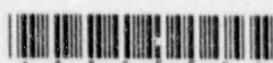
1. Change the description for basic event IWX-MV-G01 to CCF of IRWST injection squib valves, and change the basic event description for ADX-EV-SA to CCF of ADS squib valves.
2. Add text in subsection 54B.2.3 to state valve RNS-V023 was not considered to be available in sensitivity study case 3.
3. Address the modeling of basic events RHN-MAN05 and RHN-MAN05C for sensitivity cases 3 and 5.
4. Provide tables in subsections 54B.1.1 and 54B.1.2 for the core damage sequences, cutsets, and importance listings.

Enclosed with this letter is a revised draft of Attachment 54B which will be placed at the end of AP600 PRA Chapter 54 in the next revision to the PRA report.

To facilitate the NRC's review of the revised draft of Attachment 54B, redline and strikeout have been used to illustrate the text changes. Note the tables have been renumbered since six new tables are provided (see item 4 above).

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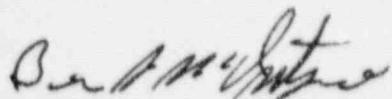
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Westinghouse believes this enclosure satisfies the comments provided by the NRC during the October 1 telecon. The open item is represented by item #5751 in the OITS. Westinghouse will change the Westinghouse status column to "Action N." The staff is requested to review the enclosure and provide Westinghouse with the action to be placed in the NRC status column of item #5751.

Please contact Cynthia L. Haag on (412) 374-4277 if you have any questions concerning this transmittal.



Brian A. McIntyre, Manager
Advanced Plant Safety and Licensing

jml

Enclosure

cc: J. M. Sebrosky, NRC (Enclosure)
M. A. Pohida, NRC (w/Enclosure)
N. J. Liparulo, Westinghouse (w/o Enclosure)

**Enclosure to Westinghouse
Letter DCP/NRC1067**

October 8, 1997

ATTACHMENT 54B

SURGE LINE FLOODING EFFECT ON LOW-POWER AND SHUTDOWN RISK ASSESSMENT

54B.1 Effect on Shutdown PRA, Revision 6

An examination of the surge line flooding concerns was conducted on the AP600 design to determine the capability of the IRWST gravity injection function during reduced inventory conditions if normal residual heat removal (RNS) cooling is lost.

The results of that examination indicated that, if RNS cooling is lost during reduced inventory conditions with the reactor coolant system open, a vent path through the ADS 4th stage is required to preclude the occurrence of surge line flooding and thereby not affect gravity injection.

Therefore, to address surge line flooding, Westinghouse has included the requirement for 1-out-of-4 ADS stage 4 valves to be opened, in the success criteria for events during reduced inventory conditions. This success criterion for 1-out-of-4 ADS stage 4 valves to be opened is determined by analyses documented in Section 4.8 of the AP600 Shutdown Evaluation Report, WCAP-14837, (Reference 54B-1). Technical Specification 3.4.14 allows for 2 of the 4 ADS stage 4 valves to be out of service during reduced inventory conditions. This technical specification provision is to allow for unscheduled repairs of as many as two ADS stage 4 valves during drained conditions.

Sensitivity studies are conducted to determine the effect of the additional ADS success criteria for surge line flooding on the shutdown PRA and basic insights obtained from Revision 6 of the shutdown PRA. All shutdown drained cases are affected by the surge line flooding issue. These cases are as follows:

IEV-RCSOD	RCS overdraining when entering mid-loop condition
IEV-LISPED LOSPD	Loss of offsite power during mid-loop operation
IEV-RNSD	Loss of RNS during mid-loop operation
IEV-CCWD	Loss of CCS/SWS during mid-loop operation
IEV-LOCA24D	LOCA through RNS-V024 during mid-loop operation

The method of evaluating the effect of this success criterion on the shutdown PRA involves the following process:

- a. Include ADS stage 4 in the shutdown event trees for drained conditions. The revised event trees are provided in Figures 54B-1 through 54B-5.
- b. Construct two ADS fault trees: ADASD for cases with offsite power available, and ADASDP for the station blackout case. The success criteria summary tables for these fault trees are provided in Tables 54B-1 and 54B-2.
- c. Construct ADS support system fault trees for the fault trees developed in item b.
- d. Construct initiating event sequences for the reduced inventory cases to include ADS success or failure, as appropriate. These sequences used the fault trees for the IRWST, RNS, CCS, and SWS that are reported in the shutdown PRA, Revision 6, without modification.

- e. Add success of the operator action to stop RCS drain-down in applicable sequences for the RCS overdrain initiating event (RCSOD); this is represented by basic event RHN-MAN04-SUCC.
- f. Group the non-drained initiating event sequences from shutdown PRA, Revision 6, with the newly constructed initiating event sequences for the drained cases, discussed in items d and e above. Quantify this group of sequences to assess the effect of the changes in the drained sequences on the baseline and focused shutdown core damage frequencies.
 - Evaluate the impact of these changes on the baseline and focused shutdown core damage frequencies.

Note, the shutdown PRA, Revision 6, reflects the conservative modeling of RNS trees in sequences associated with the loss of offsite power (LOSP) initiating event. This conservatism consists of using an OR gate instead of an AND at the second level of the RNS fault tree files RNP2, RNT2, RNP2D and RNT2D. By correcting of these fault tree files, the baseline core damage frequency changes from 5.5E-08 to 4.7E-08 events per year; the dominant core damage sequences with single RNS train failure from LOSP events are eliminated by these corrections. The corrected RNS fault tree files are used in this evaluation to resolve the surge line issue.

54B.1.1 Baseline PRA Shutdown Core Damage Frequency Sensitivity Results

By incorporating the changes discussed above into the shutdown PRA model, the baseline core damage frequency (CDF) changes from 4.7E-08 to 6.7E-08 events per year; an increase of 43 percent. However, a CDF of 6.7E-08 is still very low. The sequence results for this baseline case are shown in Table 54B-3, and the top 200 cutsets from the quantification output file are shown in Table 54B-4. The associated component importance file is shown in Table 54B-5.

54B.1.2 Focused PRA Shutdown Core Damage Frequency Sensitivity Results

By incorporating the changes discussed above into the model from the shutdown PRA, Revision 6, the focused PRA sensitivity study core damage frequency changes from 4.1E-07 to 5.1E-07 events per year; an increase of 24 percent. However, a CDF of 5.1E-07 is still very low. The sequence results for this focused case are shown in Table 54B-6, and the top 200 cutsets from this quantification output file are shown in Table 54B-7. The associated component importance file is shown in Table 54B-8.

54B.2 Design Change Effect on Surge Line Sensitivity Studies

This section documents the effect of design changes on the baseline and focused PRA results from the surge line sensitivity studies addressed in the previous section (54B.1) of this attachment. The cutset output files for the results in subsections 54B.1.1 and 54B.1.2 form the starting point of these additional sensitivity studies.

These particular design changes, made subsequent to preparing the design reported in the shutdown PRA, Revision 6, are as follows:

1. IRWST injection check valves maintaining the RCS pressure boundary changed to squib valves; (i.e., check valves 123A/B and 125A/B are changed to squib valves 123A/B and 125A/B, respectively)

2. IRWST recirculation paths changed from 10-inch and 4-inch lines to 6-inch lines in all paths
3. IRWST motor-operated valves 118A & B and check valves 120A & B maintaining the IRWST water level changed to squib valves
4. CCS valves to the RNS heat exchanger changed from manual to air-operated
5. The capacity of the service water basin reduced; its duration changed from 24 hours to 12 hours
6. Service water system valves V037A & B changed from air-operated to motor-operated
7. The number of PRHR heat exchangers changed from two to one
8. RNS check valves V015A & B on the DVI lines changed to stop check valves.

This evaluation is an extension of the studies documented in Attachment 54A. The same basic event changes, shown in Attachment 54A, are made in these studies for the base cases. Additional basic event changes related to the 4th stage ADS components and human error probabilities (HEPs) are made to perform sensitivity studies in addition to those in Attachment 54A.

In these studies, the effect of the design changes are evaluated together by performing the steps in Section 54A.9, but on the surge line-related cutset files. In other words, the sensitivity studies that assess the effect of each design change (as documented in Sections 54A.1 through 54A.8) are not performed in this exercise.

The sensitivity studies for this evaluation, consisting of the following cases, are documented in the subsections that follow:

- Case 1 - Effect of design changes on the baseline surge line core damage frequency
- Case 2 - Effect of design changes on the focused PRA sensitivity study surge line core damage frequency
- Case 3 - Effect on case 1 core damage frequency with single IRWST train and 2 ADS 4th stage valves operation
- Case 4 - Effect on case 1 core damage frequency when all HEPs are set to 0.5
- Case 5 - Effect on case 3 core damage frequency when all HEPs are set to 0.5.

54B.2.1 Case 1 Sensitivity Study - Effect on Baseline (Surge Line) Results

The Case 1 sensitivity study estimates the effect of the design changes on the baseline shutdown core damage frequency of 6.7E-08, discussed above in subsection 54B.1.1.

This estimation is conducted by making changes to the basic events in the quantification output file from the surge line Level 1 baseline case. The following steps were done:

- a) Revise basic event probabilities associated with the new IRWST configuration and unscheduled maintenance unavailability discussed in subsection 54A.1; IWX-MV-GO1 is set to 2.6E-05, IWX-CV-AO set to 3.0E-05, IRWMOD05S set to 3.0E-03, and IRWMOD06S is set to 0.

- b) Revise the basic event frequencies for CCS initiating events to reflect the changes discussed in subsection 54A.4; IEV-CCWD is set to 6.02E-04, and IEV-CCWND set to 3.75E-03.
- c) Revise the basic event frequencies for the loss of offsite power initiating events to reflect the changes discussed in subsection 54A.5; IEV-LISPED LOSPD is set to 4.44E-03, and IEV-LOSPND is set to 1.71E-02.

Having modified the basic events to incorporate these design changes into the shutdown PRA, the baseline quantification output file is recalculated to estimate the shutdown core damage frequency. The resulting shutdown core damage frequency changes from 6.7E-08 events per year to 7.0E-08 events per year. The top 200 cutsets from this quantification output file are shown in Table 54B-3 54B-9. The associated component importance file is shown in Table 54B-4 54B-10.

54B.2.2 Case 2 Sensitivity Study - Effect on Focused PRA (Surge Line) Results

The Case 2 sensitivity study estimates the effect of the design changes on the focused PRA sensitivity study core damage frequency of 5.1E-07, discussed above in subsection 54B.1.2.

This estimation is conducted by making changes to the basic events in quantification output file from the surge line Level 1 focused PRA case. The following steps were done:

- a) Revise basic event probabilities associated with the new IRWST configuration and unscheduled maintenance unavailability discussed in subsection 54A.1; IWX-MV-GO1 is set to 2.6E-05, IWX-CV-AO set to 3.0E-05, IRWMOD05S set to 3.0E-03, and IRWMOD06S set to 0.
- b) Revise the basic event frequencies for CCS initiating events to reflect the changes discussed in subsection 54A.4; IEV-CCWD is set to 6.02E-04, and IEV-CCWND set to 3.75E-03.

Note, the service water system basin capacity design change is not included in the focused PRA sensitivity study because this failure does not affect the SWS-related initiating events, and the focused PRA does not credit nonsafety-related systems in the event trees.

Having modified the basic events to incorporate these design changes into the shutdown PRA, the focused PRA quantification output file is recalculated to estimate the shutdown core damage frequency. The resulting shutdown core damage frequency changes from 5.1E-07 events per year to 4.8E-07 events per year. The top 200 cutsets from this quantification output file are shown in Table 54B-5 54B-11. The associated component importance file is shown in Table 54B-6 54B-12.

54B.2.3 Case 3 Sensitivity Study - Single IRWST Train & 2 ADS 4th Stage Operation

AP600 Technical Specifications 3.5.8 and 3.4.14 allow one of the IRWST injection trains and two ADS 4th stage valves to be out of service during reduced inventory conditions. These technical specification provisions are to allow for unscheduled repairs of components in any one of the IRWST injection trains and any two ADS 4th stage valves during drained conditions. These provisions are not intended to allow plant personnel to schedule or plan maintenance activities to be conducted during reduced inventory conditions, and, therefore, should not be misconstrued as such.

However, a sensitivity study is performed to estimate the core damage frequency if one train of IRWST and two ADS 4th stage valves are failed at the same time. For this conservative estimate of the design configuration, one IRWST train and two ADS 4th stage valves are assumed to fail during filled and drained shutdown conditions. Additionally, the redundant injection path via valve RNS-V023 is assumed to be unavailable. That is, it is assumed that (a) the IRWST has only one injection line by essentially setting the other IRWST train failure probability and the failure probability of RNS-V023 injection path equal to 1.0; and (b) the ADS 4th stage has only two valves by propagating the common cause failure of two 4th stage valves through the shutdown model.

Note, the ADS 4th stage operation with only 2 valves is reflected in the model by changing only the common cause of the 4 ADS 4th stage squib valves to common cause of 2 ADS 4th stage squib valves. Changes to the squib valves random failure probabilities were not attempted since these changes would not change the result of this sensitivity study.

This sensitivity is performed by modifying basic events in the quantification output file from Case 1, discussed above in subsection 54B.2.1. The following basic events are modified as shown:

ADX-EV-SA = 3.8E-05; IWACV122AO = 1.0; IWACV123AO = 5.8E-04; IWACV124AO = 1.0; IWACV125AO = 5.8E-04; IWBCV122AO = 1.75E-03; IWBCV123AO = 5.8E-04; IWBCV124AO = 1.75E-03; IWBCV125AO = 5.8E-04; IWX-CV-AO = 3.1E-05; IWX-MV-GO1 = 3.8E-05; IRWMOD05S = 0; IRWMOD06S = 0; RNMOD05S RN23MOD05S = 1.

Basic events RHN-MAN05 and RHN-MAN05C, representing operator failure to initiate injection via valve RNS-V023, are dropped from the quantification cutsets, since total unavailability of this injection path is fully accounted for by setting the basic event (RN23MOD05S) for hardware failure of this valve to 1.0.

Subsection 29.4.6 of Chapter 29 discusses the various common cause failure combinations of valves to be considered in calculating common cause failure of valves in the IRWST. For example, common cause failure (CCF) of 2 IRWST squib valves is calculated by: (1 combination of 2/4 + 2 combinations of 3/4 + 1 combination of 4/4) = 1.0E-05 + 2(1.0E-06) + 2.6E-05 = 3.8E-05. This value is used for basic events IWX-MV-G01 and ADX-EV-SA to represent the CCF of two squib valves in the IRWST and ADS, respectively, for this sensitivity study. The common cause failure of two IRWST injection check valves is calculated similarly by summing the CCF combinations of 2/4 and 4/4 check valves (5.4E-07 + 3.0E-05 = 3.1E-05). The value of combinations of 3/4 check valves is not shown since, as discussed in Chapter 29, CCF of 3/4 check valves is small compared to CCF of 4/4. Common cause failure of 2 IRWST check valves is represented by basic event IWX-CV-AO in this sensitivity study.

Requantification of the cutset file with these changes provides a core damage frequency of ± 2 1.1E-06 events per year. However, a core damage frequency of ± 2 1.1E-06 is still quite low. The top 200 cutsets from this quantification output file is shown in Table 54B-7 54B-13. The associated component importance file is shown in Table 54B-8 54B-14.

This estimate of the core damage frequency at shutdown is believed to be conservative for the following reasons:

- One train of IRWST is assumed to fail during both drained and non-drained conditions

- Two ADS 4th stage valves are assumed to fail during both drained and non-drained conditions
- The IRWST water is considered to be clean water, suitable for injection into the RCS
- The IRWST is covered to preclude material that could clog the strainer from entering the tank
- The IRWST strainer is assigned a conservative failure probability of 2.4E-04 in the PRA. The plugging of the IRWST strainer is expected to be a much less probable event than reflected in a failure probability of 2.4E-04.

54B.2.4 Case 4 Sensitivity Study - Setting HEPs to 0.5 in Case 1 Cutsets

The Case 4 sensitivity study estimates the effect of the setting the human error probabilities to 0.5 in the quantification output file from Case 1, discussed above in subsection 54B.2.1. The following basic events are set to 0.5:

ADN-MAN01, CCB-MAN01, IWN-MAN01, IWN-MAN01C, LPM-MAN05, REC-MANDAS, REC-MANDASC, RHN-MAN03, RHN-MAN04, RHN-MAN04-SUCC; RHN-MAN05, RHN-MAN05C, PRN-MAN01, SWB-MAN02, and ZON-MAN01.

Requantification of the cutset file with these changes provides a core damage frequency of 2.4E-06 events per year. However, a core damage frequency of 2.4E-06 is still quite low. The top 200 cutsets from this quantification output file is shown in Table 54B-9 54B-15. The associated component importance file is shown in Table 54B-10 54B-16.

54B.2.5 Case 5 Sensitivity Study - Setting HEPs to 0.5 in Case 3 Cutsets

The Case 5 sensitivity study estimates the effect of the setting the human error probabilities to 0.5 in the quantification output file from Case 3, discussed above in subsection 54B.2.3. The following basic events are set to 0.5:

ADN-MAN01, CCB-MAN01, IWN-MAN01, IWN-MAN01C, LPM-MAN05, REC-MANDAS, REC-MANDASC, RHN-MAN03, RHN-MAN04, RHN-MAN04-SUCC; RHN-MAN05, RHN-MAN05C, PRN-MAN01, SWB-MAN02, and ZON-MAN01.

Requantification of the cutset file with these changes provides a core damage frequency of 6.2 4.6E-06 events per year. However, a core damage frequency of 6.2 4.6E-06 is still quite low. The top 200 cutsets from this quantification output file is shown in Table 54B-11 54B-17. The associated component importance file is shown in Table 54B-12 54B-18.

54B.3 Conclusion

The design changes were evaluated to determine their effect on the PRA results and insights from the surge line sensitivity study. The previous subsections provide details on the five quantitative sensitivity studies that basically assess the effects of these design changes on the shutdown (surge line) baseline and focused PRA core damage frequencies. The results of this evaluation are as follows:

- a) When the design changes are incorporated together, the baseline (surge line) shutdown PRA core damage frequency changes from 6.7E-08 to 7.0E-08 events per year; an increase of only 4 percent.
- b) When the design changes are incorporated together, the focused (surge line) shutdown PRA core damage frequency changes from 5.1E-07 to 4.8E-07 events per year; a decrease of 6 percent.
- c) Although some top cutsets are reordered, the top 50 to 100 cutsets are more or less the same. This can be seen when the cutsets for the baseline and focused shutdown studies in Section 54B.1 are compared with the results from Cases 1 and 2 in Section 54B.2.
- d) Although basic events importance are changed and reordered in some cases, the most important events are relatively the same, as shown by their "importance % decrease" values in the related component importance tables.
- e) When the HEPs are set to 0.5 in the surge line baseline case, the core damage frequency becomes 2.4E-06 events per year, which is about 34 times greater than the base case core damage frequency of 7.0E-08 events per year. This increase in the base case core damage frequency is somewhat significant even though a core damage frequency of 2.4E-06 is still quite low. The result indicates that the operator actions are important in maintaining a very low core damage frequency for internal events at shutdown.
- f) Although the functions of the IRWST and the RNS and its support systems (CCS and SWS) are still important to maintaining plant safety during shutdown, the function of ADS becomes more important than reflected in Revision 6 of the shutdown PRA, since the ADS 4th stage is now required to preclude the effects of surge line flooding and thereby maintain plant safety. The importance of these functions are due mainly because of their required operability during reduced inventory conditions, where initiating events dominate the plant shutdown risk.

54B.4 References

- 54B-1 "AP600 Shutdown Evaluation Report," WCAP-14837, Revision 0, March 1997.

Table 54B-1

**FAULT TREE "ADASD"
SUCCESS CRITERIA SUMMARY**

Event description:	Automatic depressurization system, automatically actuated, fails to provide RCS vent path following a loss of the residual heat removal capability during reduced inventory shutdown conditions with the vessel head intact. For this scenario, offsite power is available
Success configuration:	1 out of 4 lines of stage 4
System initial status:	All squib valves of stage 4 closed
Mission time:	24 hours
Components required to change status:	Squib valve of stage 4 is required to open
Initiating signals:	PMS: automatic actuation on low hot leg water level signal
Operator actions:	Manual actuation from the main control room when automatic actuation fails - basic events: LPM-MAN05 and ADN-MAN01 performed through PMS - basic event: REC-MANDAS performed through DAS

Table 54B-2

FAULT TREE "ADASDP"
SUCCESS CRITERIA SUMMARY

Event description:	Automatic depressurization system, automatically actuated, fails to provide RCS vent path following a loss of the residual heat removal capability during reduced inventory shutdown conditions with the vessel head intact. For this scenario, station blackout has occurred
Success configuration:	1 out of 4 lines of stage 4
System initial status:	All squib valves of stage 4 closed
Mission time:	24 hours
Components required to change status:	Squib valve of stage 4 is required to open
Initiating signals:	PMS: automatic actuation on low hot leg water level signal
Operator actions:	Manual actuation from the main control room when automatic actuation fails - basic events: LPM-MAN05 and ADN-MAN01 performed through PMS - basic event: REC-MANDAS performed through DAS

TABLE 54B-3

SHUTDOWN BASELINE PRA INCLUDING SURGE-LINE FLOODING EFFECTS

NUMBER	SEQUENCE PROBABILITY	PERCENT CONTRIB	SEQUENCE DESCRIPTION	SEQUENCE IDENTIFIER
1	3.00E-08	44.51	LOSS OF CCS/SWS WITH RCS DRAINED INITIATING EVENT OCCURS SUCCESS OF ADS SQUIB VALVES DURING MIDLOOP GIVEN TRANSIENT FAILURE OF TWO OF TWO IWRST INJECTION LINES RNS PUMP SUCTION LINE FAILURE OF IWRST INJECTION VIA	IEV-CCMD DEL-ADASD SYS-IW2A SYS-IWRNS
2	1.55E-08	22.94	LOSS OF CCS/SWS WITH RCS DRAINED INITIATING EVENT OCCURS FAILURE OF ADS SQUIB VALVES DURING MIDLOOP GIVEN TRANSIENT	IEV-CCMD F-S-ADASD
3	5.78E-09	8.56	LOSS OF RNS WITH RCS DRAINED INITIATING EVENT OCCURS SUCCESS OF ADS SQUIB VALVES DURING MIDLOOP GIVEN TRANSIENT FAILURE OF TWO IWRST INJECTION LINES RNS PUMP SUCTION LINE FAILURE OF IWRST INJECTION VIA	IEV-RNSD DEL-ADASD SYS-IW2A SYS-IWRNS
4	2.98E-09	4.41	LOSS OF RNS WITH RCS DRAINED INITIATING EVENT OCCURS FAILURE OF ADS SQUIB VALVES DURING MIDLOOP GIVEN TRANSIENT	IEV-RNSD SYS-ADASD
5	2.73E-09	4.04	LOCA/RNS-V024 OPENS INITIATING EVENT OCCURS WITH RCS FILLED SUCCESS OF ONE OF TWO CORE MAKEUP TANKS DEPRESSURIZATION FAILURE OF TWO IWRST INJECTION LINES	IEV-LOCA24ND DEL-CM2AH DEL-ADAS SYS-IW2AB
6	2.03E-09	3.01	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS WITH RCS DRAINED NORMAL RHR IN COOLING MODE FAILURE TO RECOVER AC POWER IN 1 HOUR SUCCESS OF ADS SQUIB VALVES DURING MIDLOOP GIVEN BLACKOUT FAILURE OF TWO IWRST INJECTION LINES RNS PUMP SUCTION LINE FAILURE OF IWRST INJECTION VIA	IEV-LOSPD SYS-RNP2i OTH-R1 DEL-ADASDP SYS-IW2AP SYS-IWRNS
7	1.90E-09	2.81	OVERDRAINING OF RCS DURING DRAIN DOWN TO MID-LOOP INITIATING EVENT OPERATOR FAILS TO ISOLATE RNS PIPE RUTURE SUCCESS OF ADS SQUIB VALVES DURING MIDLOOP GIVEN TRANSIENT FAILURE OF TWO IWRST INJECTION LINES RNS PUMP SUCTION LINE FAILURE OF IWRST INJECTION VIA	IEV-RCSOD RHN-MAN04 DEL-ADASD SYS-IW2AO SYS-IWRNS
8	1.15E-09	1.70	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS WITH RCS DRAINED NORMAL RHR IN COOLING MODE AC POWER RECOVERED IN 1 HOUR FAILURE OF NORMAL RHR IN COOLING MODE SUCCESS OF ADS SQUIB VALVES DURING MIDLOOP GIVEN TRANSIENT FAILURE OF TWO IWRST INJECTION LINES RNS PUMP SUCTION LINE FAILURE OF IWRST INJECTION VIA	IEV-LOSPD SYS-RNP2D SUC-R1S SYS-MT2D DEL-ADASD SYS-IW2A SYS-IWRNS

TABLE 54B-3

SHUTDOWN BASELINE PRA INCLUDING SURGE-LINE FLOODING EFFECTS

SEQUENCE NUMBER	PROBABILITY	PERCENT CONTRIB	SEQUENCE DESCRIPTION	SEQUENCE IDENTIFIER
9	1.05E-09	1.55	OVERDRAINING OF RCS DURING DRAIN DOWN TO MID-LOOP INITIATING EVENT OPERATOR SUCCEEDS IN STOPPING RNS DRAINDOWN SUCCESS OF ADS SQUIB VALVES DURING MIDLOOP GIVEN TRANSIENT FAILURE OF TWO OF TWO IRWST INJECTION LINES FAILURE OF IWRST INJECTION VIA RNS PUMP SUCTION LINE	IEV-RCSOD RHN-MAN04-SUCC DEL-ADASD SYS-IW2AO SYS-IWRNS
10	8.02E-10	1.19	LOCA/RNS-V024 OPENS INITIATING EVENT OCCURS WITH RCS DRAINED SUCCESS OF ADS SQUIB VALVES DURING MIDLOOP GIVEN TRANSIENT FAILURE OF TWO OF TWO IRWST INJECTION LINES FAILURE OF IWRST INJECTION VIA RNS PUMP SUCTION LINE	IEV-LOCA24D DEL-ADASD SYS-IW2A SYS-IWRNS
11	7.99E-10	1.18	LOSS OF CCS/SWS WITH RCS FILLED INITIATING EVENT OCCURS FAILURE OF PASSIVE RHR SYSTEM SUCCESS OF ONE OF TWO CORE MAKEUP TANKS FAILURE OF FULL ADS DEPRESSURIZATION	IEV-CCWND SYS-PRM DEL-CM2AM SYS-ADAS
12	6.94E-10	1.03	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS WITH RCS DRAINED FAILURE OF NORMAL RHR IN COOLING MODE FAILURE TO RECOVER AC POWER IN 1 HOUR FAILURE OF ADS SQUIB VALVES DURING MIDLOOP GIVEN BLACKOUT	IEV-LOSPD SYS-RNP2D OTH-R1 SYS-ADASDP
13	5.52E-10	.82	LOSS OF CCS/SWS WITH RCS FILLED INITIATING EVENT OCCURS FAILURE OF PASSIVE RHR SYSTEM FAILURE OF TWO OF TWO CORE MAKEUP TANKS FAILURE OF FULL ADS DEPRESSURIZATION	IEV-CCWND SYS-PRM SYS-CM2AM SYS-ADTS
14	4.13E-10	.61	LOCA/RNS-V024 OPENS INITIATING EVENT OCCURS WITH RCS DRAINED FAILURE OF ADS SQUIB VALVES DURING MIDLOOP GIVEN TRANSIENT	IEV-LOCA24D SYS-ADASD
15	2.39E-10	.35	LOSS OF RNS WITH RCS FILLED INITIATING EVENT OCCURS FAILURE OF PASSIVE RHR SYSTEM SUCCESS OF ONE OF TWO CORE MAKEUP TANKS FAILURE OF FULL ADS DEPRESSURIZATION	IEV-RNSND SYS-PRM DEL-CM2AM SYS-ADAS
16	1.65E-10	.24	LOSS OF RNS WITH RCS FILLED INITIATING EVENT OCCURS FAILURE OF PASSIVE RHR SYSTEM FAILURE OF TWO OF TWO CORE MAKEUP TANKS FAILURE OF FULL ADS DEPRESSURIZATION	IEV-RNSND SYS-PRM SYS-CM2AM SYS-ADTS
17	1.62E-10	.24	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS WITH RCS FILLED SUCCESS OF ONE OF TWO DIESEL GENERATORS FAILURE OF NORMAL RHR SYSTEM IN COOLING MODE OFFSITE AC POWER RECOVERED IN 2 HOURS	IEV-LOSPND DEL-DGEN SYS-RNP2 SUC-R2S

TABLE 54B-3

SHUTDOWN BASELINE PRA INCLUDING SURGE-LINE FLOODING EFFECTS

NUMBER	SEQUENCE PROBABILITY	PERCENT CONTRIB	SEQUENCE DESCRIPTION		SEQUENCE IDENTIFIER
			FAILURE OF NORMAL RHR FAILURE OF PASSIVE RHR SUCCESS OF ONE OF TWO CORE FAILURE OF FULL ADS	SYSTEM IN SYSTEM MAKEUP TANKS DEPRESSURIZATION	SYS-RNT2 SYS-PRM DEL-CM2AM SYS-ADAS
18	1.54E-10	.23	OVERDRAINING OF RCS DURING DRAIN DOWN TO MID-LOOP INITIATING EVENT OPERATOR SUCCEEDS IN STOPPING RNS DRAINDOWN FAILURE OF ADS SQUIB VALVES DURING MIDLOOP GIVEN TRANSIENT		IEV-RCSOD RHN-MAN04-SJCC SYS-ADASD
19	1.35E-10	.20	LOCA/RNS PIPE RUPTURE WITH RCS FILLED INIT. OPERATOR FAILS TO ISOLATE RNS PIPE RUPTURE SUCCESS OF ONE OF TWO CORE SUCCESS OF FULL ADS FAILURE OF TWO OF TWO IRWST	EVENT OCCURS MAKEUP TANKS DEPRESSURIZATION INJECTION LINES	IEV-LOCAPRND RHN-MAN04 DEL-CM2AM DEL-ADAS SYS-IW2AB
20	6.30E-11	.09	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS FAILURE OF NORMAL RHR IN COOLING MODE OFFSITE AC POWER RECOVERED IN 1 HOUR FAILURE OF NORMAL RHR IN COOLING MODE FAILURE OF ADS SQUIB VALVES DURING MIDLOOP GIVEN TRANSIENT	WITH RCS DRAINED	IEV-LOSPD SYS-RNP2D SOC-RIS SYS-RNT2D SYS-ADASD
21	5.59E-11	.08	LOCA/RNS-V024 OPENS INITIATING EVENT OCCURS SUCCESS OF ONE OF TWO CORE FAILURE OF FULL ADS	WITH RCS FILLED MAKEUP TANKS DEPRESSURIZATION	IEV-LOCA24ND DEL-CM2AM SYS-ADAS
22	5.46E-11	.08	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS SUCCESS OF ONE OF TWO DIESEL GENERATORS FAILURE OF NORMAL RHR SYSTEM IN COOLING MODE FAILURE TO RECOVER AC POWER IN 2 HOURS FAILURE OF PASSIVE RHR SYSTEM SUCCESS OF ONE OF TWO CORE FAILURE OF FULL ADS	WITH RCS FILLED	IEV-LOSPND DEL-DGEN SYS-RNP2 OTH-R2 SYS-PRMP DEL-CM2AMP SYS-ADALS
23	3.44E-11	.05	LOSS OF CCS/SWS WITH RCS FILLED INITIATING EVENT OCCURS FAILURE OF PASSIVE RHR SYSTEM SUCCESS OF ONE OF TWO CORE SUCCESS OF FULL ADS FAILURE OF TWO OF TWO IRWST	MAKEUP TANKS DEPRESSURIZATION INJECTION LINES	IEV-CWIND SYS-PRM DEL-CM2AM DEL-ADAS SYS-IW2AB
24	1.03E-11	.02	LOSS OF RNS WITH RCS FILLED INITIATING EVENT OCCURS FAILURE OF PASSIVE RHR SYSTEM SUCCESS OF ONE OF TWO CORE SUCCESS OF FULL ADS	MAKEUP TANKS DEPRESSURIZATION	IEV-RNSND SYS-PRM DEL-CM2AM DEL-ADAS

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TABLE 54B-3

SHUTDOWN BASELINE PRA INCLUDING SURGE-LINE FLOODING EFFECTS

SEQUENCE NUMBER	PROBABILITY	PERCENT CONTRIB	SEQUENCE DESCRIPTION		SEQUENCE IDENTIFIER
			FAILURE OF TWO OF TWO IRWST	INJECTION LINES	SYS-IW2AB
25	8.90E-12	.01	OVERDRAINING OF RCS DURING DRAIN DOWN TO MID-LOOP INITIATING EVENT OPERATOR FAILS TO ISOLATE RNS PIPE RUPTURE FAILURE OF ADS SQUIB VALVES DURING MIDLOOP GIVEN TRANSIENT		IEV-RCS0D RHN-MAN04 SYS-ADASD
26	6.86E-12	.01	LOCA/RNS-V024 OPENS INITIATING EVENT OCCURS WITH RCS FILLED FAILURE OF TWO CORE MAKEUP TANKS FAILURE OF FULL ADS DEPRESSURIZATION		IEV-LOCA24ND SYS-CM2AM SYS-ADTS
27	5.53E-12	.01	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS WITH RCS FILLED SUCCESS OF ONE OF TWO DIESEL GENERATORS FAILURE OF NORMAL RHR SYSTEM IN COOLING MODE FAILURE TO RECOVER AC POWER IN 2 HOURS FAILURE OF PASSIVE RHR SYSTEM FAILURE OF TWO CORE MAKEUP TANKS FAILURE OF FULL ADS DEPRESSURIZATION		IEV-LOSPND DEL-DGEN SYS-RNP2 OTH-R2 SYS-PRMP SYS-CM2AMP SYS-ADLS
28	.75E-12	.01	LOCA/RNS PIPE RUPTURE WITH RCS FILLED INIT. EVENT OCCURS FAILURE OF PASSIVE RHR SYSTEM SUCCESS OF ONE OF TWO CORE MAKEUP TANKS FAILURE OF FULL ADS DEPRESSURIZATION		IEV-LOCAPRND SYS-PRM DEL-CM2AM SYS-ADAS
29	2.59E-12	.00	LOCA/RNS PIPE RUPTURE WITH RCS FILLED INIT. EVENT OCCURS FAILURE OF PASSIVE RHR SYSTEM FAILURE OF TWO CORE MAKEUP TANKS FAILURE OF FULL ADS DEPRESSURIZATION		IEV-LOCAPRND SYS-PRM SYS-CM2AM SYS-ADTS
30	2.51E-12	.00	LOCA/RNS PIPE RUPTURE WITH RCS FILLED INIT. EVENT OCCURS OPERATOR FAILS TO ISOLATE RNS PIPE RUPTURE SUCCESS OF ONE OF TWO CORE MAKEUP TANKS FAILURE OF FULL ADS DEPRESSURIZATION		IEV-LOCAPRND RHN-MAN04 DEL-CM2AM SYS-ADAS
31	2.26E-12	.00	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS WITH RCS FILLED SUCCESS OF ONE OF TWO DIESEL GENERATORS FAILURE OF NORMAL RHR SYSTEM IN COOLING MODE OFFSITE AC POWER RECOVERED IN 2 HOURS FAILURE OF NORMAL RHR SYSTEM IN COOLING MODE FAILURE OF PASSIVE RHR SYSTEM FAILURE OF TWO CORE MAKEUP TANKS FAILURE OF FULL ADS DEPRESSURIZATION		IEV-LOSPND DEL-DGEN SYS-RNP2 SUC-R2S SYS-RNT2 SYS-PRM SYS-CM2AM SYS-ADTS

TABLE 54B-3

SHUTDOWN BASELINE PRA INCLUDING SURGE-LINE FLOODING EFFECTS

NUMBER	SEQUENCE PROBABILITY	PERCENT CONTRIB	SEQUENCE DESCRIPTION			SEQUENCE IDENTIFIER
32	3.06E-13	.00	LOSS OF OFFSITE FAILURE OF TWO FAILURE OF PASSIVE RHR SUCCESS OF ONE OF TWO CORE SUCCESS OF FULL ADS FAILURE OF TWO OF TWO IRWST	POWER INITIATING EVENT OCCURS OF TWO DIESEL GENERATORS SYSTEM MAKEUP TANKS DEPRESSURIZATION INJECTION LINES	WITH RCS FILLED	IEV-LOSPND SYS-DGEN SYS-PRW DEL-CM2AMP DEL-ADALS SYS-IW2AB
33	1.59E-13	.00	LOCA/RNS PIPE FAILURE OF PASSIVE RHR SUCCESS OF ONE OF TWO CORE SUCCESS OF FULL ADS FAILURE OF TWO OF TWO IRWST	RUPTURE WITH RCS FILLED INIT. PASSIVE RHR SYSTEM MAKEUP TANKS DEPRESSURIZATION INJECTION LINES	EVENT OCCURS	IEV-LOCAPRND SYS-PRM DEL-CM2AM DEL-ADAS SYS-IW2AB
34	6.00E-14	.00	LOCA/RNS PIPE OPERATOR FAILS FAILURE OF TWO FAILURE OF FULL ADS	RUPTURE WITH RCS FILLED INIT. TO ISOLATE RNS PIPE RUPTURE MAKEUP TANKS DEPRESSURIZATION	EVENT OCCURS	IEV-LOCAPRND RHN-MAN04 SYS-CM2AM SYS-ADTS
35	.00E+00	.00	LOSS OF RNS WITH FAILURE OF PASSIVE RHR FAILURE OF TWO OF TWO CORE SUCCESS OF FULL ADS FAILURE OF TWO OF TWO IRWST	RCS FILLED SYSTEM MAKEUP TANKS DEPRESSURIZATION INJECTION LINES	INITIATING EVENT OCCURS	IEV-RNSND SYS-PRM SYS-CM2AM DEL-ADTS SYS-IW2AB
36	.00E+00	.00	LOSS OF OFFSITE FAILURE OF TWO FAILURE OF PASSIVE RHR FAILURE OF TWO OF TWO CORE FAILURE OF FULL ADS	POWER INITIATING EVENT OCCURS OF TWO DIESEL GENERATORS SYSTEM MAKEUP TANKS DEPRESSURIZATION	WITH RCS FILLED	IEV-LOSPND SYS-DGEN SYS-PRW SYS-CM2AMP SYS-ADLS
37	.00E+00	.00	LOSS OF OFFSITE FAILURE OF TWO FAILURE OF PASSIVE RHR FAILURE OF TWO OF TWO CORE SUCCESS OF FULL ADS FAILURE OF TWO OF TWO IRWST	POWER INITIATING EVENT OCCURS OF TWO DIESEL GENERATORS SYSTEM MAKEUP TANKS DEPRESSURIZATION INJECTION LINES	WITH RCS FILLED	IEV-LOSPND SYS-DGEN SYS-PRW SYS-CM2AMP DEL-ADLS SYS-IW2AB
38	.00E+00	.00	LOSS OF OFFSITE FAILURE OF TWO FAILURE OF PASSIVE RHR SUCCESS OF ONE OF TWO CORE FAILURE OF FULL ADS	POWER INITIATING EVENT OCCURS OF TWO DIESEL GENERATORS SYSTEM MAKEUP TANKS DEPRESSURIZATION	WITH RCS FILLED	IEV-LOSPND SYS-DGEN SYS-PRW DEL-CM2AMP SYS-ADALS

TABLE 54B-3

SHUTDOWN BASELINE PRA INCLUDING SURGE-LINE FLOODING EFFECTS

NUMBER	SEQUENCE PROBABILITY	PERCENT CONTRIB	SEQUENCE DESCRIPTION		SEQUENCE IDENTIFIER	
39	.00E+00	.00	LOSS OF OFFSITE SUCCESS OF ONE FAILURE OF FAILURE TO FAILURE OF FAILURE OF TWO SUCCESS OF FAILURE OF TWO	POWER INITIATING EVENT OCCURS OF TWO DIESEL GENERATORS NORMAL RHR SYSTEM IN RECOVER AC POWER IN 2 HOURS PASSIVE RHR SYSTEM OF TWO CORE MAKEUP TANKS FULL ADS DEPRESSURIZATION OF TWO IRWST INJECTION LINES	WITH RCS FILLED COOLING MODE	IEV-LOSPND DEL-DGEN SYS-RNP2 OTH-R2 SYS-PRMP SYS-CM2AMP DEL-ADLS SYS-IW2AB
40	.00E+00	.00	LOSS OF OFFSITE SUCCESS OF ONE FAILURE OF FAILURE TO FAILURE OF SUCCESS OF ONE SUCCESS OF FAILURE OF TWO	POWER INITIATING EVENT OCCURS OF TWO DIESEL GENERATORS NORMAL RHR SYSTEM IN RECOVER AC POWER IN 2 HOURS PASSIVE RHR SYSTEM OF TWO CORE MAKEUP TANKS FULL ADS DEPRESSURIZATION OF TWO IRWST INJECTION LINES	WITH RCS FILLED COOLING MODE	IEV-LOSPND DEL-DGEN SYS-RNP2 OTH-R2 SYS-PRMP DEL-CM2AMP DEL-ADLS SYS-IW2AB
41	.00E+00	.00	LOSS OF OFFSITE SUCCESS OF ONE FAILURE OF OFFSITE FAILURE OF FAILURE OF FAILURE OF TWO SUCCESS OF FAILURE OF TWO	POWER INITIATING EVENT OCCURS OF TWO DIESEL GENERATORS NORMAL RHR SYSTEM IN AC POWER RECOVERED IN 2 HOURS NORMAL RHR SYSTEM IN PASSIVE RHR SYSTEM OF TWO CORE MAKEUP TANKS FULL ADS DEPRESSURIZATION OF TWO IRWST INJECTION LINES	WITH RCS FILLED COOLING MODE SUC-R2S SYS-RNT2 SYS-PRM SYS-CM2AM DEL-ADLS SYS-IW2AB	IEV-LOSPND DEL-DGEN SYS-RNP2 SUC-R2S SYS-RNT2 SYS-PRM SYS-CM2AM DEL-ADLS SYS-IW2AB
42	.00E+00	.00	LOSS OF OFFSITE SUCCESS OF ONE FAILURE OF OFFSITE FAILURE OF FAILURE OF SUCCESS OF ONE SUCCESS OF FAILURE OF TWO	POWER INITIATING EVENT OCCURS OF TWO DIESEL GENERATORS NORMAL RHR SYSTEM IN AC POWER RECOVERED IN 2 HOURS NORMAL RHR SYSTEM IN PASSIVE RHR SYSTEM OF TWO CORE MAKEUP TANKS FULL ADS DEPRESSURIZATION OF TWO IRWST INJECTION LINES	WITH RCS FILLED COOLING MODE SUC-R2S SYS-RNT2 SYS-PRM DEL-CM2AM DEL-ADLS SYS-IW2AB	IEV-LOSPND DEL-DGEN SYS-RNP2 SUC-R2S SYS-RNT2 SYS-PRM DEL-CM2AM DEL-ADLS SYS-IW2AB
43	.00E+00	.00	LOCA/RNS PIPE OPERATOR FAILS FAILURE OF TWO SUCCESS OF FAILURE OF TWO	RUPTURE WITH RCS FILLED INIT. TO ISOLATE RNS PIPE RUPTURE OF TWO CORE MAKEUP TANKS FULL ADS DEPRESSURIZATION OF TWO IRWST INJECTION LINES	EVENT OCCURS	IEV-LOCAPRND RHN-MAN04 SYS-CM2AM DEL-ADLS SYS-IW2AB

TABLE 54B-3

SHUTDOWN BASELINE PRA INCLUDING SURGE-LINE FLOODING EFFECTS

NUMBER	SEQUENCE PROBABILITY	PERCENT CONTRIB	SEQUENCE DESCRIPTION		SEQUENCE IDENTIFIER	
44	.00E+00	.00	LOCA/RNS PIPE FAILURE OF FAILURE OF TWO SUCCESS OF FAILURE OF TWO	RUPTURE WITH RCS FILLED INIT. PASSIVE RHR SYSTEM OF TWO CORE MAKEUP TANKS FULL ADS DEPRESSURIZATION OF TWO IRWST INJECTION LINES	EVENT OCCURS	IEV-LOCAPRND SYS-PRM SYS-CM2AM DEL-ADTS SYS-IW2AB
45	.00E+00	.00	LOCA/RNS-VOL FAILURE OF TWO SUCCESS OF FAILURE OF TWO	OPENS INITIATING EVENT OCCURS OF TWO CORE MAKEUP TANKS FULL ADS DEPRESSURIZATION OF TWO IRWST INJECTION LINES	WITH RCS FILLED	IEV-LOCA24ND SYS-CM2AM DEL-ADTS SYS-IW2AB
46	.00E+00	.00	LOSS OF CCS/SWS FAILURE OF FAILURE OF TWO SUCCESS OF FAILURE OF TWO	WITH RCS FILLED PASSIVE RHR SYSTEM OF TWO CORE MAKEUP TANKS FULL ADS DEPRESSURIZATION OF TWO IRWST INJECTION LINES	INITIATING EVENT OCCURS	IEV-COWND SYS-PRM SYS-CM2AM DEL-ADTS SYS-IW2AB

TABLE 54B-4

TOP 200 DOMINANT CUTSETS FOR BASELINE SHUTDOWN PRA INCLUDING SURGE-LINE FLOODING EFFECTS

Reduced Sum of Cutsets: 6.7430E-08

NUMBER	CUTSET PROB.	PERCENT	BASIC EVENT NAME	EVENT PROB.	IDENTIFIER
1	2.33E-08	34.55	LOSS OF CCS/SWS WITH RCS DRAINED INITIATING EVENT OCCURS CCF OF IRWST INJ MOVs 121A, 121B, & RNS V023	4.23E-04 5.50E-05	IEV-CCWD IWX-MV-G01
2	1.27E-08	18.83	LOSS OF CCS/SWS WITH RCS DRAINED INITIATING EVENT OCCURS DUE TO CCF OF THE SQUIB VALVES TO OPERATE	4.23E-04 3.00E-05	IEV-CCWD ADX-EV-SA
3	5.08E-09	7.53	LOSS OF CCS/SWS WITH RCS DRAINED INITIATING EVENT OCCURS CCF OF STRAINERS IN IRWST TANK	4.23E-04 1.20E-05	IEV-CCWD IWX-FL-GP
4	4.48E-09	6.64	LOSS OF RNS WITH RCS DRAINED INITIATING EVENT OCCURS CCF OF IRWST INJ MOVs 121A, 121B, & RNS V023	8.15E-05 5.00E-05	IEV-RNSD IWX-MV-G01
5	2.52E-09	3.74	LOCA/RNS-V024 OPENS INITIATING EVENT OCCURS WITH RCS FILLED CCF OF GRAVITY INJECTION CHECK VALVES TO OPEN	1.68E-05 1.50E-04	IEV-LOCA24ND IWX-CV-AO
6	2.44E-09	3.62	LOSS OF RNS WITH RCS DRAINED INITIATING EVENT OCCURS DUE TO CCF OF THE SQUIB VALVES TO OPERATE	8.15E-05 3.00E-05	IEV-RNSD ADX-EV-SA
7	1.83E-09	2.71	OVERDRAINING OF RCS DURING DRAIN DOWN TO MID-LOOP INITIATING EVENT OPERATOR FAILS TO ISOLATE RNS PIPE RUPTURE COND. PROB. OF IWN-MAN00 (OPER. FAILS TO OPEN TWO IRWST MOVs) COND. PROB. OF RHN-MAN05 (OP. FAILS TO OPEN RNS MOV V023)	4.44E-06 5.50E-02 5.00E-02 1.50E-01	IEV-RCSOD RHN-MAN04 IWN-MAN00C RHN-MAN05C
8	1.54E-09	2.28	LOSS OF CCS/SWS WITH RCS DRAINED INITIATING EVENT OCCURS CCF OF ORIFICES	4.23E-04 3.63E-06	IEV-CCWD CCX-ORY-SPX
9	1.11E-09	1.65	LOSS OF CCS/SWS WITH RCS DRAINED INITIATING EVENT OCCURS CCF OF PRESSURE TRANSMITTERS	4.23E-04 2.63E-06	IEV-CCWD CCX-XMTRX
10	1.03E-09	1.53	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS WITH RCS DRAINED OFFSITE AC POWER RECOVERED IN 1 HOUR SOFTWARE CCF OF ALL CARDS	1.48E-03 5.80E-01 1.20E-06	IEV-LOSPD SUC-R1S CCX-SFTW
11	9.78E-10	1.45	LOSS OF RNS WITH RCS DRAINED INITIATING EVENT OCCURS CCF OF STRAINERS IN IRWST TANK	8.15E-05 1.20E-05	IEV-RNSD IWX-FL-GP
12	7.45E-10	1.11	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS WITH RCS DRAINED FAILURE TO RECOVER AC POWER IN 1 HOUR SOFTWARE CCF OF ALL CARDS	1.48E-03 4.20E-01 1.20E-06	IEV-LOSPD OTH-R1 CCX-SFTW
13	7.24E-10	1.07	OVERDRAINING OF RHN-MAN04-SUCC RCS DURING DRAIN DOWN TO MID-LOOP INITIATING EVENT	4.44E-06 9.45E-01	IEV-RCSOD RHN-MAN04-SUCC

TABLE 54B-4

TOP 200 DOMINANT CUTSETS FOR BASELINE SHUTDOWN PRA INCLUDING SURGE-LINE FLOODING EFFECTS

NUMBER	CUTSET PROB	PERCENT	BASIC EVENT NAME			EVENT PROB.	IDENTIFIER
			OPERATOR FAILS COND. PROB. OF RHN-MAN05 (OP.)	TO OPEN TWO MOV'S RHN-MAN05 (OP.)	IRWST MOV'S FAILS TO OPEN	RNS MOV V023)	1.15E-03 1.50E-01
14	6.22E-10	.92	LOCA/RNS-V024 CCF OF IRWST INT	OPENS INITIATING EVENT OCCURS MOV'S 121A, 121B, & RNS V023		WITH RCS DRAINED	1.13E-05 5.50E-05
15	5.08E-10	.75	LOSS OF CCS/SWS SOFTWARE CCF	WITH RCS DRAINED INITIATING EVENT OCCURS OF ALL CARDS			4.23E-04 2.0E-06
16	3.39E-10	.50	LOCA/RNS-V024 DUE TO CCF OF	OPENS INITIATING EVENT OCCURS THE SQUIB VALVES TO OPERATE		WITH RCS DRAINED	1.13E-05 3.00E-05
17	3.27E-10	.48	LOSS OF CCS/SWS MECHANICAL IRWST DISCHARGE	WITH RCS DRAINED FAILURE CAUSES LINE "B"	INITIATING EVENT OCCURS MOV 121A TO STRAINER	FAIL-TO-OPEN PLUGGED	4.23E-04 3.22E-03 2.40E-04
18	3.21E-10	.48	LOSS OF CCS/SWS FAILURE OF CCF OF THE POWER	WITH RCS FILLED MANUAL DAS INTERFACE OUTPUT	INITIATING EVENT OCCURS ACTUATION BOARDS IN PMS		3.21E-03 1.16E-02 8.62E-06
19	3.07E-10	.46	LOSS OF CCS/SWS COND. PROB. OF CCF OF ORIFICES OPERATOR FAILS	WITH RCS FILLED REC-MANDAS	INITIATING EVENT OCCURS (FAILURE OF MANUAL DAS ACT.)		3.21E-03 5.06E-01 2.77E-04 6.83E-04
20	2.96E-10	.44	LOSS OF RNS WITH CCF OF ORIFICES	RCS DRAINED	INITIATING EVENT OCCURS		8.15E-05 3.63E-06
21	2.77E-10	.41	LOSS OF CCS/SWS FAILURE OF CCF OF THE POWER	WITH RCS FILLED MANUAL DAS INTERFACE OUTPUT	INITIATING EVENT OCCURS REACTOR TRIP BOARDS IN PMS	HARDWARE	3.21E-03 1.00E-02 8.62E-06
22	2.31E-10	.34	OVERDRAINING OF RHN-MAN04-SUCC CCF OF IRWST INJ	RCS DURING DRAIN DOWN TO MID-LOOP MOV'S 121A, 121B, & RNS V023	INITIATING EVENT		4.44E-06 9.45E-01 5.50E-05
23	2.23E-10	.33	LOSS OF CCS/SWS COND. PROB. OF CCF OF PRESSURE OPERATOR FAILS	WITH RCS FILLED REC-MANDAS TRANSMITTERS	INITIATING EVENT OCCURS (FAILURE OF MANUAL DAS ACT.)		3.21E-03 5.06E-01 2.01E-04 6.83E-04
24	2.14E-10	.32	LOSS OF RNS WITH CCF OF PRESSURE	RCS DRAINED TRANSMITTERS	INITIATING EVENT OCCURS		8.15E-05 2.63E-06

TABLE 54B-4

TOP 200 DOMINANT CUTSETS FOR BASELINE SHUTDOWN PRA INCLUDING SURGE-LINE FLOODING EFFECTS

NUMBER	CUTSET PROB.	PERCENT	BASIC EVENT NAME		EVENT PROB.	IDENTIFIER	
25	2.02E-10	.30	LOCA/RNS-V024 CCF OF STRAINERS	OPENS INITIATING EVENT OCCURS IN IRWST TANK	WITH RCS FILLED	1.68E-05 1.20E-05	IEV-LOCA24ND IWX-FL-GP
26	1.40E-10	.21	LOSS OF CCS/SWS CCF OF GRAVITY MECHANICAL	WITH RCS DRAINED INJECTION CHECK FAILURE CAUSES	INITIATING EVENT OCCURS VALVES TO OPEN MOV 023 TO FAIL-TO-OPEN	4.23E-04 1.50E-04 2.21E-03	IEV-CCWD IWX-CV-AO RN23MOD5S
27	1.36E-10	.20	LOCA/RNS-V'24 CCF OF STRAINERS	OPENS INITIATING EVENT OCCURS IN IRWST TANK	WITH RCS DRAINED	1.13E-05 1.20E-05	IEV-LC'2A24D IWX-FL-GP
28	1.26E-10	.19	OVERDRAINING OF RHN-MAN04-SUCC DUE TO CCF OF	RCS DURING DRAIN DOWN TO MID-LOOP THE SQUIB VALVES TO OPERATE	INITIATING EVENT	4.44E-06 9.45E-01 3.00E-05	IEV-RCS0D RHN-MAN04-SUCC ADX-EV-SA
29	1.25E-10	.19	LOCA/RNS PIPE OPERATOR FAILS CCF OF GRAVITY	RUPTURE WITH RCS FILLED INIT. TO ISOLATE RNS PIPE RUPTURE INJECTION CHECK VALVES TO OPEN	EVENT OCCURS	1.51E-05 5.50E-02 1.50E-04	IEV-LOCAPRND RHN-MAN04 IWX-CV-AO
30	1.14E-10	.17	LOSS OF CCS/SWS COND. PROB. OF COMMON MODE OPERATOR FAILS	WITH RCS FILLED REC-MANDAS FAILURE OF INPUT LOGIC GROUPS TO RECOGNIZE THE NEED FOR RCS	INITIATING EVENT OCCURS (FAILURE OF MANUAL DAS ACT. DEPRESSURIZATION	3.21E-03 5.06E-01 1.03E-04 6.83E-04	IEV-CCWND REC-MANDASC CCX-INPUT-LOGIC LPM-MAN05
31	1.02E-10	.15	LOSS OF CCS/SWS CCF OF GRAVITY OPERATOR FAILS	WITH RCS DRAINED INJECTION CHECK TO RECOGNIZE	INITIATING EVENT OCCURS VALVES TO OPEN NEED AND TO OPEN RNS MOV V023	4.23E-04 1.50E-04 1.60E-03	IEV-CCWD IWX-CV-AO RHN-MAN05
32	9.78E-11	.15	LOSS OF RNS WITH SOFTWARE CCF	RCS DRAINED OF ALL CARDS	INITIATING EVENT OCCURS	8.15E-05 1.20E-06	IEV-RNSD CCX-SFTW
33	9.61E-11	.14	LOSS OF RNS WITH FAILURE OF CCF OF THE POWER	RCS FILLED MANUAL DAS INTERFACE OUTPUT	INITIATING EVENT OCCURS ACTUATION BOARDS IN PMS	9.61E-04 1.16E-02 8.62E-06	IEV-RNSND REC-MANDAS CCX-EP-SAM
34	9.23E-11	.14	LOSS OF OFFSITE FAILURE TO BATTERY	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR DBI UNAVAILABLE	WITH RCS DRAINED	1.48E-03 4.20E-01 2.20E-03 5.50E-05	IEV-LOSPD OTI-R1 EDIMOD03 IWX-MV-G01
35	9.20E-11	.14	LOSS OF RNS WITH COND. PROB. OF CCF OF ORIFICES	RCS FILLED REC-MANDAS OPERATOR FAILS	INITIATING EVENT OCCURS (FAILURE OF MANUAL DAS ACT. TO RECOGNIZE THE NEED FOR RCS DEPRESSURIZATION	9.61E-04 5.06E-01 2.77E-04 6.83E-04	IEV-RNSND REC-MANDASC CCX-ORY-SP LPM-MAN05

TABLE 54B-4

TOP 200 DOMINANT CUTSETS FOR BASELINE SHUTDOWN PRA INCLUDING SURGE-LINE FLOODING EFFECTS

NUMBER	CUTSET PROB.	PERCENT	BASIC EVENT NAME			EVENT PROB.	IDENTIFIER
36	8.60E-11	.13	LOSS OF OFFSITE OFFSITE SOFTWARE CCF FAILURE OF	POWER INITIATING AC POWER RECOVERED IN MANUAL DAS	EVENT OCCURS RECOVERED IN ACTUATION	WITH RCS FILLED ? HOURS	8.13E-03 7.60E-01 1.20E-06 1.16E-02
37	8.28E-11	.12	LOSS OF RNS WITH FAILURE OF CCF OF THE POWER	RCS FILLED MANUAL DAS INTERFACE OUTPUT	INITIATING REACTOR TRIP	EVENT OCCURS HARDWARE	9.61E-04 1.00E-02 8.62E-06
38	7.41E-11	.11	LOSS OF OFFSITE OFFSITE SOFTWARE CCF FAILURE OF	POWER INITIATING AC POWER RECOVERED IN MANUAL DAS	EVENT OCCURS REACTOR TRIP	WITH RCS FILLED 2 HOURS	8.13E-03 7.60E-01 1.20E-06 1.00E-02
39	7.15E-11	.11	LOSS OF OFFSITE FAILURE TO FAILURE OF CCF OF IRWST INJ	POWER INITIATING RECOVER AC POWER IN 1 HOUR PLS OUTPUT MOVs 121A, 121B, & RNS V023	EVENT OCCURS LOGIC I/Os	WITH RCS DRAINED	1.48E-03 4.20E-01 2.09E-03 5.50E-05
40	6.84E-11	.10	LOSS OF OFFSITE FAILURE TO CCF TO START CCF OF IRWST INJ	POWER INITIATING RECOVER AC POWER IN 1 HOUR OF ENGINE-DRIVEN FUEL PUMPS MOVs 121A, 121B, & RNS V023	EVENT OCCURS	WITH RCS DRAINED	1.48E-03 4.20E-01 2.00E-03 5.50E-05
41	6.68E-11	.10	LOSS OF RNS WITH COND. PROB. OF CCF OF PRESSURE OPERATOR FAILC	RCS FILLED REC-MANDAS TRANSMITTERS TO RECOGNIZE THE NEED FOR RCS	INITIATING (FAILURE OF MANUAL DAS ACT.)	DEPRESSURIZATION	9.61E-04 5.06E-01 2.01E-04 6.83E-04
42	6.30E-11	.09	LOSS OF RNS WITH MECHANICAL IRWST DISCHARGE	RCS DRAINED FAILURE CAUSES LINE "B"	INITIATING MOV 121A TO STRAINER	EVENT OCCURS FAIL-TO-OPEN PLUGGED	8.15E-05 3.22E-03 2.40E-04
43	5.84E-11	.09	LOSS OF OFFSITE FAILURE TO CCF TO START COMMON CAUSE	POWER INITIATING RECOVER AC POWER IN 1 HOUR OF ENGINE-DRIVEN FUEL PUMPS FAILURE OF THE BATTERIES	EVENT OCCURS	WITH RCS DRAINED	1.48E-03 4.20E-01 2.00E-03 4.70E-05
44	5.03E-11	.07	OVERDRAINING OF RHN-MAN04-SUCC CCF OF STRAINERS	RCS DURING DRAIN DOWN TO MID-LOOP IN IRWST TANK	INITIATING EVENT		4.64E-06 9.45E-01 1.20E-05
45	5.03E-11	.07	LOSS OF OFFSITE FAILURE TO	POWER INITIATING RECOVER AC POWER IN 1 HOUR	EVENT OCCURS	WITH RCS DRAINED	1.48E-03 4.20E-01

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TOP 200 DOMINANT CUTSETS FOR BASELINE SHUTDOWN PRA INCLUDING SURGE-LINE FLOODING EFFECTS

NUMBER	CUTSET PROB	PERCENT	BASIC EVENT NAME		EVENT PROB.	IDENTIFIER	
			BATTERY DUE TO CCF OF	DB1 THE SQUIB VALVES TO OPERATE	2.20E-03 3.00E-05	ED1MOD03 ADX-EV-SA	
46	4.47E-11	.07	LOSS OF CCS/SWS SOFTWARE CCF FAILURE OF	WITH RCS FILLED OF ALL CARDS MANUAL DAS	INITIATING EVENT OCCURS ACTUATION	3.21E-03 1.20E-06 1.16E-02	IEV-CCWND CCX-SFTW REC-MANDAS
47	4.33E-11	.06	LOSS OF CCS/SWS CCF OF ACTUATION MECHANICAL	WITH RCS DRAINED LOGIC GROUPS FAILURE CAUSES	INITIATING EVENT OCCURS MOV 023 TO FAIL-TO-OPEN	4.23E-04 4.63E-05 2.21E-03	IEV-CCWD CCX-PMANOD1X RN23MOD5S
48	4.23E-11	.06	LOSS OF CCS/SWS FAILURE OF CCF OF THE POWER	WITH RCS DRAINED MANUAL DAS INTERFACE OUTPUT	INITIATING EVENT OCCURS ACTUATION BOARDS IN PMS	4.23E-04 1.16E-02 8.62E-06	IEV-CCWD REC-MANDAS CCX-EP-SAM
49	4.10E-11	.06	LOSS OF OFFSITE FAILURE TO COMMON CAUSE CCF OF IRWST INJ	POWER INITIATING RECOVER AC POWER IN 1 HOUR FAILURE 4KV BREAKERS TO OPEN	MOVs 121A, 121B, & RNS V023	1.48E-03 4.20E-01 1.20E-03 5.50E-05	IEV-LOSPD OTH-R1 ECX-CB-GO IWX-MV-GO1
50	4.10E-11	.06	LOCA/RNS-V024 CCF OF ORIFICES	OPENS INITIATING EVENT OCCURS	WITH RCS DRAINED	1.13E-05 3.63E-06	IEV-LOCA24D CCX-ORY-SPX
51	3.97E-11	.06	LOSS OF OFFSITE FAILURE TO PLS LOGIC GROUP CCF OF IRWST INJ	POWER INITIATING RECOVER AC POWER IN 1 HOUR PROCESSING FAILURE UPON	MOVs 121A, 121B, & RNS V023	1.48E-03 4.20E-01 1.16E-03 5.50E-05	IEV-LOSPD OTH-R1 PL50301ASA IWX-MV-GO1
52	3.97E-11	.06	LOSS OF OFFSITE FAILURE TO PLS LOGIC GROUP CCF OF IRWST INJ	POWER INITIATING RECOVER AC POWER IN 1 HOUR PROCESSING FAILURE UPON	MOVs 121A, 121B, & RNS V023	1.48E-03 4.20E-01 1.16E-03 5.50E-05	IEV-LOSPD OTH-R1 PL50301BSA IWX-MV-GO1
53	3.90E-11	.06	LOSS OF OFFSITE FAILURE TO FAILURE OF DUE TO CCF OF	POWER INITIATING RECOVER AC POWER IN 1 HOUR PLS OUTPUT LOGIC I/Os	THE SQUIB VALVES TO OPERATE	1.48E-03 4.20E-01 2.09E-03 3.00E-05	IEV-LOSPD OTH-R1 PL5MOD11 ADX-EV-SA
54	3.85E-11	.06	LOSS OF CCS/SWS SOFTWARE CCF FAILURE OF	WITH RCS FILLED OF ALL CARDS MANUAL DAS	INITIATING EVENT OCCURS REACTOR TRIP	3.21E-03 1.20E-06 1.00E-02	IEV-CCWND CCX-SFTW MDAS
55	3.73E-11	.06	LOSS OF OFFSITE FAILURE TO	POWER INITIATING RECOVER AC POWER IN 1 HOUR	EVENT OCCURS	1.48E-03 4.20E-01	IEV-LOSPD OTH-R1

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TOP 200 DOMINANT CUTSETS FOR BASELINE SHUTDOWN PRA INCLUDING SURGE-LINE FLOODING EFFECTS

NUMBER	CUTSET PROB	PERCENT	BASIC EVENT NAME	INITIATING EVENT OCCURS	WITH RCS DRAINED	EVENT PROB.	IDENTIFIER
			CCF TO START DUE TO CCF OF	OF ENGINE-DRIVEN FUEL PUMPS THE SQUIB VALVES TO OPERATE		2.00E-03 3.00E-05	ZOX-PD-ES ADX-EV-SA
56	3.65E-11	.05	LOSS OF CCS/SWS FAILURE OF CCF OF THE POWER	WITH RCS DRAINED MANUAL DAS REACTOR TRIP INTERFACE OUTPUT BOARDS IN PMS	INITIATING EVENT OCCURS HARDWARE	4.23E-04 1.00E-02 8.62E-06	IEV-CCWD MDAS CCX-EP-SAM
57	3.64E-11	.05	LOSS OF OFFSITE OFFSITE UCF TO START CCF OF IRWST INJ	POWER INITIATING EVENT OCCURS AC POWER RECOVERED IN OF THE PUMPS MOVs 121A, 121B, & RNS V023	WITH RCS DRAINED 1 HOUR	1.48E-03 5.80E-01 7.70E-04 5.50E-05	IEV-LOSPD SUC-RIS RNX-PM-FS IWX-MV-G01
58	3.51E-11	.05	LOSS OF OFFSITE FAILURE TO COMMON CAUSE COMMON CAUSE	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR FAILURE FAILURE OF THE	WITH RCS DRAINED 4KV BREAKERS TO OPEN IDSA-DB-1A/1B	1.48E-03 4.20E-01 1.20E-03 4.70E-05	IEV-LOSPD OTII-R1 ECK-CB-G0 CCX-BY-PN
59	3.42E-11	.05	LOSS OF RNS WITH COND. PROB. OF COMMON MODE OPERATOR FAILS	RCS FILLED REC-MANDAS FAILURE OF INPUT TO RECOGNIZE THE NEED FOR RCS	INITIATING EVENT OCCURS (FAILURE OF MANUAL DAS ACT. LOGIC GROUPS DEPRESSURIZATION	9.61E-04 5.06E-01 1.03E-04 6.83E-04	IEV-RNSND REC-MANDASC CCX-INPUT-LOGIC LPM-MAN05
60	3.13E-11	.05	LOSS OF CCS/SWS CCF OF ACTUATION OPERATOR FAILS	WITH RCS DRAINED LOGIC GROUPS TO RECOGNIZE	INITIATING EVENT OCCURS NEED AND TO OPEN RNS MOV V023	4.23E-04 4.63E-05 1.60E-03	IEV-CCWD CCX-PMAMOD1X RHN-MAN05
61	3.05E-11	.05	LOSS OF CCS/SWS IRWST DISCHARGE BUS UNAVAILABLE	WITH RCS DRAINED LINE "B" DUE TO TEST OR	INITIATING EVENT OCCURS STRAINER PLUGGED CORRECTIVE MAINTENANCE	4.23E-04 2.40E-04 3.00E-04	IEV-CCWD IWB-PLUG IDBBSDS1TM
62	3.05E-11	.05	LOSS OF CCS/SWS IRWST DISCHARGE BUS UNAVAILABLE	WITH RCS DRAINED LINE "B" DUE TO TEST OR	INITIATING EVENT OCCURS STRAINER PLUGGED CORRECTIVE MAINTENANCE	4.23E-04 2.40E-04 3.00E-04	IEV-CCWD IWB-PLUG IDBBSDD1TM
63	3.05E-11	.05	LOSS OF CCS/SWS IRWST DISCHARGE BUS UNAVAILABLE	WITH RCS DRAINED LINE "B" DUE TO TEST OR	INITIATING EVENT OCCURS STRAINER PLUGGED CORRECTIVE MAINTENANCE	4.23E-04 2.40E-04 3.00E-04	IEV-CCWD IWB-PLUG IDBBSDK1TM
64	2.97E-11	.04	LOCA/RNS-V024 CCF OF PRESSURE	OPENS INITIATING EVENT OCCURS TRANSMITTERS	WITH RCS DRAINED	1.13E-05 2.63E-06	IEV-LOCA24D CCX-XMTRX
65	2.94E-11	.04	LOSS OF CCS/SWS FAILURE OF PRHR CCF OF GRAVITY	WITH RCS FILLED DUE TO COMMON INJECTION CHECK	INITIATING EVENT OCCURS CAUSE OF AOVs VALVES TO OPEN	3.21E-03 6.10E-05 1.50E-04	IEV-CCWND PXX-AV-LA IWX-CV-AO

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TOP 200 DOMINANT CUTSETS FOR BASELINE SHUTDOWN PRA INCLUDING SURGE-LINE FLOODING EFFECTS

NUMBER	CUTSET PROB	PERCENT	BASIC EVENT NAME		EVENT PROB.	IDENTIFIER	
66	2.88E-11	.04	LOSS OF OFFSITE OFFSITE CCF TO OPEN CCF OF IRWST INJ	POWER INITIATING EVENT OCCURS AC POWER RECOVERED IN OF THE STOP CHECK VALVES MOVs 121A, 121B, & RNS V023	WITH RCS DRAINED 1 HOUR	1.48E-03 5.80E-01 6.10E-04 5.50E-05	IEV-LOSPD SUC-R1S RNX-KV-GO IWX-MV-GO1
67	2.72E-11	.04	LOSS OF OFFSITE FAILURE TO SOFTWARE CCF FAILURE OF	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 2 HOURS OF ALL CARDS MANUAL DAS	WITH RCS FILLED ACTUATION	8.13E-03 2.40E-01 1.20E-06 1.16E-02	IEV-LOSPND OTH-R2 CCX-SFTW REC-MANDAS
68	2.70E-11	.04	LOSS OF RNS WITH CCF OF GRAVITY MECHANICAL	RCS DRAINED INJECTION CHECK FAILURE CAUSES	INITIATING EVENT OCCURS VALVES TO OPEN MOV 023 TO FAIL-TO-OPEN	8.15E-05 1.50E-04 2.21E-03	IEV-PNSD IWX-CV-AD RN23MOD5S
69	2.70E-11	.04	OVERDRAINING OF OPERATOR FAILS COND. PROB. OF MECHANICAL	RCS DURING DRAIN DOWN TO MID-LOOP TO ISOLATE IWN-MAN00 (OPER. FAILURE CAUSES	INITIATING EVENT RNS PIPE RUPTURE FAILS TO OPEN MOV 023 TO FAIL-TO-OPEN	4.44E-06 5.50E-02 5.00E-02 2.21E-03	IEV-RCSOD RHN-MAN04 IWN-MAN00C RN23MOD5S
70	2.63E-11	.04	LOSS OF OFFSITE FAILURE TO CCF TO START CCF OF IRWST INJ	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR OF THE PUMPS MOVs 121A, 121B, & RNS V023	WITH RCS DRAINED	1.48E-03 4.20E-01 7.70E-04 5.50E-05	IEV-LOSPD OTH-R1 RNX-FM-FS IWX-MV-GO1
71	2.50E-11	.04	LOSS OF OFFSITE FAILURE TO COMMON CAUSE CCF OF IRWST INJ	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR FAILURE 4KV BREAKER TO CLOSE	WITH RCS DRAINED	1.48E-03 4.20E-01 7.30E-04 5.50E-05	IEV-LOSPD OTH-R1 ECX-CB-GC IWX-MV-GO1
72	2.44E-11	.04	LOSS OF CCS/SWS IRWST DISCHARGE IRWST DISCHARGE	WITH RCS DRAINED LINE "A" STRAINER PLUGGED LINE "B" STRAINER PLUGGED	INITIATING EVENT OCCURS	4.23E-04 2.40E-04 7.40E-04	IEV-CCWD IWA-PLUG IMB-PLUG
73	2.34E-11	.03	LOSS OF OFFSITE FAILURE TO SOFTWARE CCF FAILURE OF	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 2 HOURS OF ALL CARDS MANUAL DAS	WITH RCS FILLED REACTOR TRIP HARDWARE	8.13E-03 2.40E-01 1.20E-06 1.00E-02	IEV-LOSPND OTH-R2 CCX-SFTW MDAS
74	2.24E-11	.03	LOSS OF OFFSITE FAILURE TO COMMON CAUSE DUE TO CCF OF	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR FAILURE 4KV BREAKERS TO OPEN THE SQUIB VALVES TO OPERATE	WITH RCS DRAINED	1.48E-03 4.20E-01 1.20E-03 3.00E-05	IEV-LOSPD OTH-R1 ECX-CB-GO ADX-EV-SA
75	2.16E-11	.03	LOSS OF OFFSITE	POWER INITIATING EVENT OCCURS	WITH RCS DRAINED	1.48E-03	IEV-LOSPD

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TOP 200 DOMINANT CUTSETS FOR BASELINE SHUTDOWN PRA INCLUDING SURGE-LINE FLOODING EFFECTS

NUMBER	CUTSET PROB	PERCENT	BASIC EVENT NAME		EVENT PROB.	IDENTIFIER	
			FAILURE TO PLS LOGIC GROUP DUE TO CCF OF	RECOVER AC POWER IN 1 HOUR PROCESSING FAILURE UPON THE SQUIB VALVES TO OPERATE	4.20E-01 1.16E-03 3.00E-05	OTH-R1 PLS0301ASA ADX-EV-SA	
76	2.16E-11	.03	LOSS OF OFFSITE FAILURE TO PLS LOGIC GROUP DUE TO CCF OF	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR PROCESSING FAILURE UPON THE SQUIB VALVES TO OPERATE	WITH RCS DRAINED DEMAND	1.48E-03 4.20E-01 1.16E-03 3.00E-05	IEV-LOSPD OTH-R1 PLS0301BSA ADX-EV-SA
77	2.13E-11	.03	LOSS C. OFFSITE FAILURE TO COMMON CAUSE COMMON CAUSE	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR FAILURE 4KV BREAKER TO FAILURE OF THE BATTERIES	WITH RCS DRAINED C. Cd IDSA-DB-1A/1B	1.48E-03 4.20E-01 7.30E-04 4.70E-05	IEV-LOSPD OTH-R1 ECK-CB-GC CCX-BY-PN
78	2.09E-11	.03	LOSS OF OFFSITE FAILURE TO CCF TO OPEN CCF OF IRWST INJ	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR OF THE STOP CHECK VALVES MOVs 121A, 121B, & RNS V023	WITH RCS DRAINED	1.48E-03 4.20E-01 6.10E-04 5.50E-05	IEV-LOSPD OTH-R1 RNX-KV-GO IWX-MV-GO1
79	2.01E-11	.03	LOSS OF OFFSITE FAILURE TO BATTERY CCF OF STRAINERS	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR DB1 UNAVAILABLE	WITH RCS DRAINED	1.48E-03 4.20E-01 2.20E-03 1.20E-05	IEV-LOSPD OTH-R1 ED1MOD03 IWX-FL-GP
80	1.98E-11	.03	LOSS OF OFFSITE CCF TO START DUE TO CCF OF	POWER INITIATING EVENT OCCURS AC POWER RECOVERED IN OF THE PUMPS	WITH RCS DRAINED 1 HOUR	1.48E-03 5.80E-01 7.70E-04 3.00E-05	IEV-LOSPD SUC-RIS RNX-PM-FS ADX-EV-SA
81	1.96E-11	.03	LOSS OF RNS WITH CCF OF GRAVITY OPERATOR FAILS	RCS DRAINED INJECTION CHECK TO RECOGNIZE	INITIATING EVENT OCCURS VALVES TO OPEN NEED AND TO OPEN RNS MOV V023	8.15E-05 1.50E-04 1.60E-03	IEV-RNSD IWX-CV-AO RHN-MAN05
82	1.90E-11	.03	LOSS OF CCS/SWS CCF OF GRAVITY BUS UNAVAILABLE	WITH PCS DRAINED INJECTION CHECK DUE TO TEST OR	INITIATING EVENT OCCURS VALVES TO OPEN CORRECTIVE MAINTENANCE	4.23E-04 1.50E-04 3.00E-04	IEV-CCWD IWX-CV-AO IDDBSDS1TM
83	1.90E-11	.03	LOSS OF CCS/SWS CCF OF GRAVITY BUS UNAVAILABLE	WITH RCS DRAINED INJECTION CHECK DUE TO TEST OR	INITIATING EVENT OCCURS VALVES TO OPEN CORRECTIVE MAINTENANCE	4.23E-04 1.50E-04 3.00E-04	IEV-CCWD IWX-CV-AO IDDBSDS1TM
84	1.90E-11	.03	LOSS OF CCS/SWS CCF OF GRAVITY BUS UNAVAILABLE	WITH RCS DRAINED INJECTION CHECK DUE TO TEST OR	INITIATING EVENT OCCURS VALVES TO OPEN CORRECTIVE MAINTENANCE	4.23E-04 1.50E-04 3.00E-04	IEV-CCWD IWX-CV-AO IDDBSDS1TM

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TOP 200 DOMINANT CUTSETS FOR BASELINE SHUTDOWN PRA INCLUDING SURGE-LINE FLOODING EFFECTS

NUMBER	CUTSET PROB	PERCENT	BASIC EVENT NAME		EVENT PROB.	IDENTIFIER
85	1.72E-11	.03	LOSS OF OFFSITE FAILURE TO RECOVER AC POWER IN 1 HOUR FIXED COMPONENT FAILURES CCF OF IRWST INJ MOVs 121A, 121B, & RNS V023	POWER INITIATING EVENT OCCURS WITH RCS DRAINED	1.48E-03 4.20E-01 5.04E-04 5.50E-05	IEV-LOSPD OTH-R1 ED1MOD01 IWX-MV-G01
86	1.69E-11	.03	LOSS OF OFFSITE FAILURE TO RECOVER AC POWER IN 1 HOUR PUMP MP 01B SEGMENT HARDWARE FAILURE OR DIVERTED FLOW D/G FAILS TO START & RUN OR BKR 102 FAILS TO CLOSE CCF OF IRWST INJ MOVs 121A, 121B, & RNS V023	POWER INITIATING EVENT OCCURS WITH RCS DRAINED	1.48E-03 4.20E-01 2.44E-02 2.02E-02 5.50E-05	IEV-LOSPD OTH-R1 SWBMOD02 Z01MOD01 IWX-MV-G01
87	1.57E-11	.02	LOSS OF OFFSITE OFFSITE AC POWER RECOVERED IN 1 HOUR CCF TO OPEN OF THE STOP CHECK VALVES DUE TO CCF OF THE SQUIB VALVES TO OPERATE	POWER INITIATING EVENT OCCURS WITH RCS DRAINED	1.48E-03 5.80E-01 6.10E-04 3.00E-05	IEV-LOSPD SUC-R1S RNX-KV-GO ADX-EV-SA
88	1.56E-11	.02	LOSS OF OFFSITE FAILURE TO RECOVER AC POWER IN 1 HOUR FAILURE OF PLS OUTPUT LOGIC I/Os CCF OF STRAINERS IN IRWST TANK	POWER INITIATING EVENT OCCURS WITH RCS DRAINED	1.48E-03 4.20E-01 2.09E-03 1.20E-05	IEV-LOSPD OTH-R1 PL5MOD11 IWX-FL-GP
89	1.52E-11	.02	LOSS OF CCS/SWS WITH RCS DRAINED INITIATING EVENT OCCURS CCF OF GRAVITY INJECTION CHECK VALVES TO OPEN IRWST DISCHARGE LINE "B" STRAINER PLUGGED	INITIATING EVENT OCCURS WITH RCS DRAINED	4.23E-04 1.50E-04 2.40E-04	IEV-CCWD IWX-CV-AO IWB-PLUG
90	1.52E-11	.02	OVERDRAINING OF RCS DURING DRAIN DOWN TO MID-LOOP INITIATING EVENT RHN-MAN04-SUCC CCF OF ORIFICES	INITIATING EVENT OCCURS WITH RCS DRAINED	4.44E-06 9.45E-01 3.63E-06	IEV-RCSOD RHN-MAN04-SUCC CCX-ORY-SPX
91	1.50E-11	.02	LOSS OF OFFSITE FAILURE TO RECOVER AC POWER IN 1 HOUR COMMON CAUSE FAILURE STANDBY DG TO RUN CCF OF IRWST INJ MOVs 121A, 121B, & RNS V023	POWER INITIATING EVENT OCCURS WITH RCS DRAINED	1.48E-03 4.20E-01 4.40E-04 5.50E-05	IEV-LOSPD OTH-R1 Z0X-DG-DR IWX-MV-G01
92	1.49E-11	.02	LOSS OF OFFSITE FAILURE TO RECOVER AC POWER IN 1 HOUR CCF TO START OF ENGINE-DRIVEN FUEL PUMPS CCF OF STRAINERS IN IRWST TANK	POWER INITIATING EVENT OCCURS WITH RCS DRAINED	1.48E-03 4.20E-01 2.00E-03 1.20E-05	IEV-LOSPD OTH-R1 Z0X-PD-ES IWX-FL-GP
93	1.45E-11	.02	LOSS OF OFFSITE FAILURE TO RECOVER AC POWER IN 1 HOUR BATTERY DB1 UNAVAILABLE CCF OF THE POWER INTERFACE OUTPUT BOARDS IN PMS	POWER INITIATING EVENT OCCURS WITH RCS DRAINED	1.48E-03 4.20E-01 2.20E-03 8.62E-06	IEV-LOSPD OTH-R1 ED1MOD03 CCX-EP-SAM

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TOP 200 DOMINANT CUTSETS FOR BASELINE SHUTDOWN PRA INCLUDING SURGE-LINE FLOODING EFFECTS

NUMBER	CUTSET	PROB	PERCENT	BASIC EVENT NAME		EVENT PROB.	IDENTIFIER
94	1.44E-11	.02	LOSS OF OFFSITE FAILURE TO CCF TO START DUE TO CCF OF	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR OF THE PUMPS THE SQUIB VALVES TO OPERATE	WITH RCS DRAINED	1.48E-03 4.20E-01 7.70E-04 3.00E-05	TEV-LOSPD OTH-R1 RNC-EM-FS ADK-EV-SA
95	1.40E-11	.02	LOSS OF OFFSITE FAILURE TO D/G FAILS TO D/G FAILS TO CCF OF IRMSI INU	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR START & RUN OR START & RUN OR MOVES 121A, 121B, & RNS V023	WITH RCS DRAINED	1.48E-03 4.20E-01 2.02E-02 2.02E-02 5.50E-05	TEV-LCSPD OTH-R1 201M0001 202M0001 TRK-MT-G01
96	1.36E-11	.07	LOSS OF OFFSITE FAILOVER TO COMMON CAUSE DUE TO CCF OF	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR 4KV BREAKER TO THE SQUIB VALVES TO OPERATE	WITH RCS DRAINED	1.48E-03 4.20E-01 7.30E-04 3.00E-05	TEV-LOSPD OTH-R1 RNC-CB-GC ADK-EN-SA
97	1.35E-11	.02	LOCK RNS-V024 SOFTWARE CCF	OPENS INITIATING EVENT OCCURS OF ALL CARDS	W. TH RCS DRAINED	1.13E-05 1.20E-06	TEV-LOCA24D CCK-SFTN
98	1.34E-11	.02	OVERDRAINING OF OPERATOR FAILS CCF OF IRMSI INU	RCS DURING DRAIN DOWN TO MID-LOOP TO ISOLATE RNS PIPE RUSTURE MOVES 121A, 121B, & RNS V023	INITIATING EVENT	4.44E-06 5.50E-05	TEV-RCSD RHN-MAND4 TRK-MT-G01
99	1.34E-11	.02	LOSS OF RNS WITH SOFTWARE CCF FAILURE OF	OPERATOR FAILS FILLED OF ALL CARDS MANUAL DAS	INITIATING EVENT OCCURS ACTUATION	9.61E-04 1.20E-06 1.16E-02	TEV-RNSND CCK-SPTW RNC-MANDAS
100	1.29E-11	.02	LOSS OF CCS/SWS CCF OF LOGIC MECHANICAL	WITH RCS DRAINED GROUP PROCESSING FAILURE CAUSES	INITIATING EVENT OCCURS MON 023 TO FAIL-TO-OPEN	4.23E-04 1.38E-05 2.21E-03	TEV-CCWD CCK-PWA030X RNC23M00055
101	1.29E-11	.02	LOSS OF OFFSITE COMMON CAUSE COMMON CAUSE	POWER INITIATING EVENT OCCURS FAILURE TO RECOVER AC POWER IN 1 HOUR STANDBY DG TO FAILURE OF THE BATTERIES	WITH RCS DRAINED RUN TDS-DB-1A/1B	1.48E-03 4.20E-01 4.40E-04 4.70E-05	TEV-LOSPD OTH-R1 ZOK-DG-DR CCK-BY-PW
102	1.19E-11	.02	LOSS OF OFFSITE D/G FAILS TO D/G FAILS TO COMMON CAUSE	POWER INITIATING EVENT OCCURS FAILURE TO RECOVER AC POWER IN 1 HOUR START & RUN OR START & RUN OR FAILURE OF THE BATTERIES	WITH RCS DRAINED RUN TDS-DB-1A/1B	1.48E-03 4.20E-01 2.02E-02 2.02E-02 4.70E-05	TEV-LOSPD OTH-R1 201M0001 202M0001 CCK-BY-PW
103	1.15E-11	.02	LOSS OF RNS WITH SOFTWARE CCF	INITIATING EVENT OCCURS OF ALL CARDS		9.61E-04 1.20E-06	TEV-RNSND CCK-SFTW

TABLE 54B-4

TOP 260 DOMINANT CUTSETS FOR BASELINE SHUTDOWN PRA INCLUDING SURGE-LINE FLOODING EFFECTS

NUMBER	CUTSET	SEOB	PERCENT	BASIC EVENT NAME	MANUAL DAS	REACTOR TRIP	HZ/TWAKE	WITH RCS DRAINED	EVENT PROB.	IDENTIFIER
104	1.14E-11	.92	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS FAILURE TO RECOVER AC POWER IN 1 HOUR CHECK VALVES DUE TO OCF OF THE SOUB VALVES TO OPERATE						1.48E-03	IEV-LOSPD
105	1.12E-11	.02	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS FAILURE TO RECOVER AC POWER IN 1 HOUR FAILURE OF PLS OUTPUT LOGIC I/O/E CCF OF THE POWER INTERFACE OUTPUT BOARDS IN PMS						4.20E-01 6.10E-04 3.60E-05	0TH-R1 R0K-RV-GO ADX-EV-SA
106	1.11E-11	.02	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS AC POWER RECOVERED IN 1 HOUR STOP CK V001A, CB & RELAY FTC: PMS: 01A FAILS: ST-CK V001B & C B FTC & RE FTC & CB RCS221 SPO CCF UP TRNST INJ MOVs 121A, 121B, & RNS V023						1.48E-03	IEV-LOSPD
107	1.10E-11	.02	OVERRAINING OF RCS DURING DRAIN DOWN TO MID-LOOP INITIATING EVENT RHN-MAN04-SCCC CCF OF PRESSURE TRANSMITTERS						4.70E-01 2.09E-03 8.62E-06	0TH-R1 PLSMOD11 OCX-EP-SAM
108	1.09E-11	.02	LOSS OF CCS/SWS WITH RCS DRAINED INITIATING EVENT OCCURES COND. PROB. OF REC-MANDAS (FAILURE OF COMMON MODE FAILURE OF INPUT LOGIC GROUPS TO ACTUATE ADS BEFORE CORE DAMAGE)						5.80E-01 1.53E-02 1.53E-02 5.50E-05	SNC-R1S BASMOD06S BASMOD07S TRK-MV-GO1
109	1.08E-11	.02	LOSS OF CCS/SWS WITH RCS DRAINED INITIATING EVENT OCCURES CCF OF GRAVITY INJECTION CHECK VALVES TO OPEN FAILURE OF OUTPUT DRIVER						4.44E-06	IEV-RCSD
110	1.08E-11	.02	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS FAILURE TO RECOVER AC POWER IN 1 HOUR COMPONENTS FIXED CCF OF TRNST INJ MOVs 121A, 121B, & RNS V023						9.45E-01 2.63E-06	RHN-MAN04-SCCC OCX-JMTBK
111	1.08E-11	.02	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS FAILURE TO RECOVER AC POWER IN 1 HOUR COMPONENTS FIXED CCF OF TRNST INJ MOVs 121A, 121B, & RNS V023						4.23E-04 5.06E-01 1.03E-04 4.93E-04	IEV-COMD REC-MANDAS OCX-INPUT-LOGIC ADN-MAN01
112	1.08E-11	.02	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS FAILURE TO RECOVER AC POWER IN 1 HOUR COMPONENTS FIXED						4.23E-04 1.50E-04 1.71E-04	IEV-COMD TRK-MV-GO1 SHDOP01SA

TABLE 54B-4

TOP 200 DOMINANT CUTSETS FOR BASELINE SHUTDOWN PRA INCLUDING SURGE-LINE FLOODING EFFECTS

NUMBER	CUTSET PROB	PERCENT	BASIC EVENT NAME		EVENT PROB.	IDENTIFIER
			CCF OF IRWST INJ MOVs 121A, 121B, & RNS V023		5.50E-05	IWX-MV-G01
113	1.07E-11	.02	OVERDRAINING OF RCS DURING DRA'N DOWN TO MID-LOOP INITIATING EVENT RHN-MAN04-SUCC OPERATOR FAILS TO OPEN TWO IRWST MOVs MECHANICAL FAILURE CAUSES MOV 023 TO FAIL-TO-OPEN		4.44E-06 9.45E-01 1.15E-03 2.21E-03	IEV-RCS0D RHN-MAN04-SUCC IWN-MAN00 RN23M005S
114	1.07E-11	.02	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS WITH RCS DRAINED FAILURE TO RECOVER AC POWER IN 1 HOUR CCF TO START OF ENGINE-DRIVEN FUEL PUMPS CCF OF THE PWR_P INTERFACE OUTPUT BOARDS IN PMS		1.48E-03 4.20E-01 2.09E-03 8.62E-06	IEV-LOSPD OTH-R1 Z0X-PD-ES CCX-EP-SAM
115	1.06E-11	.02	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS WITH RCS DRAINED FAILURE TO RECOVER AC POWER IN 1 HOUR PUMP 01B FAILS & ST CK V007B & C B FTC & RE FTC & CB ECS221 SPO D/G FAILS TO START & RUN OR BKR 102 FAILS TO CLOSE CCF OF IRWST INJ MOVs 121A, 121B, & RNS V023		1.48E-03 4.20E-01 1.53E-02 2.02E-02 5.50E-05	IEV-LOSPD OTH-R1 RNEMOD07S Z01MOD01 IWX-MV-G01
116	1.06E-11	.02	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS WITH RCS DRAINED FAILURE TO RECOVER AC POWER IN 1 HOUR PUMP 01A FAILS: STOP CK V007A, CB & RELAY FTC; CB ECS122 SPO D/G FAILS TO START & RUN OR BKR 202 FAILS TO CLOSE CCF OF IRWST INJ MOVs 121A, 121B, & RNS V023		1.48E-03 4.20E-01 1.53E-02 2.02E-02 5.50E-05	IEV-LOSPD OTH-R1 RNAMOD06S Z02MOD01 IWX-MV-G01
117	1.04E-11	.02	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS WITH RCS DRAINED FAILURE TO RECOVER AC POWER IN 1 HOUR EDS1 EA 1 DISTR. PNL FAILURE OR T&M CCF OF IRWST INJ MOVs 121A, 121B, & RNS V023		1.48E-03 4.20E-01 3.05E-04 5.50E-05	IEV-LOSPD OTH-R1 ED1MOD07 IWX-MV-G01
118	1.03E-11	.02	LOSS OF CCS/SWS WITH RCS DRAINED INITIATING EVENT OCCURS SOFTWARE CCF OF OUTPUT LOGIC I/Os MECHANICAL FAILURE CAUSES MOV 023 TO FAIL-TO-OPEN		4.23E-04 1.17E-05 2.21E-03	IEV-CCWD CCX-PMAMOD1-SW RN23M005S
119	1.03E-11	.02	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS WITH RCS DRAINED FAILURE TO RECOVER AC POWER IN 1 HOUR PUMP MP 01B SEGMENT HARDWARE FAILURE OR DIVERTED FLOW BREAKER 190 FAILS TO OPEN [#3.5] CCF OF IRWST INJ MOVs 121A, 121B, & RNS V023		1.48E-01 4.20E-01 2.44E-01 1.23E-02 5.50E-05	IEV-LOSPD OTH-R1 SWBMOD02 EC1CB100VO IWX-MV-G01
120	9.99E-12	.01	LOSS OF CCS/SWS WITH RCS DRAINED INITIATING EVENT OCCURS COND. PROB. OF REC-MANDAS (FAILURE OF MANUAL DAS ACT. ORIFICE FAILURE DUE TO PLUGGING OPERATOR FAILS TO ACTUATE ADS BEFORE CORE DAMAGE		4.23E-04 5.06E-01 9.46E-05 4.93E-04	IEV-CCWD REC-MANDASC IW10RI70SPX ADM-MAN01

TABLE 54B-4

TOP 200 DOMINANT CUTSETS FOR BASELINE SHUTDOWN PRA INCLUDING SURGE-LINE FLOODING EFFECTS

NUMBER	CUTSET PROB	PERCENT	BASIC EVENT NAME	INITIATING EVENT OCCURS	EVENT PROB.	IDENTIFIER	
121	1.99E-12	.01	LOSS OF CCS/SWS COND. PROB. OF ORIFICE FAILURE OPERATOR FAILS	WITH RCS DRAINED REC-MANDAS DUE TO PLUGGING TO ACTUATE ADS BEFORE CORE	4.23E-04 5.04E-01 9.46E-05 4.93E-04	IEV-CWOD REC-MANDASC IW20R160SPX ADN-MANO1	
122	9.97E-12	.01	LOCA/RNS PIPE OPERATOR FAILS CCF OF STRAINERS	RUPTURE WITH RCS FILLED INIT. TO ISOLATE IN IRWST TANK	1.51E-05 5.50E-02 1.20E-05	IEV-LOCAPRND RHN-MANO4 IWX-FL-GP	
123	9.69E-12	.01	LOSS OF CCS/SWS MECHANICAL MECHANICAL MECHANICAL	WITH RCS DRAINED INITIATING EVENT OCCURS FAILURE CAUSES MOV 121A TO FAILURE CAUSES MOV 121B TO FAILURE CAUSES MOV 023 TO	4.23E-04 3.22E-03 3.22E-03 2.21E-03	IEV-CWOD IRWMOD05S IRWMOD06S RN23M005S	
124	9.57E-12	.01	LOSS OF OFFSITE FAILURE TO COMMON CAUSE CCF OF IRWST INJ	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR FAILURE MOVs 121A, 121B, & RNS V023	WITH RCS DRAINED START	1.48E-03 4.20E-01 2.80E-04 5.50E-05	IEV-LOSPD OTH-R1 Z0X-DG-DS IWX-MV-G01
125	9.40E-12	.01	LOSS OF OFFSITE FAILURE TO FIXED COMPONENT DUE TO CCF OF	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR FAILURES THE SQUIB VALVES TO OPERATE	WITH RCS DRAINED	1.48E-03 4.20E-01 5.04E-04 3.00E-05	IEV-LOSPD OTH-R1 ED1MOD01 ADX-EV-SA
126	9.34E-12	.01	LOSS OF CCS/SWS CCF OF LOGIC OPERATOR FAILS	WITH RCS DRAINED INITIATING EVENT OCCURS GROUP PROCESSING TO RECOGNIZE NEED AND TO OPEN RNS MOV V023	4.23E-04 1.38E-05 1.60E-03	IEV-CWOD CCK-PMA030X RHN-MANO5	
127	9.19E-12	.01	LOSS OF OFFSITE FAILURE TO PUMP MP 01B D/G FAILS TO DUE TO CCF OF	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR SEGMENT HARDWARE FAILURE OR START & RUN OR BKR 102 FAILS TO CLOSE THE SQUIB VALVES TO OPERATE	WITH RCS DRAINED DIVERTED FLOW	1.48E-03 4.20E-01 2.44E-02 2.02E-02 3.00E-05	IEV-LOSPD OTH-R1 SWRMOD02 Z0LMOD01 ADX-EV-SA
128	8.95E-12	.01	LOSS OF CCS/SWS CCF OF GRAVITY CMF OF OUTPUT	WITH RCS DRAINED INITIATING EVENT OCCURS INJECTION CHECK VALVES TO OPEN LOGIC I/Os	4.23E-04 1.50E-04 1.41E-04	IEV-CWOD IWX-CV-AO CCK-PMDMOD1	
129	8.95E-12	.01	LOSS OF OFFSITE FAILURE TO COMMON CAUSE CCF OF STRAINERS	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR FAILURE IN IRWST TANK	WITH RCS DRAINED 4KV BREAKERS TO OPEN	1.48E-03 4.20E-01 1.20E-03 1.20E-05	IEV-LOSPD OTH-R1 CCK-CB-G0 IWX-FL-GP
130	8.79E-12	.01	LOSS OF RNS WITH RCS FILLED	INITIATING EVENT OCCURS	9.61E-04	IEV-RNSND	

TABLE 54B-4

TOP 200 DOMINANT CUTSETS FOR BASELINE SHUTDOWN PRA INCLUDING SURGE-LINE FLOODING EFFECTS

NUMBER	CUTSET PROB	PERCENT	BASIC EVENT NAME		EVENT PROB.	IDENTIFIER
			FAILURE OF PPHR CCF OF GRAVITY	DUE TO COMMON INJECTION CHECK	CAUSE OF AOVs VALVES TO OPEN	6.10E-05 1.50E-04
131	8.73E-12	.01	LOCA/RNS-V024 MECHANICAL IRWST DISCHARGE	OPENS INITIATING FAILURE CAUSES LINE "B"	EVENT OCCURS MOV 121A TO STRAINER	1.13E-05 3.22E-03 2.40E-04
132	8.65E-12	.01	LOSS OF OFFSITE FAILURE TO PLS LOGIC GROUP CCF OF STRAINERS	POWER INITIATING RECOVER AC POWER IN 1 HOUR PROCESSING IN IRWST TANK	EVENT OCCURS FAILURE UPON	1.48E-03 4.20E-01 1.16E-03 1.20E-05
133	8.65E-12	.01	LOSS OF OFFSITE FAILURE TO PLS LOGIC GROUP CCF OF STRAINERS	POWER INITIATING RECOVER AC POWER IN 1 HOUR PROCESSING IN IRWST TANK	WITH RCS DRAINED DEMAND	1.48E-03 4.20E-01 1.16E-03 1.20E-05
134	8.49E-12	.01	LOSS OF OFFSITE FAILURE TO D/G FAILS TO START & RUN OR BREAKER 200 FAILS TO OPEN CCF OF IRWST INJ	POWER INITIATING RECOVER AC POWER IN 1 HOUR MOV 121A, 121B, & RNS V023	EVENT OCCURS WITH RCS DRAINED DEMAND [#5,3]	1.48E-03 4.20E-01 2.02E-02 1.23E-02 5.50E-05
135	8.49E-12	.01	LOSS OF OFFSITE FAILURE TO BREAKER 100 D/G FAILS TO START & RUN OR CCF OF IRWST INJ	POWER INITIATING RECOVER AC POWER IN 1 HOUR FAILS TO OPEN MOV 121A, 121B, & RNS V023	EVENT OCCURS WITH RCS DRAINED [#3,5]	1.48E-03 4.20E-01 1.23E-02 2.02E-02 5.50E-05
136	8.44E-12	.01	LOSS OF CCS/SWS CCF OF THE POWER INTERFACE EDS3 EA 1 DISTR.	WITH RCS FILLED BOARDS IN PMS T&M	INITIATING EVENT OCCURS	3.21E-03 8.62E-06 3.05E-04
137	8.34E-12	.01	LOSS OF RNS WITH CCF OF ACTUATION MECHANICAL	PCS DRAINED LOGIC GROUPS FAILURE CAUSES	INITIATING EVENT OCCURS MOV 023 TO	8.15E-05 4.63E-05 2.21E-03
138	8.21E-12	.01	LOSS OF OFFSITE FAILURE TO COMMON CAUSE DUE TO CCF OF	POWER INITIATING RECOVER AC POWER IN 1 HOUR FAILURE THE SQUIB VALVES TO OPERATE	EVENT OCCURS FAIL-TO-OPEN RUN	1.48E-03 4.20E-01 4.40E-04 3.00E-05
139	8.18E-12	.01	LOSS OF OFFSITE FAILURE TO	POWER INITIATING RECOVER AC POWER IN 1 HOUR	EVENT OCCURS WITH RCS DRAINED	1.48E-03 4.20E-01

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NUMBER	CUTSET	PROB	PERCENT	BASIC EVENT NAME		EVENT PROB.	IDENTIFIER
				COMMON CAUSE FAILURE COMMON CAUSE FAILURE OF THE	STANDBY DG TO BATTERIES	START IDSA-DB-1A/1B	2.80E-04 4.70E-05
140	8.15E-12	.01		LOSS OF RNS WITH RCS DRAINED FAILURE OF MANUAL DAS CCF OF THE POWER INTERFACE OUTPUT BOARDS IN PMS	INITIATING EVENT OCCURS ACTUATION		8.15E-05 1.16E-02 8.62E-06
141	8.00E-12	.01		LOSS OF OFFSITE POWER INITIATING EVENT OCCURS FAILURE TO RECOVER AC POWER IN 1 HOUR PUMP GIA FAILS; STOP CK V007A, CB & RELAY FTC; CB ECS122 SPO PUMP 01B FAILS & ST CK V007B & C B FTC & RE FTC & CB ECS221 SPO CCF OF IRWST INJ MOVs 121A, 121B, & RNS V023	WITH RCS DRAINED		1.48E-03 4.20E-01 1.53E-02 1.53E-02 5.50E-05
142	7.93E-12	.01		LOSS OF OFFSITE POWER INITIATING EVENT OCCURS OFFSITE AC POWER RECOVERED IN CCF TO START OF THE PUMPS CCF OF STRAINERS IN IRWST TANK	WITH RCS DRAINED		1.48E-03 5.80E-01 7.70E-04 1.20E-05
143	7.79E-12	.01		LOSS OF CCS/SWS WITH RCS DRAINED CHECK VALVE 123A CHECK VALVE 125A IRWST DISCHARGE LINE "B"	INITIATING EV NT OCCURS FAILS TO OPEN FAILS TO OPEN STRAINER PLUGGED		4.23E-04 8.76E-03 8.76E-03 2.40E-04
144	7.79E-12	.01		LOSS OF CCS/SWS WITH RCS DRAINED CHECK VALVE 123A CHECK VALVE 124A IRWST DISCHARGE LINE "B"	INITIATING EVENT OCCURS FAILS TO OPEN FAILS TO OPEN STRAINER PLUGGED		4.23E-04 8.76E-03 8.76E-03 2.40E-04
145	7.79E-12	.01		LOSS OF CCS/SWS WITH RCS DRAINED CHECK VALVE 122A CHECK VALVE 125A IRWST DISCHARGE LINE "B"	INITIATING EVENT OCCURS FAILS TO OPEN FAILS TO OPEN STRAINER PLUGGED		4.23E-04 8.76E-03 8.76E-03 2.40E-04
146	7.79E-12	.01		LOSS OF CCS/SWS WITH RCS DRAINED CHECK VALVE 122A CHECK VALVE 124A IRWST DISCHARGE LINE "B"	INITIATING EVENT OCCURS FAILS TO OPEN FAILS TO OPEN STRAINER PLUGGED		4.23E-04 8.76E-03 8.76E-03 2.40E-04
147	7.75E-12	.01		LOSS OF OFFSITE POWER INITIATING EVENT OCCURS FAILURE TO RECOVER AC POWER IN 1 HOUR BATTERY DB1 UNAVAILABLE FAILURE OF PMS OUTPUT LOGIC I/Os MECHANICAL FAILURE CAUSES MOV 023 TO FAIL-TO-OPEN	WITH RCS DRAINED		1.48E-03 4.20E-01 2.20E-03 2.09E-03 2.21E-03
<u>W</u>							
							RM1MOD03 PMAMOD11 RM23MOD05S

NUMBER	CUTSET PROB	PERCENT	BASIC EVENT NAME	INITIATING EVENT OCCURS	PROB.	EVENT PROB.	IDENTIFIER
148	7.61E-12	.01	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS FAILURE TO RECOVER AC POWER IN 1 HOUR	WITH RCS DRAINED	1.48E-03	TEV-LOSPD	
			D/G FAILS TO START & RUN OR BKR 102 FAILS TO CLOSE		4.20E-01	OTH-B1	
			D/G FAILS TO START & RUN OR BKR 202 FAILS TO CLOSE		2.02E-02	Z01M0001	
			THE SQUIB VALVES TO OPERATE		2.02E-02	Z02M0001	
			THE CCF OF		3.00E-05	ACB-EV-SA	
149	7.44E-12	.01	LOSS OF CCS/SNS WITH RCS DRAINED INITIATING EVENT OCCURS SOFTWARE CCF OF OUTPUT LOGIC I/O'S NEED AND TO OPEN RNS 90% V023	4.23E-04	TEV-COCD		
			OPERATOR FAILS TO RECOGNIZE		1.10E-05	CCK-MAND01-SNE	
			TO ISOLATE BUS PIPE RUPURE		1.60E-03	RBN-MAN05	
			THE SQUIB VALVES TO OPERATE				
150	7.33E-12	.01	OVERTRAINING OF RCS DURING DRAIN DOWN TO MID-LOOP INITIATING EVENT OPERATOR FAILS TO ISOLATE BUS PIPE RUPURE	4.44E-06	TEV-HCS00		
			DOUE TO CCF OF		5.50E-02	RBN-MAN04	
					3.00E-05	A0X-BY-SA	
151	7.26E-12	.01	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS FAILURE TO RECOVER AC POWER IN 1 HOUR	1.48E-03	TEV-LOSPD		
			D/G FAILS TO START & RUN OR BKR 102 FAILS TO CLOSE		4.20E-01	OTH-B1	
			BREAKER 200 FAILS TO OPEN		2.02E-02	Z01M0001	
			COMMON CAUSE FAILURE OF THE BATTERIES		1.23E-02	BCKC02000V0	
			IDSA-DB-1A/1B		4.70E-05	CCK-BY-PN	
152	7.26E-12	.01	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS FAILURE TO RECOVER AC POWER IN 1 HOUR	1.48E-03	TEV-LOSPD		
			BREAKER 100 FAILS TO OPEN		4.20E-01	OTH-B1	
			D/G FAILS TO START & RUN OR BKR 202 FAILS TO CLOSE		2.02E-02	Z01M0001	
			COMMON CAUSE FAILURE OF THE BATTERIES		4.70E-05	CCK-BY-PN	
153	7.20E-12	.01	LOSS OF CCS/SNS WITH RCS DRAINED INITIATING EVENT OCCURS COND. PROB. OF REC-MANDAS LEVEL	4.23E-04	TEV-COCD		
			FAILURE OF TRANSMITTER		5.06E-01	REC-MANDASC	
			OPERATOR FAILS TO ACTIVATE ADS		6.84E-05	TM2T1170UFK	
			BEFORE CORE DAMAGE		4.93E-04	ADM-MAN01	
154	7.20E-12	.01	LOSS OF CCS/SNS WITH RCS DRAINED INITIATING EVENT OCCURS COND. PROB. OF REC-MANDAS LEVEL	4.23E-04	TEV-COCD		
			FAILURE OF TRANSMITTER		5.06E-01	REC-MANDASC	
			OPERATOR FAILS TO ACTIVATE ADS		6.84E-05	TM2T1170UFK	
			BEFORE CORE DAMAGE		4.93E-04	ADM-MAN01	
155	7.18E-12	.01	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS FAILURE TO RECOVER AC POWER IN 1 HOUR	1.48E-03	TEV-LOSPD		
			PUMP SUBLOOP B HARDWARE FAILURE OR DIVERTED FLOW		4.20E-01	OTH-B1	
			D/G FAILS TO START & RUN OR BKR 102 FAILS TO CLOSE		1.04E-02	CCB0001S	
			CCF OF IR-ST TWO MOVS 121A, 121B, & RMS V023		2.02E-02	Z01M0001	
					5.50E-05	TBX-M7-G01	
156	7.03E-12	.01	LOSS OF RNS WITH RCS DRAINED INITIATING EVENT OCCURS FAILURE OF MANUAL DAS REACTOR TRIP	8.15E-05	TEV-RNSD		
			HARDWARE		1.00E-02	NOAS	

TABLE 54B-4

TOP 200 DOMINANT CUTSETS FOR BASELINE SHUTDOWN PRA INCLUDING SURGE-LINE FLOODING EFFECTS

NUMBER	CUTSET PROB	PERCENT	BASIC EVENT NAME		EVENT PROB.	IDENTIFIER
			CCF OF THE POWER INTERFACE OUTPUT BOARDS IN PMS		8.62E-06	CCX-EP-SAM
157	7.82E-12	.01	LOSS OF CCS/SWS MECHANICAL MECHANICAL OPERATOR FAILS	WITH RCS DRAINED INITIATING EVENT OCCURS FAILURE CAUSES MOV 121A TO FAIL-TO-OPEN FAILURE CAUSES MOV 121B TO FAIL-TO-OPEN TO RECOGNIZE NEED AND TO OPEN RNS MOV V023	4.23E-04 3.22E-03 3.22E-03 1.60E-03	IEV-CCWD IRWMOD05S IRWMOD06S RHN-MAN05
158	6.90E-12	.01	LOSS OF CCS/SWS ORIFICE FAILURE OPERATOR FAILS COND. PROB. OF	WITH RCS DRAINED INITIATING EVENT OCCURS DUE TO PLUGGING TO OPEN TWO IRWST MOVs RHN-MAN05 (OP. FAILS TO OPEN RNS MOV V023)	4.23E-04 9.46E-05 1.15E-03 1.50E-01	IEV-CCWD IW10R170SPX IRN-MAN00 RHN-MAN05C
159	6.90E-12	.01	LOSS OF CCS/SWS ORIFICE FAILURE OPERATOR FAILS COND. PROB. OF	WITH RCS DRAINED INITIATING EVENT OCCURS DUE TO PLUGGING TO OPEN TWO IRWST MOVs RHN-MAN05 (OP. FAILS TO OPEN RNS MOV V023)	4.23E-04 9.46E-05 1.15E-03 1.50E-01	IEV-CCWD IN20R160SPX IRN-MAN00 RHN-MAN05C
160	6.66E-12	.01	LOSS OF OFFSITE OFFSITE CMF OF OUTPUT CCF OF IRWST INJ	POWER INITIATING EVENT OCCURS AC POWER RECOVERED IN 1 HOUR LOGIC I/Os MOVs 121A, 121B, & RNS V023	1.48E-03 5.80E-01 1.41E-04 5.50E-05	IEV-LOSPD SUC-RIS CCK-PL4MOD1 IWX-MV-G01
161	6.43E-12	.01	LOSS OF OFFSITE FAILURE TO PUMP 01B FAILS & BREAKER 100 CCF OF IRWST INJ	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR ST CK V007B & C B FTC & RE FTC & CB ECS221 SPO FAILS TO OPEN MOVs 121A, 121B, & RNS V023	1.48E-03 4.20E-01 1.53E-02 1.23E-02 5.50E-05	IEV-LOSPD OTH-R1 RNMMOD07S EC1CB100V0 IWX-MV-G01
162	6.43E-12	.01	LOSS OF OFFSITE FAILURE TO PUMP 01A FAILS; BREAKER 200 CCF OF IRWST INJ	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR STOP CK V007A, CB & RELAY FTC; CB ECS122 SPO FAILS TO OPEN MOVs 121A, 121B, & RNS V023	1.48E-03 4.20E-01 1.53E-02 1.23E-02 5.50E-05	IEV-LOSPD OTH-R1 RNAMOD06S EC2CB200V0 IWX-MV-G01
163	6.43E-12	.01	LOSS OF OFFSITE FAILURE TO COMMON CAUSE CCF OF THE POWER	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR FAILURE 4"V BREAKERS TO OPEN INTERFACE OUTPUT BOARDS IN PMS	1.48E-03 4.20E-01 1.20E-03 8.62E-06	IEV-LOSPD OTH-R1 ECX-CB-G0 CCX-EP-SAM
164	6.28E-12	.01	LOSS OF OFFSITE OFFSITE CCF TO OPEN CCF OF STRAINERS	POWER INITIATING EVENT OCCURS AC POWER RECOVERED IN 1 HOUR OF THE STOP CHECK VALVES IN IRWST TANK	1.48E-03 5.80E-01 6.10E-04 1.20E-05	IEV-LOSPD SUC-RIS RNX-KV-G0 IWX-PL-GP

TABLE 54B-4

TOP 200 DOMINANT CUTSETS FOR BASELINE SHUTDOWN PRA INCLUDING SURGE-LINE FLOODING EFFECTS

NUMBER	CUTSET	PROB	PB.	CENT	BASIC EVENT NAME	EVENT	PROB.	IDENTIFIER
165	6.26E-12	.01	LOSS OF CCS/SWS WITH RCS DRAINED INITIATING EVENT OCCURS CCF OF ACTUATION LOGIC GROUPS	4.23E-04	IEV-CCMD			
			OPERATOR FAILS TO OPEN TWO IRNST MOVS COND. PROB. OF RHN-MANO'S IOP.	8.58E-05	CCX-PMAN002X			
166	6.22E-12	.01	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR FAILURE UPON PLS LOGIC GROUP PROCESSING FAILURE UPON CCF OF THE POWER INTERFACE OUTPUT BOARDS IN PMS	1.15E-03	IWB-MANO'S			
			WITH RCS DRAINED DEMAND	1.50E-01	RHN-MANO'SC			
167	6.22E-12	.01	LOSS OF OFFSITE FAILURE TO RECOVER AC POWER IN 1 HOUR PLS LOGIC GROUP PROCESSING FAILURE UPON CCF OF THE POWER INTERFACE OUTPUT BOARDS IN PMS	1.48E-03	IEV-LOSPD			
			WITH RCS DRAINED DEMAND	4.20E-01	OTH-R1			
168	6.15E-12	.01	LOSS OF CCS/SWS WITH RCS DRAINED INITIATING EVENT OCCURS CCF OF GRAVITY CMF OF OUTPUT LOGIC GROUPS	1.16E-03	PL50301BSA			
			WITH RCS DRAINED INJECTION CHECK VALUES TO OPEN LOGIC GROUPS	8.62E-06	CCX-EP-SAM			
169	6.09E-12	.01	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR UNAVAILABLE BATTERY DB1 CCF OF ORIFICES	4.23E-04	IEV-CCMD			
			WITH RCS DRAINED HARDWARE UNAVAILABLE	1.50E-04	IMX-CV-AO			
170	6.07E-12	.01	LOSS OF CCS/SWS WITH RCS FILLED MANUAL DAS FAILURE OF CCF OF ORIFICES OPERATOR FAILS TO RECOGNIZE THE NEED FOR RCS	9.69E-05	ED1M0003			
			INITIATING EVENT OCCURS REACTOR TRIP	3.63E-06	CCX-ORY-SPW			
171	6.04E-12	.01	LOSS OF PNS WITH RCS DRAINED CCF OF ACTUATION LOGIC GROUPS OPERATOR FAILS TO RECOGNIZE NEED AND TO OPEN PNS MON V023	3.21E-03	TPV-CCMD			
			INITIATING EVENT OCCURS RECOUPLED IN 1 HOUR	1.00E-02	NOAS			
172	6.03E-12	.01	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS RECOVERED IN AC POWER PUMP OIA FAILS: STOP CR V007A, CB & RELAY FTC: PUMP 01B FAILS: ST CR V007B & C B FTC & RE FTC & DUE TO CCF OF THE SQUIB VALUES TO OPERATE	2.77E-04	CCX-ORY-SP			
			WITH RCS DRAINED CB BCS122 SPO CB BCS221 SPO	6.83E-04	LPM-MANO'S			
173	5.94E-12	.01	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS FAILURE TO PUMP MP 01A PUMP MP 01B CCF OF IRNST INJ	8.15E-05	IEV-PNSD			
			RECOVER AC POWER IN 1 HOUR SEGMENT HARDWARE FAILURE OR DIVERTED FLOW	4.63E-05	CCX-B115			
			WITH RCS DRAINED HARDWARE FAILURE OR DIVERTED FLOW	1.60E-03	RHN-MANO'S			
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TABLE 54B-4

TOP 200 DOMINANT CUTSETS FOR BASELINE SHUTDOWN PRA INCLUDING SURGE-LINE FLOODING EFFECTS

NUMBER	CUTSET PROB	PERCENT	BASIC EVENT NAME	INITIATING EVENT OCCURS	EVENT PROB.	IDENTIFIER
174	5.92E-12	.01	LOSS OF CCS/SMS WITH RCS DRAINED INITIATING EVENT OCCURS TRWST DISCHARGE LINE "B" FAILURE OF POWER INTERFACE BOARD	PLUGGED	4.23E-04 2.40E-04 5.83E-05	IEV-CWOD TWS-PLUG TRAEP721ASAK
175	5.91E-12	.01	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR COMPONENTS FAILURE FIXED	WITH RCS DRAINED	1.48E-03 4.20E-01 3.17E-04	IEV-LOSPD OTH-R1 ED1M0011
176	5.91E-12	.01	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR COMPONENTS FAILURE DUE TO CCF OF THE SQUIB VALVES TO OPERATE	WITH RCS DRAINED	3.00E-05	ADX-EV-SA
177	5.91E-12	.01	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR COMPONENTS FAILURE FIXED	WITH RCS DRAINED	1.48E-03 4.20E-01 3.17E-04	IEV-LOSPD OTH-R1 ED1M0013
178	5.88E-12	.01	LOSS OF CCS/SMS WITH RCS DRAINED INITIATING EVENT OCCURS CCF OF ACTUATION LOGIC GROUPS BUS UNAVAILABLE DUE TO TEST OR CORRECTIVE	MAINTENANCE	3.00E-05	ADX-EV-SA
179	5.88E-12	.01	LOSS OF CCS/SMS WITH RCS DRAINED INITIATING EVENT OCCURS CCF OF ACTUATION LOGIC GROUPS BUS UNAVAILABLE DUE TO TEST OR CORRECTIVE	MAINTENANCE	1.48E-03 4.20E-01 3.17E-04	IEV-CWOD CCK-PMANMOD1X TDBBS01TM
180	5.88E-12	.01	LOSS OF CCS/SMS WITH RCS DRAINED INITIATING EVENT OCCURS CCF OF ACTUATION LOGIC GROUPS BUS UNAVAILABLE DUE TO TEST OR CORRECTIVE	MAINTENANCE	4.23E-04 4.63E-05 3.00E-04	IEV-CWOD CCK-PMANMOD1X TDBBS01TM
181	5.87E-12	.01	LOSS OF RNS WITH RCS DRAINED INITIATING EVENT OCCURS TRWST DISCHARGE LINE "B" BUS UNAVAILABLE DUE TO TEST OR CORRECTIVE	PLUGGED	8.15E-05 2.40E-04 3.00E-04	IEV-RNSD TWS-PLUG TDBBS01TM
182	5.87E-12	.01	LOSS OF RNS WITH RCS DRAINED INITIATING EVENT OCCURS TRWST DISCHARGE LINE "B" BUS UNAVAILABLE DUE TO TEST OR CORRECTIVE	PLUGGED	8.15E-05 2.40E-04 3.00E-04	IEV-RNSD TWS-PLUG TDBBS01TM
183	5.87E-12	.01	LOSS OF RNS WITH RCS DRAINED INITIATING EVENT OCCURS TRWST DISCHARGE LINE "B" BUS UNAVAILABLE DUE TO TEST OR CORRECTIVE	PLUGGED	8.15E-05 2.40E-04 3.00E-04	IEV-RNSD TWS-PLUG TDBBS01TM
184	5.85E-12	.01	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS	WITH RCS DRAINED	1.48E-03	IEV-LOSPD

TABLE 54B-4

TOP 200 DOMINANT CUTSETS FOR BASELINE SHUTDOWN PRA INCLUDING SURGE-LINE FLOODING EFFECTS

NUMBER	CUTSET	PROB.	P <small>RECENT</small>	BASIC EVENT NAME	EVENT	PROB.	IDENTIFIER
				FAILURE TO RECOVER AC POWER IN 1 HOUR	TEV-LOSFD	4.20E-01	OTH-R1
				FAILURE OF OUTPUT DRIVER		1.71E-04	BCSEPMGB1SA
				CCF OF IRWST INJ MOV'S 121A, 121B, & RNS V023		5.50E-05	TWR-MV-GO1
185	5.76E-12	.01	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS	WITH RCS DRAINED	TEV-LOSFD	1.48E-03	TEV-LOSFD
				FAILURE TO RECOVER AC POWER IN 1 HOUR		4.20E-01	OTH-R1
				ST CR V007B & C B FTC & RE FTC & CB EBCS221 SPO		1.51E-02	RHMAMOD07S
				START & RUN OR BKR 102 FAILS TO CLOSE		2.02E-02	ZD1MOD01
				DIG FAILS TO THE SQUIB VALVES TO OPERATE		3.00E-05	ADK-EV-SA
186	5.76E-12	.01	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS	WITH RCS DRAINED	TEV-LOSFD	1.48E-03	TEV-LOSFD
				FAILURE TO RECOVER AC POWER IN 1 HOUR		4.20E-01	OTH-R1
				STOP CR V007A, CB & RELAY FTC;		1.51E-02	RHMAMOD06S
				START & RUN OR BKR 202 FAILS TO CLOSE		2.02E-02	ZD2MOD01
				DIG FAILS TO CCF OF THE SQUIB VALVES TO OPERATE		3.00E-05	ADK-EV-SA
187	5.74E-12	.01	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS	WITH RCS DRAINED	TEV-LOSFD	1.48E-03	TEV-LOSFD
				FAILURE TO RECOVER AC POWER IN 1 HOUR		4.20E-01	OTH-R1
				CCF TO START OF THE PUMPS		7.70E-04	RHK-PM-FS
				CCF OF STRAINERS IN IRWST TANK		1.20E-05	TWK-PL-3P
188	5.74E-12	.01	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS	WITH RCS DRAINED	TEV-LOSFD	1.48E-03	TEV-LOSFD
				FAILURE TO RECOVER AC POWER IN 1 HOUR		4.20E-01	OTH-R1
				OF ENGINE-DRIVEN FUEL PUMPS		2.00E-03	ZOK-PO-ES
				PMS OUTPUT LOGIC I/Os		2.09E-03	RHMAMOD11
				MECHANICAL FAILURE CAUSES MOV 023 TO FAIL-TO-OPEN		2.21E-03	RHK2MOD05S
189	5.69E-12	.01	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS	WITH RCS DRAINED	TEV-LOSFD	1.48E-03	TEV-LOSFD
				FAILURE TO RECOVER AC POWER IN 1 HOUR		4.20E-01	OTH-R1
				PNL FAILURE OF TSM		3.05E-04	ED1MOD07
				EDS1 EA 1 DISTR. DUE TO CCF OF THE SQUIB VALVES TO OPERATE		3.00E-05	ADK-EV-SA
190	5.61E-12	.01	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS	WITH RCS DRAINED	TEV-LOSFD	1.48E-03	TEV-LOSFD
				FAILURE TO RECOVER AC POWER IN 1 HOUR		4.20E-01	OTH-R1
				UNAVAILABLE BATTERY		2.20E-03	ED1MOD03
				PMS OUTPUT LOGIC I/Os		2.09E-03	RHMAMOD11
				OPERATOR FAILS TO RECOGNIZE NEED AND TO OPEN RNS MOV V023		1.60E-03	RHN-MAN05
191	5.60E-12	.01	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS	WITH RCS DRAINED	TEV-LOSFD	1.48E-03	TEV-LOSFD
				FAILURE TO RECOVER AC POWER IN 1 HOUR		4.20E-01	OTH-R1
				SEGMENT HARDWARE FAILURE OR DIVERTED FLOW		2.44E-02	SHEM0002
				PUMP MP 01B FAILS TO OPEN		1.23E-02	ECICB100W0
				DUE TO CCF OF THE SQUIB VALVES TO OPERATE		3.00E-05	ADK-EV-SA

TABLE 54B-4

TOP 200 DOMINANT CUTSETS FOR BASELINE SHUTDOWN PRA INCLUDING SURGE-LINE FLOODING EFFECTS

NUMBER	CUTSET	PROB.	PERCENT	BASIC EVENT NAME		EVENT PROB.	IDENTIFIER
192	5.45E-12	.01	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR	WITH RCS DRAINED	1.48E-03	TEV-LOSPO	
			FAILURE TO COMMON CAUSE FAILURE	CLOSE	4.20E-01	0TH-R1	
			CCF OF STRAINERS IN INSTR TANK		7.30E-04	BCX-CB-GC	
					1.20E-05	IWB-FL-GP	
193	5.22E-12	.01	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR	WITH RCS DRAINED	1.48E-03	TEV-LOSPO	
			FAILURE TO COMMON CAUSE FAILURE	START	4.20E-01	0TH-R1	
			CCF OF THE SQUIB VALVES TO OPERATE		2.30E-04	ZOK-DG-DS	
					3.00E-05	ADK-EV-SA	
194	5.17E-12	.01	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR	WITH RCS DRAINED	1.48E-03	TEV-LOSPO	
			FAILURE TO BREAKER 100 FAILS TO OPEN	[#3, 5]	4.20E-01	0TH-R1	
			BREAKER 200 FAILS TO OPEN	[#5, 3]	2.23E-02	BC1CB100W0	
			CCF OF INSTR MOV'S 121A, 121B, & RNS V023		2.23E-02	BC2CB200W0	
					5.50E-05	IWB-WV-G01	
195	5.04E-12	.01	OVERDRAINING OF RCS LTHING DRAIN DOWN TO MID-LOOP	INITIATING EVENT	4.44E-06	TEV-RCGOD	
			RHN-MANO4-SUCC		9.45E-01	RHN-MANO4-SUCC	
			SOFTWARE CCP OF ALL CARDS		1.20E-06	CCX-SPTRN	
196	4.99E-12	.01	LOSS OF CCS/SWS WITH RCS DRAINED	INITIATING EVENT OCCURS	4.23E-04	TEV-CCWD	
			LEVEL TRANSMITTER FAILURE		6.84E-05	INWTL1701FPX	
			OPERATOR FAILS TO OPEN TWO IRST MOV'S		1.15E-03	IWB-MAN00	
			COND. PROB. OF RHN-MANO5 (OP.) FAILS TO OPEN RNS MOV V023)		1.50E-01	RHN-MAN05C	
197	4.99E-12	.01	LOSS OF CCS/SWS WITH RCS DRAINED	INITIATING EVENT OCCURS	4.23E-04	TEV-CCWD	
			LEVEL TRANSMITTER FAILURE		6.84E-05	INWTL1601FPX	
			OPERATOR FAILS TO OPEN TWO IRST MOV'S		1.15E-03	IWB-MAN00	
			COND. PROB. OF RHN-MANO5 (OP.) FAILS TO OPEN RNS MOV V023)		1.50E-01	RHN-MAN05C	
198	4.92E-12	.01	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR	WITH RCS DRAINED	1.48E-03	TEV-LOSPO	
			PUMP MP 01A HARDWARE FAILURE		4.20E-01	0TH-R1	
			D/G FAILS TO START & RUN OR BBR 202 FAILS TO CLOSE		7.12E-03	SWA00007	
			CCF OF INSTR MOV'S 121A, 121B, & RNS V023		2.02E-02	202M0001	
					5.50E-05	IWB-WV-G01	
199	4.90E-12	.01	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR	WITH RCS DRAINED	1.48E-03	TEV-LOSPO	
			WORKING PUMP MP01A HARDWARE FAILURE		4.20E-01	0TH-R1	
			D/G FAILS TO START & RUN OR BBR 202 FAILS TO CLOSE		7.10E-03	CCAM0002	
			CCF OF INSTR MOV'S 121A, 121B, & RNS V023		2.02E-02	Z02M0001	
					5.50E-05	IWB-WV-G01	
200	4.82E-12	.01	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR	WITH RCS DRAINED	1.48E-03	TEV-LOSPO	
			CMP OF OUTPUT LOGIC I/O'S		4.20E-01	0TH-R1	
			CCF OF INSTR MOV'S 121A, 121B, & RNS V023		1.41E-04	CCX-PL4NE01	
					5.50E-05	IWB-WV-G01	

Table 54B-5

**BASIC EVENT IMPORTANCE - BASELINE SHUTDOWN PRA
INCLUDING SURGE-LINE FLOODING EFFECTS**

		SYSTEM UNAVAILABILITY (Q) = 6.743E-08	NUMBER OF BASIC EVENTS = 296	NUMBER OF CUTSETS = 7329	
BASIC EVENT	IMPORTANCE (%DECREASE)	NUMBER OF CUTSETS	DECREASE IN SYSTEM UNAVAILABILITY	BASIC EVENT PROBABILITY	
1 IEV-CCWD	67.49	2382	4.5509E-08	4.2300E-04	
2 IWX-MV-GO1	43.75	266	2.9499E-08	5.5000E-05	
3 ADX-EV-SA	23.86	290	1.6087E-08	3.0000E-05	
4 IEV-RNSD	12.98	1147	8.7499E-09	8.1500E-05	
5 IWX-FL-OP	9.86	168	6.6469E-09	1.2000E-05	
6 IEV-LOSPD	5.84	2454	3.9379E-09	1.4800E-03	
7 IWX-CV-AO	4.64	395	3.1292E-09	1.5000E-04	
8 IEV-RCSD	4.60	525	3.1037E-09	4.4400E-06	
9 IEV-LOCA24ND	4.08	121	2.7492E-09	1.6800E-05	
10 CCX-SFTW	4.04	26	2.7251E-09	1.2000E-06	
11 OTH-R1	4.04	2296	2.7250E-09	4.2000E-01	
12 RHN-MAN05C	3.85	27	2.5956E-09	1.5000E-01	
13 RHN-MAN04	3.03	125	2.0399E-09	5.5000E-02	
14 CCX-ORY-SPX	2.89	112	1.9484E-09	3.6300E-06	
15 IWN-MAN00C	2.78	23	1.8777E-09	5.0000E-02	
16 CCX-XMTRX	2.08	97	1.4050E-09	2.6300E-06	
17 IEV-CCWND	2.05	69	1.3841E-09	3.2100E-03	
18 IEV-LOCA24D	1.80	486	1.2148E-09	1.1300E-05	
19 SUC-R1S	1.80	158	1.2130E-09	5.8000E-01	
20 RHN-MAN04-SUCC	1.78	438	1.1996E-09	9.4500E-01	
21 CCX-EP-SAM	1.51	225	1.0206E-09	8.6200E-06	
22 REC-MANDASC	1.34	46	9.0394E-10	5.0600E-01	
23 LPM-MAN05	1.28	37	8.6177E-10	6.8300E-04	
24 IWN-MAN00	1.17	189	7.8572E-10	1.1500E-03	
25 IWB-PLUG	.97	443	6.5444E-10	2.4000E-04	
26 REC-MANDAS	.96	36	6.4806E-10	1.1600E-02	
27 MDAS	.86	79	5.7658E-10	1.0000E-02	
28 IRWMOD05S	.67	498	4.5342E-10	3.2200E-03	
29 RN23MOD5S	.67	971	4.4903E-10	2.2100E-03	
30 IEV-RNSND	.61	46	4.1438E-10	9.6100E-04	
31 CCX-ORY-SP	.61	18	4.1251E-10	2.7700E-04	
32 CCX-XMTR195	.44	16	2.9956E-10	2.0100E-04	
33 RHN-MAN05	.44	837	2.9688E-10	1.6000E-03	
34 ED1MOD03	.38	133	2.5389E-10	2.2020E-03	
35 ZOX-PD-ES	.36	114	2.4076E-10	2.0000E-03	
36 IEV-LOSPND	.33	40	2.2376E-10	8.1300E-03	
37 ZO1MOD01	.33	524	2.2009E-10	2.0200E-02	
38 CCX-BY-PN	.29	249	1.9817E-10	4.7000E-05	
39 CCX-INPUT-LOGIC	.25	29	1.6716E-10	1.0300E-04	
40 SUC-R2S	.24	9	1.5422E-10	7.6000E-01	
41 PL5MOD11	.23	74	1.5308E-10	2.0900E-03	
42 ECX-CB-GO	.21	92	1.4398E-10	1.2000E-03	
43 IEV-LOCAPRND	.21	59	1.4228E-10	1.5100E-05	
44 ZO2MOD01	.20	187	1.3562E-10	2.0200E-02	
45 CCX-PMAMOD1X	.20	195	1.3392E-10	4.6300E-05	
46 EC1CB100VO	.19	380	1.3104E-10	1.2300E-02	
47 RNX-PM-FS	.19	50	1.2614E-10	7.7000E-04	
48 RNX-KV-GO	.15	44	9.9821E-11	6.1000E-04	
49 RNEMOD07S	.13	146	9.0356E-11	1.5300E-02	
50 SWBMOD02	.13	150	8.7872E-11	2.4400E-02	
51 ECX-CB-GC	.13	74	8.7191E-11	7.3000E-04	
52 RNAMOD06S	.13	90	8.4501E-11	1.5300E-02	
53 PL50301ASA	.13	47	8.4411E-11	1.1600E-03	
54 PL50301BSA	.13	47	8.4411E-11	1.1600E-03	
55 PMAMOD11	.12	296	8.4017E-11	2.0900E-03	
56 EC2CB200VO	.12	144	8.1616E-11	1.2300E-02	
57 ADN-MAN01	.09	58	6.0093E-11	4.9300E-04	
58 OTH-R2	.09	29	5.9239E-11	2.4000E-01	
59 IDDBSDD1TM	.09	404	5.8169E-11	3.0000E-04	
60 IDDBSDK1TM	.09	404	5.8169E-11	3.0000E-04	
61 IDDBSDS1TM	.09	404	5.8169E-11	3.0000E-04	
62 ZOX-DG-DR	.08	57	5.2179E-11	4.4000E-04	
63 PMA0301ASA	.07	218	4.5109E-11	1.1600E-03	
64 PMA0301BSA	.07	218	4.5109E-11	1.1600E-03	
65 IRWMOD06S	.06	495	4.2876E-11	3.2200E-03	

66	PXX-AV-LA	.06	57	4.1919E-11	6.1000E-05
67	IDBBSDU1TM	.06	175	4.1807E-11	3.0000E-04
68	IDBBSDK1TM	.06	175	4.1807E-11	3.0000E-04
69	IDBBSDS1TM	.06	175	4.1807E-11	3.0000E-04
70	CCX-PMA030X	.06	130	3.9816E-11	3.3800E-05
71	CCBMOD01S	.05	91	3.6277E-11	3.0400E-02
72	ED1MOD01	.05	23	3.6115E-11	5.0400E-04
73	IWA-PLUG	.05	182	3.5711E-11	2.4000E-04
74	ZOX-DG-DS	.05	50	3.3007E-11	2.8000E-04
75	PNDEP023SA	.05	322	3.2416E-11	1.7100E-04
76	CCX-PMAMOD1-SW	.05	128	3.1888E-11	1.1000E-05
77	SWAMOD07	.05	42	3.0960E-11	7.1200E-03
78	IDAMOD05	.05	354	3.0503E-11	5.1600E-04
79	ED1MOD11	.04	55	2.9203E-11	3.1700E-04
80	ED1MOD113	.04	55	2.9203E-11	3.1700E-04
81	CCX-PMDMOD1	.04	298	2.6501E-11	1.4100E-04
82	CCAMOD02	.04	40	2.3845E-11	7.1000E-03
83	CCX-PL4MOD1	.03	17	2.2589E-11	1.4100E-04
84	ED1MOD13	.03	17	2.2584E-11	3.1700E-04
85	IWACV127AO	.03	178	2.2481E-11	8.7600E-03
86	IWACV123AO	.03	178	2.2481E-11	8.7600E-03
87	IWACV124AO	.03	178	2.2481E-11	8.7600E-03
88	IWACV125AO	.03	178	2.2481E-11	8.7600E-03
89	ED1MOD07	.03	17	2.1746E-11	3.0500E-04
90	IW1OR170SPX	.03	34	2.1416E-11	9.4600E-05
91	IW2OR160SPX	.03	34	2.1416E-11	9.4600E-05
92	IDAMOD04	.03	340	1.8935E-11	3.1700E-04
93	EC1B7D01TM	.03	442	1.8675E-11	2.7000E-03
94	EC1BS012TM	.03	442	1.8675E-11	2.7000E-03
95	EC1BS121TM	.03	442	1.8675E-11	2.7000E-03
96	EC1REDG2GA	.03	57	1.8369E-11	4.3600E-03
97	ED3MOD07	.03	26	1.7942E-11	3.0500E-04
98	PMAMOD11X	.03	369	1.7906E-11	6.5300E-04
99	CCX-PMD030	.03	211	1.7752E-11	9.6900E-05
100	ED2MOD03	.03	68	1.7575E-11	2.7000E-03
101	ET1REDG1GA	.03	39	1.7304E-11	4.3600E-03
102	IDABSDS1TM	.02	455	1.6777E-11	3.0000E-04
103	CCX-PL403	.02	14	1.5467E-11	9.6900E-05
104	IW1TL170UFX	.02	33	1.5467E-11	6.8400E-05
105	IW2TL160UFX	.02	33	1.5467E-11	6.8400E-05
106	ZOX-PD-ER	.02	32	1.5018E-11	1.3000E-04
107	EC5EPMB1SA	.02	9	1.2052E-11	1.7100E-04
108	ZO1MOD04	.02	82	1.1128E-11	1.2500E-03
109	ED3MOD03	.02	35	1.0606E-11	2.2020E-03
110	CCX-PL1MOD1	.01	9	9.9292E-12	1.4100E-04
111	CCX-PL7MOD1	.01	9	9.9292E-12	1.4100E-04
112	ZO1DG001TM	.01	95	9.5843E-12	4.6000E-02
113	CCX-PMDMOD4	.01	154	8.7220E-12	4.9800E-05
114	ZO3DG002TM	.01	42	8.5206E-12	4.6000E-02
115	CCX-EP-SAMX	.01	87	8.4646E-12	2.9400E-06
116	RNX-CV-GO	.01	12	8.0952E-12	5.1000E-05
117	IRAEPI21ASAX	.01	63	7.9408E-12	5.8300E-05
118	CCX-PMAMOD2X	.01	22	7.8346E-12	8.5800E-05
119	ZO2MOD04	.01	44	7.4855E-12	1.2500E-03
120	CCX-PMAMOD1	.01	87	7.3481E-12	1.4100E-04
121	CCX-BY-PN1	.01	17	7.1746E-12	5.7000E-05
122	ALL-IND-FAIL	.01	28	7.0577E-12	1.0000E-06
123	PL4MOD11	.01	43	6.9238E-12	2.0900E-03
124	CCX-PL103	.01	7	6.7856E-12	9.6900E-05
125	CCX-PL703	.01	7	6.7856E-12	9.6900E-05
126	ZOX-BL-ES	.01	16	6.6507E-12	6.0000E-05
127	PL1MOD11	.01	36	6.2080E-12	2.0900E-03
128	PL7MOD11	.01	36	6.2080E-12	2.0900E-03
129	PL5XSD00ASA	.01	7	5.5964E-12	8.0000E-05
130	SWBMOD09P	.01	31	5.2220E-12	1.8500E-03
131	AD2MOD01	.01	21	5.0246E-12	5.5400E-02
132	AD2MOD02	.01	21	5.0246E-12	5.5400E-02
133	AD3MOD03	.01	21	5.0246E-12	5.5400E-02
134	AD3MOD04	.01	21	5.0246E-12	5.5400E-02
135	CCX-IV-XR	.01	132	4.9268E-12	9.4000E-05
136	SWAMOD09P	.01	22	4.8958E-12	1.8500E-03
137	CCX-PMA030	.01	59	4.4547E-12	9.6900E-05
138	PMA0301ASAX	.01	176	4.3607E-12	1.6500E-04
139	PMA0301BSAX	.01	157	4.2589E-12	1.6500E-04
140	PMDMOD11	.01	235	3.9228E-12	6.0900E-03
141	IDCBSDD1TM	.01	176	3.8508E-12	3.0000E-04
142	IDCBSDK1TM	.01	176	3.8508E-12	3.0000E-04
143	IDCBSDS1TM	.01	176	3.8508E-12	3.0000E-04
144	EC2BS002TM	.01	214	3.8129E-12	6.7000E-03
145	EC2BS022TM	.01	214	3.8129E-12	6.7000E-03
146	EC2BS221TM	.01	214	3.8129E-12	6.7000E-03

147	PL40301ASA	.01	29	3.4711E-12	1.1600E-03
148	IWBCV122AO	.00	184	3.3498E-12	8.7600E-03
149	IWBCV123AO	.00	184	3.3498E-12	8.7600E-03
150	IWBCV124AO	.00	184	3.3498E-12	8.7600E-03
151	IWBCV125AO	.00	184	3.3498E-12	8.7600E-03
152	PL40301BSA	.00	26	3.3269E-12	1.1600E-03
153	PL10301ASA	.00	25	3.1964E-12	1.1600E-03
154	PL70301ASA	.00	25	3.1964E-12	1.1600E-03
155	PL10301BSA	.00	24	3.1505E-12	1.1600E-03
156	PL70301BSA	.00	24	3.1505E-12	1.1600E-03
157	RHN-MAN03	.00	36	3.6301E-12	6.2600E-03
158	PMAMOD12X	.00	123	2.5440E-12	6.5300E-04
159	RNX-PM-ER	.00	10	2.5037E-12	1.8000E-05
160	CCX-INPUT-LOGICK	.00	12	2.3078E-12	4.5900E-05
161	PMAXS00ASAX	.00	158	2.3072E-12	8.0000E-05
162	CCX-PM-ER	.00	10	2.1920E-12	1.4000E-05
163	SWX-PM-ER	.00	10	2.1920E-12	1.4000E-05
164	PMAXS00ASA	.00	28	2.9751E-12	8.0000E-05
165	ED2MOD11	.00	20	1.9380E-12	3.1700E-04
166	IDDFD01RQ	.00	69	1.8874E-12	1.2000E-05
167	IDDFD02RQ	.00	69	1.8874E-12	1.2000E-05
168	PMD0301ARA	.00	157	1.8222E-12	1.1600E-03
169	CCX-PMDMOD1-SW	.00	67	1.7268E-12	1.1000E-05
170	CCX-PMDMOD4-SW	.00	67	1.7268E-12	1.1000E-05
171	CCX-PL4MOD1-SW	.00	8	1.6713E-12	1.1000E-05
172	CCX-IV-XR1	.00	6	1.6703E-12	2.4000E-05
173	PMD0301BSA	.00	138	1.6428E-12	1.1600E-03
174	IWNTRK001AF	.00	5	1.6314E-12	2.4000E-06
175	IDBFD013RQ	.00	20	1.6126E-12	1.2000E-05
176	IDBFD014RQ	.00	20	1.6126E-12	1.2000E-05
177	ED3MOD01	.00	10	1.4952E-12	5.0400E-04
178	PMDMOD12	.00	97	1.3879E-12	2.0900E-03
179	CCX-LS-FA	.00	32	1.3245E-12	5.3700E-06
180	CCX-EP-SA	.00	8	1.3112E-12	8.6200E-06
181	PL4MOD12	.00	16	1.2965E-12	8.0900E-03
182	CCX-PMAMOD4	.00	41	1.2481E-12	4.9800E-05
183	IDAMOD08	.00	96	1.2181E-12	3.1700E-04
184	EC1MOD01	.00	16	1.1972E-12	2.0200E-04
185	PRAAV108LA	.00	11	1.1753E-12	1.0900E-03
186	PRBAV108LA	.00	11	1.1753E-12	1.0900E-03
187	CCX-IN-LOGIC-SW	.00	8	9.7844E-13	1.1000E-05
188	CCX-PMAMOD2-SW	.00	8	9.7844E-13	1.1000E-05
189	EC2MOD01	.00	14	9.1360E-13	8.0200E-04
190	PMAMOD21X	.00	14	8.0658E-13	1.1600E-03
191	PMDMOD41	.00	74	7.3741E-13	6.3500E-04
192	DAS	.00	4	7.3730E-13	1.0000E-02
193	CCX-PL1MOD1-SW	.00	4	7.2198E-13	1.1000E-05
194	CCX-PL7MOD1-SW	.00	4	7.2198E-13	1.1000E-05
195	IDDBSDD1LF	.00	37	7.0766E-13	4.8000E-06
196	IDDBSDK1LF	.00	37	7.0766E-13	4.8000E-06
197	IDDBSDS1LF	.00	37	7.0766E-13	4.8000E-06
198	IRAEF121BSAX	.00	66	6.9378E-13	5.8300E-05
199	RNAEPRNPSA	.00	9	6.5004E-13	1.7100E-04
200	RNBEPRNPSA	.00	9	6.5004E-13	1.7100E-04
201	ZON-MAN01	.00	7	6.4182E-13	2.6700E-03
202	IDBBSSDD1LF	.00	15	6.3971E-13	4.8000E-06
203	IDBBSDK1LF	.00	15	6.3971E-13	4.8000E-06
204	IDBBSDS1LF	.00	15	6.3971E-13	4.8000E-06
205	CCX-AV-LA	.00	5	6.2306E-13	6.1000E-05
206	CCX-PMDEHO	.00	35	5.9175E-13	4.0300E-06
207	ADX-MV-GO	.00	4	5.8975E-13	1.1000E-03
208	SW7EPBEPASA	.00	5	5.8509E-13	5.2300E-03
209	SWB-MAN02	.00	4	5.4923E-13	1.6000E-03
210	PMD0307ASA	.00	51	5.4645E-13	1.1600E-03
211	PMA0302ASAX	.00	59	5.4567E-13	1.6500E-04
212	SW7EPBEPASA	.00	7	5.4545E-13	1.7100E-04
213	PRAAV108TM	.00	9	5.3768E-13	5.0000E-04
214	PRBAV108TM	.00	9	5.3768E-13	5.0000E-04
215	IDDMOD33	.00	51	5.3380E-13	5.1600E-04
216	CMX-VS-FA	.00	7	5.2969E-13	3.8400E-05
217	CMX-CV-GO	.00	4	5.2014E-13	5.1000E-05
218	CCB-MAN01	.00	6	5.1936E-13	1.0700E-03
219	PL1MOD12	.00	7	5.1936E-13	2.0900E-03
220	PL7MOD12	.00	7	5.1936E-13	2.0900E-03
221	IDDMOD32	.00	64	5.1326E-13	3.1700E-04
222	RC1OR195SP	.00	4	4.5386E-13	7.2200E-03
223	PL40302ASA	.00	7	4.4875E-13	1.1600E-03
224	PMA0302BSAX	.00	40	4.4387E-13	1.6500E-04
225	CCNTF101RI	.00	5	4.0257E-13	5.2300E-03
226	Z01MOD03	.00	8	3.9424E-13	1.0000E-04
227	DG2-LOGIC	.00	1	3.9402E-13	5.0000E-03

228	CC1EPSBPASA	.00	6	3.8758E-13	1.7100E-04
229	PMD0302BSA	.00	32	3.6704E-13	1.1600E-03
230	SW7EPSBPBSA	.00	5	3.3518E-13	1.7100E-04
231	CC1EPSBPBSA	.00	5	3.3507E-13	1.7100E-04
232	RC1TL195UF	.00	3	3.2829E-13	5.2300E-03
233	EC1MOD12	.00	66	3.0986E-13	4.8000E-05
234	PL40302BSA	.00	4	3.0453E-13	1.1600E-03
235	SW7EPCTFASA	.00	4	2.9354E-13	1.7100E-04
236	SW7EPCTFBSA	.00	4	2.9354E-13	1.7100E-04
237	ED1BSDS1LF	.00	3	2.8921E-13	4.8000E-06
238	CCX-PMAMOD4-BW	.00	32	2.5979E-13	1.1000E-05
239	ED3BSDS1TM	.00	4	2.3204E-13	3.0000E-04
240	ZO2I0D03	.00	5	2.2971E-13	1.0000E-04
241	IDAMOD06	.00	48	2.2782E-13	4.3200E-05
242	CCX-BC-SA	.00	5	2.2194E-13	8.4000E-06
243	IDDMOD38	.00	34	2.0051E-13	3.1700E-04
244	IDAMOD02	.00	31	1.7752E-13	2.7000E-03
245	IDAMOD03	.00	31	1.7752E-13	2.7000E-03
246	PL10302ASA	.00	3	3.7408E-13	1.1600E-03
247	PL70302ASA	.00	3	3.7408E-13	1.1600E-03
248	PRN-MAN01	.00	4	3.5932E-13	4.0800E-04
249	CCX-XMTR	.00	33	3.3800E-13	2.0100E-04
250	PMAMOD41	.00	34	3.1256E-13	6.3500E-04
251	CCX-HE-AF	.00	3	3.2856E-13	1.2000E-06
252	PL10302BSA	.00	3	3.2812E-13	1.1600E-03
253	PL70302BSA	.00	32	3.2812E-13	1.1600E-03
254	PMDX00ASA	.00	32	3.2368E-13	8.0000E-05
255	PL1MOD51	.00	2	3.2335E-13	8.7400E-04
256	PL1X00ASA	.00	3	3.1890E-13	8.0000E-05
257	PL4X00ASA	.00	3	3.1890E-13	8.0000E-05
258	PL7X00ASA	.00	3	3.1890E-13	8.0000E-05
259	IDCFD007RQ	.00	18	3.1757E-13	1.2000E-05
260	IDCFD008RQ	.00	18	3.1757E-13	1.2000E-05
261	PMDEH0A1SA	.00	28	1.0625E-13	8.0000E-05
262	PMAMOD22X	.00	2	9.9809E-14	1.1600E-03
263	EC2MOD22	.00	17	9.5368E-14	4.8000E-05
264	CCX-PMAEH0X	.00	11	9.4591E-14	4.0300E-06
265	IDABSDS1LF	.00	24	9.3592E-14	4.8000E-06
266	PLMMOD41	.00	20	9.0594E-14	6.3500E-04
267	PRX-HR-ML	.00	4	8.1157E-14	1.2000E-07
268	EC1MOD121	.00	24	7.3386E-14	1.6800E-05
269	CCX-TRNSM	.00	2	7.1720E-14	2.0100E-04
270	PMDMOD42	.00	12	6.8279E-14	6.3500E-04
271	EC1MOD13	.00	29	6.7835E-14	4.8000E-05
272	EC2MOD23	.00	29	6.7835E-14	4.8000E-05
273	ZOX-BL-ER	.00	3	6.6518E-14	1.3600E-06
274	ED2MOD01	.00	1	5.5963E-14	5.0400E-04
275	ZOX-FL-GP	.00	3	4.4409E-14	1.3000E-06
276	IDCB8DD1LF	.00	12	4.1966E-14	4.8000E-06
277	IDCB8DK1LF	.00	12	4.1966E-14	4.8000E-06
278	IDCBSDS1LF	.00	12	4.1966E-14	4.8000E-06
279	IDAMOD07	.00	15	3.7303E-14	2.1900E-02
280	IDDMOD21	.00	6	3.6970E-14	1.9200E-04
281	PMDEH0A2SA	.00	10	3.4972E-14	8.0000E-05
282	DG1-LOGIC	.00	1	2.9976E-14	5.0000E-03
283	IDABSDD1TM	.00	3	2.4980E-14	3.0000E-04
284	IDABSDK1TM	.00	3	2.4980E-14	3.0000E-04
285	IDDMOD34	.00	10	2.1982E-14	4.3200E-05
286	ZANMOD01	.00	8	1.3989E-14	8.4000E-05
287	EC1BS001LF	.00	7	1.2768E-14	4.8000E-06
288	PMAEH0A1SAX	.00	6	1.0325E-14	8.0000E-05
289	PMAMOD42	.00	4	9.6589E-15	6.3500E-04
290	IWX-XMTR1W	.00	2	5.7732E-15	9.2000E-09
291	IDDMOD35	.00	4	5.2180E-15	2.1900E-02
292	EC2MOD221	.00	3	4.6629E-15	1.6800E-05
293	IDDMOD22	.00	3	3.6637E-15	2.7000E-03
294	IDDMOD23	.00	3	3.6637E-15	2.7000E-03
295	PRCEP10BSA	.00	1	9.9920E-16	1.7100E-04
296	PRDEP10BSA	.00	1	9.9920E-16	1.7100E-04

SYSTEM UNAVAILABILITY (Q) = 6.743E-08
 NUMBER OF BASIC EVENTS = 296
 NUMBER OF CUTSETS = 7329

BASIC EVENT	IMPORTANCE (% INCREASE)	NUMBER OF CUTSETS	INCREASE IN SYSTEM UNAVAILABILITY	BASIC EVENT PROBABILITY
1 CCX-SPTW	3.3678E5E+06	26	2.2709E-03	1.200E-06
2 IEV-RCSOD	1.036687E+06	525	6.9903E-04	4.4400E-06
3 IWX-PL-GP	823458.	168	5.5390E-04	1.200E-05
4 CCX-DRY-SPX	796002.	112	5.3674E-04	3.6300E-06
5 IWX-MV-GO1	795392.	266	5.3632E-04	5.5000E-05
6 ADX-EV-SA	795256.	290	5.3623E-04	3.0000E-05
7 CCX-XMTRX	792289.	97	5.3423E-04	2.6300E-06
8 IEV-LOCA24ND	242688.	321	1.6364E-04	1.6800E-05
9 CCX-EP-SAM	175595.	225	1.1840E-04	8.6200E-06
10 IEV-COWD	159487.	2382	1.0754E-04	4.2300E-04
11 IEV-LOCA24D	159431.	486	1.0750E-04	1.1100E-05
12 IEV-RNSD	159208.	1147	1.0755E-04	8.1500E-05
13 IWX-CV-AO	30933.3	395	2.0858E-05	1.5000E-04
14 IEV-LOCAPRND	13974.1	59	9.4226E-06	1.5100E-05
15 ALL-IND-FAIL	10466.8	28	7.0577E-06	1.0000E-06
16 CCX-BY-PN	6252.93	249	6.2163E-06	4.7000E-05
17 CCX-PMAMOD1-SW	4299.18	128	2.8989E-06	1.1000E-05
18 CCX-PMAMOD1X	4289.34	195	2.8923E-06	4.6300E-05
19 CCX-PMA030X	4278.85	130	2.8852E-06	1.3800E-05
20 CCX-EP-SAMX	4269.82	87	2.8791E-06	2.9400E-06
21 TWB-PLUG	4043.03	443	2.7262E-06	2.4000E-04
22 IEV-LOSPD	3940.20	2454	2.6568E-06	1.4800E-03
23 CCX-INPUT-LOGIC	2406.63	29	1.6228E-06	1.0300E-04
24 CCX-XMTR195	2209.83	16	1.4901E-06	2.0100E-04
25 CCX-DRY-SP	2207.93	18	1.4888E-06	2.7700E-04
26 LPM-MAN05	1869.94	37	1.2609E-06	6.8300E-04
27 PXX-AV-LA	1019.08	57	6.8736E-07	6.1000E-05
28 IWN-MAN00	1012.10	189	6.8245E-07	1.1500E-03
29 IWNTK001AF	1008.07	5	6.7973E-07	2.4000E-06
30 PRX-HR-ML	1003.00	4	5.7631E-07	1.2000E-07
31 IWX-XMTRLW	930.634	2	6.2752E-07	9.2000E-09
32 IEV-RNSD	638.872	46	4.3079E-07	9.6100E-04
33 IEV-CWND	637.426	69	4.2981E-07	3.2100E-03
34 CCX-LS-FA	365.786	32	2.4665E-07	5.3700E-06
35 IW1OR170SPX	335.704	34	4.2636E-07	9.4600E-05
36 IW2OR160SPX	335.704	34	2.2636E-07	9.4600E-05
37 IW1TL170UFX	335.320	33	2.2610E-07	6.8400E-05
38 IW2TL160UFX	335.320	33	2.2610E-07	6.8400E-05
39 CCX-IV-XR	304.439	132	2.0528E-07	2.4000E-05
40 RN23MOD5S	300.658	971	2.0273E-07	2.2100E-03
41 IDDBSDD1TM	287.473	404	1.9384E-07	3.0000E-04
42 IDDBSDK1TM	287.473	404	1.9384E-07	3.0000E-04
43 IDDBSDE1TM	287.473	404	1.9384E-07	3.0000E-04
44 RNDEP023SA	281.086	322	1.8953E-07	1.7100E-04
45 CCX-PMDMOD1	278.699	298	1.8792E-07	1.4100E-04
46 RHN-MAN05	274.734	837	1.8525E-07	1.6000E-03
47 CCX-PMD030	271.673	211	1.8319E-07	9.6900E-05
48 CCX-PMDMOD4	259.728	154	1.7513E-07	4.9800E-05
49 RNX-PM-FS	242.753	50	1.6369E-07	7.7000E-04
50 RNX-KV-GO	242.539	44	1.6354E-07	6.1000E-04
51 CCX-PL4MOD1	237.554	17	1.6018E-07	1.4100E-04
52 CCX-PL403	236.690	14	1.5960E-07	9.6900E-05
53 RNX-CV-GO	235.390	12	1.5872E-07	5.1000E-05
54 IDDFD019RQ	233.252	69	1.5728E-07	1.2000E-05
55 IDDFD020RQ	233.252	69	1.5728E-07	1.2000E-05
56 CCX-PMDMOD1-SW	232.813	67	1.5698E-07	1.1000E-05
57 CCX-PMDMOD4-SW	232.813	67	1.5698E-07	1.1000E-05
58 CCX-PM-ER	232.201	10	1.5657E-07	1.4000E-05
59 SWX-PM-ER	232.201	10	1.5657E-07	1.4000E-05
60 RNX-PM-ER	232.061	10	1.5648E-07	1.6000E-05
61 CCX-EP-sA	225.581	8	1.5211E-07	8.6200E-06
62 CCX-PL4MOD1-SW	225.329	8	1.5194E-07	1.1000E-05
63 IWA-PLUG	220.617	182	1.4876E-07	2.4000E-04
64 IDDBSDD1LF	218.642	37	1.4743E-07	4.8000E-06
65 IDDBSDK1LF	218.641	37	1.4743E-07	4.8000E-06
66 IDDBSDS1LF	218.641	37	1.4743E-07	4.8000E-06
67 CCX-PMDEH0	217.763	35	1.4684E-07	4.0300E-06
68 IRWMOD05S	208.159	498	1.4036E-07	3.2200E-03
69 IDDBSDD1TM	206.608	175	1.3931E-07	3.0000E-04
70 IDDBSDK1TM	206.608	175	1.3931E-07	3.0000E-04
71 IDDBSDS1TM	206.608	175	1.3931E-07	3.0000E-04
72 IRAEP121ASAX	201.986	63	1.3620E-07	5.8300E-05

73	IDBF013RQ	199.294	30	1.3438E-07	1.2000E-05
74	IDBF014RQ	199.294	20	1.3438E-07	1.2000E-05
75	IDBBSD1LF	197.648	15	1.3327E-07	4.8000E-06
76	IDBBEDK1LF	197.648	15	1.3327E-07	4.8000E-06
77	IDBBEDS1LF	197.648	15	1.3327E-07	4.8000E-06
78	CCX-ZY-PN1	186.660	17	1.2586E-07	5.7000E-05
79	ADN-MAN01	180.684	58	1.2183E-07	4.9300E-04
80	ZOX-PD-ES	178.169	114	1.2014E-07	2.0000E-03
81	ECX-CB-GO	177.721	92	1.1984E-07	1.2000E-03
82	ECX-CB-GC	177.005	74	1.1935E-07	7.3000E-04
83	ZOX-DG-DR	175.793	57	1.1854E-07	4.4000E-04
84	ZOX-DG-DS	174.776	50	1.1785E-07	2.8000E-04
85	ZOX-PD-ER	171.303	32	1.1551E-07	1.3000E-04
86	ED1MOD03	170.618	133	1.1505E-07	2.2020E-03
87	ZOX-BL-ES	164.377	16	1.1084E-07	6.0000E-05
88	CCX-HE-AP	158.888	3	1.0714E-07	1.2000E-06
89	ED1MOD11	136.580	55	9.2095E-08	3.1700E-04
90	ED1MOD13	136.580	55	9.2095E-08	3.1700E-04
91	CCX-PMAMOD2X	135.409	82	9.1305E-08	8.5800E-05
92	CCX-INPUT-LOGICK	132.143	32	8.9103E-08	2.5900E-05
93	CCX-IN-LOGIC-SW	131.914	8	8.8948E-08	1.1000E-05
94	CCX-PMAMOD2-SW	131.914	8	8.8948E-08	1.1000E-05
95	PL5MOD11	108.399	74	7.3092E-08	2.0900E-03
96	PL50301ASA	107.793	47	7.2684E-08	1.1600E-03
97	PL50301BSA	107.793	47	7.2684E-08	1.1600E-03
98	ED1MOD01	106.215	23	7.1620E-08	5.0400E-04
99	ED1MOD07	105.709	17	7.1278E-08	3.0500E-04
100	ED1MOD13	105.621	17	7.1219E-08	3.1700E-04
101	EC5EPMB1SA	104.509	9	7.0470E-08	1.7100E-04
102	CCX-PL1MOD1	104.421	9	7.0410E-08	1.4100E-04
103	CCX-PL7MOD1	104.421	9	7.0410E-08	1.4100E-04
104	CCX-PL103	103.842	7	7.0020E-08	9.6900E-05
105	CCX-PL703	103.842	7	7.0020E-08	9.6900E-05
106	PL5X800ASA	103.738	7	6.9950E-08	8.0000E-05
107	CCX-TV-XR1	103.213	6	6.9595E-08	2.4000E-05
108	CCX-PL1MOD1-SW	97.3374	4	6.5634E-08	1.1000E-05
109	CCX-PL7MOD1-SW	97.3374	4	6.5634E-08	1.1000E-05
110	ED1BSDS1LF	89.3568	3	6.0252E-08	4.8000E-06
111	IDAMOD04	88.5561	340	5.9712E-08	3.1700E-04
112	IDAMOD05	87.6226	354	5.9083E-08	5.1600E-04
113	ED3MOD07	87.2167	26	5.8809E-08	3.0500E-04
114	MDAS	84.6545	79	5.7082E-08	1.0000E-02
115	IDABSDS1TM	82.9184	255	5.5911E-08	3.0000E-04
116	REC-MANDAS	81.8918	36	5.5219E-08	1.1600E-02
117	CCX-PMAMOD1	77.2268	87	5.2107E-08	1.4100E-04
118	CCX-PMAD30	68.1713	59	4.5967E-08	9.6900E-05
119	PMAMOL11	59.4929	296	4.0115E-08	2.0900E-03
120	PMA0301ASA	57.6041	218	3.8842E-08	1.1600E-03
121	PMA0301BSA	57.6041	218	3.8842E-08	1.1600E-03
122	IWN-MAN00C	52.9083	23	3.5676E-08	5.0000E-02
123	RHN-MAN04	51.9784	125	3.5049E-08	5.5000E-02
124	ZOX-BL-ER	50.7269	1	3.4205E-08	1.3600E-06
125	ZOX-FL-OP	50.6617	1	3.4161E-08	1.3000E-06
126	PMAX500ASAX	42.7666	158	2.8837E-08	8.0000E-05
127	PMAMOD11X	40.6391	369	2.7403E-08	6.5300E-04
128	IEV-LOSPND	40.4861	40	2.7299E-08	8.1300E-03
129	PMA0301ASAX	39.1884	176	2.6424E-08	1.6500E-04
130	PMA0301BSAX	38.2735	157	2.5807E-08	1.6500E-04
131	CCX-BC-SA	37.4185	5	2.5231E-08	8.4000E-06
132	CCX-PMAMOD4	37.1669	61	2.5061E-08	4.9800E-05
133	PMAX500ASA	36.6113	28	2.4687E-08	8.0000E-05
134	CCX-PMAMOD4-SW	35.0253	12	2.3617E-08	1.1000E-05
135	CCX-PMAEHDX	34.8094	11	2.3472E-08	4.0300E-06
136	IDABSDS1LF	28.9166	24	1.9498E-08	4.8000E-06
137	RHN-MAN05C	21.8132	27	1.4708E-08	1.5000E-01
138	CMX-VB-FA	20.4562	7	1.3793E-08	3.8400E-05
139	IRWMOD06S	19.6839	495	1.3273E-08	3.2200E-03
140	IDCBSD1TM	19.0306	176	1.2832E-08	3.0000E-04
141	IDCBSDK1TM	19.0306	176	1.2832E-08	3.0000E-04
142	IDCBSDS1TM	19.0306	176	1.2832E-08	3.0000E-04
143	IRAEPI21BSAX	17.6474	66	1.1899E-08	5.8300E-05
144	ZO1MOD01	15.8320	524	1.0675E-08	2.0200E-02
145	EC1CB100VO	15.6057	380	1.0523E-08	1.2300E-02
146	CCX-AV-LA	15.1469	5	1.0213E-08	6.1000E-05
147	CMX-CV-GO	15.1245	4	1.0198E-08	5.1000E-05
148	IDCPL007RQ	14.5302	18	9.7976E-09	1.2000E-05
149	IDCFD008RQ	14.5302	18	9.7976E-09	1.2000E-05
150	ZO1MOD04	13.1866	82	8.8916E-09	1.2500E-03
151	IDCBSD1LF	12.9662	12	8.7430E-09	4.8000E-06
152	IDCBSDK1LF	12.9662	12	8.7430E-09	4.8000E-06
153	IDCBSDS1LF	12.9662	12	8.7430E-09	4.8000E-06

154	EC1BB001TM	10.2299	442	6.8979E-09	2.7000E-
155	EC1BS012TM	10.2299	442	5.8979E-09	2.7000E-03
156	EC1BS121TM	10.2299	442	5.8979E-09	2.7000E-03
157	ZO2MOD01	9.75563	187	6.5781E-09	2.0200E-02
158	EC2CB200VO	9.71959	144	6.5538E-09	2.2300E-02
159	ED2MOD03	9.62753	68	6.4917E-09	2.7000E-03
160	EC1MOD12	9.57329	66	6.4552E-09	4.8000E-05
161	ED2MOD11	9.06382	20	6.1116E-09	3.2700E-04
162	ZO2MOD04	8.86989	44	5.9809E-09	1.8500E-03
163	EC1MOD01	8.78747	16	5.9253E-09	2.0200E-04
164	RNBMOD07S	8.62425	146	5.8152E-09	1.5300E-02
165	RNAMOD06S	8.06547	90	5.4385E-09	1.5300E-02
166	IDAMOD06	7.82057	48	5.2733E-09	4.3200E-05
167	ED3MOD03	7.12733	35	4.8059E-09	2.2020E-03
168	EC2MOD01	6.70612	14	4.5219E-09	2.0200E-04
169	EC1MOD121	6.47811	24	4.3681E-09	1.6800E-05
170	SWAMOD07	6.40291	42	4.3174E-09	7.1200E-03
171	EC1REDG2GA	6.22106	57	4.1948E-09	4.3600E-03
172	EC1REDG1GA	5.86026	39	3.9515E-09	4.3600E-03
173	ZO1MOD03	5.84616	8	3.9420E-09	1.0000E-04
174	PMAMOD12X	5.77388	123	3.8933E-09	6.5300E-04
175	IDAMOD08	5.69708	96	3.8415E-09	3.1700E-04
176	RNAEPRNPSA	5.63664	9	3.8007E-09	1.7100E-04
177	RNBEPRNPSA	5.63664	9	3.8007E-09	1.7100E-04
178	OTH-R1	5.58075	2296	3.7630E-09	4.2000E-01
179	SWBMOD02	5.21055	150	3.5134E-09	2.4400E-02
180	CCBMOD01S	5.11933	91	3.4519E-09	1.0400E-02
181	CCAMOD02	4.94543	40	3.3347E-09	7.1000E-03
182	PMA0302ASAX	4.90378	59	3.3066E-09	1.6500E-04
183	PL4MOD11	4.90278	43	3.3059E-09	2.0900E-03
184	SW7EPSPBASA	4.72977	7	3.1892E-09	1.7100E-04
185	PL40301ASA	4.43261	29	2.9889E-09	1.1600E-03
186	ED3MOD01	4.39761	10	2.9653E-09	5.0400E-04
187	PL1MOD11	4.39595	36	2.9641E-09	2.0900E-03
188	PL7MOD11	4.39595	36	2.9641E-09	2.0900E-03
189	PL40301BSA	4.24845	26	2.8647E-09	1.1600E-03
190	SWBMOD09P	4.17848	31	2.8175E-09	1.8500E-03
191	PL10301ASA	4.08186	25	2.7524E-09	1.1600E-03
192	PLT70301ASA	4.08186	25	2.7524E-09	1.1600E-03
193	PL10301BSA	4.02317	24	2.7128E-09	1.1600E-03
194	PLT70301BSA	4.02317	24	2.7128E-09	1.1600E-03
195	PMA0302BSAX	3.988.8	40	2.6897E-09	1.6500E-04
196	EC1BB001LF	3.94474	7	2.6599E-09	4.8000E-06
197	SWAMOD09P	3.91739	22	2.6415E-09	1.8500E-03
198	IWACV122AO	3.77265	178	2.5439E-09	8.7600E-03
199	IWACV123AO	3.77265	178	2.5439E-09	8.7600E-03
200	IWACV124AO	3.77265	178	2.5439E-09	8.7600E-03
201	IWACV125AO	3.77265	178	2.5439E-09	8.7600E-03
202	ZO2MOD03	3.40628	5	2.2968E-09	1.0000E-04
203	CC1EPSPBASA	3.36080	6	2.2662E-09	1.7100E-04
204	EC2MOD22	2.94642	17	1.9867E-09	4.8000E-05
205	SW7EPFBPBASA	2.90641	5	1.9598E-09	1.7100E-04
206	CC1EPSPBPBSA	2.90544	5	1.9591E-09	1.7100E-04
207	PMDMOD11	2.77772	235	1.8730E-09	2.0900E-03
208	SW7EPCTFASA	2.54539	4	1.7163E-09	1.7100E-04
209	SW7EPCTFBASA	2.54539	4	1.7163E-09	1.7100E-04
210	IDDMOD32	2.40044	64	1.6186E-09	3.1700E-04
211	PMD0301ASA	2.32696	157	1.5690E-09	1.1600E-03
212	PMDX500ASA	2.29258	32	1.5459E-09	8.0000E-05
213	PL1X500ASA	2.20408	3	1.4862E-09	8.0000E-05
214	PL4X500ASA	2.20408	3	1.4862E-09	8.0000E-05
215	PL7X500ASA	2.20408	3	1.4862E-09	8.0000E-05
216	PMD0301BSA	2.09785	138	1.4146E-09	1.1600E-03
217	EC1MOD13	2.09577	2	1.4132E-09	4.8000E-05
218	EC2MOD23	2.09577	2	1.4132E-09	4.8000E-05
219	EC2BS002TM	2.08870	214	1.4054E-09	2.7000E-03
220	EC2BS022TM	2.08870	214	1.4084E-09	2.7000E-03
221	EC2BS221TM	2.08870	214	1.4084E-09	2.7000E-03
222	PMDEHOA1SA	1.96948	28	1.3280E-09	8.0000E-05
223	RHN-MAN03	1.72202	36	1.1611E-09	2.2600E-03
224	PMDMOD41	1.72113	74	1.1605E-09	6.3500E-04
225	PRAAV108LA	1.59733	11	1.0771E-09	1.0900E-03
226	PRBAV108LA	1.59733	11	1.0771E-09	1.0900E-03
227	PRAAV108TN	1.59401	9	1.0748E-09	5.0000E-04
228	PRBAV108TM	1.59401	9	1.0748E-09	5.0000E-04
229	IDDMOD33	1.53340	51	1.0340E-09	6.1600E-04
230	REC-MANDASC	1.30879	46	8.8250E-10	5.0600E-01
231	SUC-R1S	1.30266	158	8.7837E-10	6.8000E-01
232	ED3BSDS1TM	1.14672	1	7.7322E-10	3.0000E-04
233	PMAMOD21X	1.03000	14	6.9452E-10	1.1600E-03
234	CCX-XMTR	1.01801	3	6.8643E-10	2.0100E-04

235	PMDMOD12	.982773	97	6.6267E-10	2.0900E-03
236	IDDMOD34	.937744	34	6.3231E-10	3.1700E-04
237	PL4MOD12	.938072	16	6.1905E-10	2.0900E-03
238	ADY-MV-GO	.794238	4	5.3555E-10	1.1000E-03
239	IDDMOD34	.754616	10	5.0863E-10	4.3200E-05
240	CCB-MAN01	.719076	6	4.8487E-10	1.0700E-03
241	PMD0302ASA	.697819	51	4.7053E-10	1.1600E-03
242	PMDEH0A2SA	.647760	10	4.3712E-10	8.0000E-05
243	PRN-MAN01	.578666	4	3.9032E-10	4.0800E-04
244	PL40302ASA	.573057	7	3.8841E-10	1.1600E-03
245	IWBCV121AO	.562137	184	3.7904E-10	8.7600E-03
246	IWBCV123AO	.562137	184	3.7904E-10	8.7600E-03
247	IWBCV124AO	.562137	184	3.7904E-10	8.7600E-03
248	IWBCV125AO	.562137	184	3.7904E-10	8.7600E-03
249	CCX-TRNSM	.529069	2	3.5675E-10	2.0100E-04
250	SWB-MAN02	.508265	4	3.4272E-10	1.6000E-03
251	PMD0302BSA	.668710	32	3.1605E-10	1.1600E-03
252	EC2MOD221	.411520	3	2.7755E-10	1.6800E-05
253	PL40302BSA	.385891	4	2.6227E-10	1.1600E-03
254	PL1MOD12	.367760	7	2.4798E-10	2.0900E-03
255	PL7MOD12	.367764	7	2.4798E-10	2.0900E-03
256	ZOK-MAN01	.355541	1	2.3974E-10	2.6700E-03
257	PAAMOD41	.309399	5	2.0662E-10	6.3500E-04
258	ZG1DG001TM	.294785	92	1.9877E-10	4.6000E-02
259	IDDMOD21	.285511	6	1.9252E-10	1.9200E-04
260	OTH-R2	.278205	29	1.8759E-10	2.4000E-01
261	Z02DG002TM	.262069	62	1.7671E-10	4.6000E-02
262	ZANMOD01	.246955	8	1.6652E-10	8.4000E-05
263	PL10302ASA	.222304	3	1.4990E-10	1.1600E-03
264	PL70302ASA	.222304	3	1.4990E-10	1.1600E-03
265	PLMMOD41	.211418	2	1.4258E-10	6.3500E-04
266	PL1MOD51	.209116	2	1.4100E-10	8.7400E-04
267	PMAEH0A1SAX	.191191	6	1.2905E-10	8.0000E-05
268	SWNTP001RI	.161042	5	1.1129E-10	5.2300E-03
269	PL10302BSA	.1616C9	2	1.1032E-10	1.1600E-03
270	PL70302BSA	.163609	2	1.1032E-10	1.1600E-03
271	PMDMOD42	.159364	12	1.0744E-10	6.3500E-04
272	ED2MOD01	.135181	1	9.1151E-11	5.0400E-04
273	PMAMOD22X	.127456	2	8.5942E-11	1.1600E-03
274	AD2MOD01	.127057	21	8.5673E-11	5.5400E-02
275	AD2MOD02	.127057	21	8.5673E-11	5.5400E-02
276	AD3MOD03	.127057	21	8.5673E-11	5.5400E-02
277	AD3MODL4	.127057	21	8.5673E-11	5.5400E-02
278	IDABEDD1TM	.123451	3	8.3242E-11	3.0000E-04
279	IDABESDK1TM	.123451	3	8.3242E-11	3.0000E-04
280	DG2-LOGIC	.113285	4	7.8410E-11	5.0000E-03
281	CCTTF101RI	.113557	5	7.6570E-11	5.2300E-03
282	D'S	.108251	4	7.2993E-11	1.0000E-02
283	RHN-MAN04-SUCC	.103544	438	6.9818E-11	9.4500E-01
284	IDAMOD02	.9.724650E-02	31	6.5572E-11	2.7000E-03
285	IDAMOD03	.9.724650E-02	31	6.5572E-11	2.7000E-03
286	RC1TL195UF	.9.260529E-02	3	6.2443E-11	5.2300E-03
287	RC1OR195SP	.9.255294E-02	4	6.2408E-11	7.2200E-03
288	SUC-R2S	.7.69-1798E-02	9	5.1858E-11	7.6000E-01
289	PAAMOD42	.2.254411E-02	4	1.5201E-11	6.3500E-04
290	DG1-LOGIC	.8.846680E-03	1	5.9652E-12	5.0000E-03
291	PRCEP108SA	.8.664343E-03	2	5.8423E-12	1.7100E-04
292	PRDEP108SA	.8.664343E-03	1	5.8423E-12	1.7100E-04
293	IDAMOD07	.8.470825E-03	15	1.6661E-12	2.1900E-02
294	IDDMOD22	.8.006963E-03	3	1.3533E-12	2.7000E-03
295	IDDMOD23	.8.006963E-03	3	1.3533E-12	2.7000E-03
296	IDDMOD35	.9.456213E-04	4	2.3305E-13	2.1900E-02

Table 54B-6

DOMINANT SEQUENCES FOR SHUTDOWN FOCUSED PRA INCLUDING SURGE-LINE FLOODING EFFECTS

Reduced Sum of Sequence Probabilities: 5.1109E-07

SEQUENCE NUMBER	SEQUENCE PROBABILITY	PERCENT CONTRIB	SEQUENCE DESCRIPTION	SEQUENCE IDENTIFIER
1	2.12E-07	41.56	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS WITH RCS DRAINED SUCCESS OF ADS SQUIB VALVES DURING MIDLOOP GIVEN BLACKOUT FAILURE OF TWO IRWST INJECTION LINES RNS PUMP SUCTION LINE FAILURE OF IRWST INJECTION VIA	IEV-LOGPD DEL-ADASD ^P SYS-INCAP SYS-IRWNS
2	1.74E-07	34.10	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS WITH RCS DRAINED FAILURE OF ADS SQUIB VALVES DURING MIDLOOP GIVEN BLACKOUT	IEV-LOGPD SYS-ADASD ^P
3	4.99E-08	9.76	LOSS OF CCS/SWS WITH RCS DRAINED INITIATING EVENT OCCURS FAILURE OF ADS SQUIB VALVES DURING MIDLOOP GIVEN TRANSIENT	IEV-CCWD SYS-ADASD
4	4.17E-08	8.16	LOSS OF CCS/SWS WITH RCS DRAINED INITIATING EVENT OCCURS SUCCESS OF ADS SQUIB VALVES DURING MIDLOOP GIVEN TRANSIENT FAILURE OF TWO IRWST INJECTION LINES RNS PUMP SUCTION LINE FAILURE OF IRWST INJECTION VIA	IEV-CCWD DEL-ADASD SYS-IRWIA SYS-IRWNS
5	9.60E-09	1.49	LOSS OF RNS WITH RCS DRAINED INITIATING EVENT OCCURS FAILURE OF ADS SQUIB VALVES DURING MIDLOOP GIVEN TRANSIENT	IEV-RNSD SYS-ADASD
6	8.03E-09	1.57	LOSS OF RNS WITH RCS DRAINED INITIATING EVENT OCCURS SUCCESS OF ADS SQUIB VALVES DURING MIDLOOP GIVEN TRANSIENT FAILURE OF TWO IRWST INJECTION LINES RNS PUMP SUCTION LINE FAILURE OF IRWST INJECTION VIA	IEV-RNSD DEL-ADASD SYS-IRWIA SYS-IRWNS
7	5.40E-09	1.06	OVERRAINING OF RCS DURING DRAIN DOWN TO MID-LOOP INITIATING EVENT OPERATOR SUCCESSES IN STOPPING RNS DRAINDOWN SUCCESS OF ADS SQUIB VALVES DURING MIDLOOP GIVEN TRANSIENT FAILURE OF TWO IRWST INJECTION LINES RNS PUMP SUCTION LINE FAILURE OF IRWST INJECTION VIA	IEV-RCSOD RHN-MANUA-SUCC DEL-ADASD SYS-IRWIA SYS-IRWNS
8	2.73E-09	.53	OVERRAINING OF RCS DURING DRAIN DOWN TO MID-LOOP INITIATING EVENT OCCURS WITH RCS FILLED LOCAL/RNS-V024 SUCCESS OF USE OF TWO CORE MAKEUP TANKS DEPRESSURIZATION FAILURE OF TWO IRWST OF TWO IRWST	IEV-LOCAJ4ND DEL-CM2AM DEL-ADAS SYS-INZAB
9	2.22E-09	.43	OVERRAINING OF RCS DURING DRAIN DOWN TO MID-LOOP INITIATING EVENT RNS PIPE RUTURE OPERATOR FAILS TO ISOLATE SUCCESS OF ADS SQUIB VALVES DURING MIDLOOP GIVEN TRANSIENT FAILURE OF TWO IRWST INJECTION LINES RNS PUMP SUCTION LINE FAILURE OF IRWST INJECTION VIA	IEV-RCSOD RHN-MANUA DEL-ADASD SYS-IRWIA SYS-IRWNS

Table 54B-6

DOMINANT SEQUENCES FOR SHUTDOWN FOCUSED PRA INCLUDING SURGE-LINE FLOODING EFFECTS

NUMBER	SEQUENCE PROBABILITY	PERCENT CONTRIB	SEQUENCE DESCRIPTION	SEQUENCE IDENTIFIER
10	1.44E-09	.28	LOCA/RNS-V024 SUCCESS OF ONE FAILURE OF FULL ADS	OPENING INITIATING EVENT OCCURS OF TWO CORE MAKEUP TANKS DEPRESSURIZATION WITH RCS FILLED IEV-LOC24ND DEL-CM2AM SYS-ADAS
11	1.33E-09	.26	LOCA/RNS-V024 FAILURE OF ADS	OPENING INITIATING EVENT OCCURS ADS SQUIB VALVES DURING MIDLOOP GIVEN TRANSIENT WITH RCS DRAINED IEV-LOC24D SYS-ADAS
12	1.11E-09	.22	LOCA/RNS-V024 SUCCESS OF ADS SQUIB VALVES DURING MIDLOOP GIVEN TRANSIENT FAILURE OF TWO OF TWO INRST FAILURE OF INRST INJECTION VIA RNS PUMP SUCTION LINE	OPENING INITIATING EVENT OCCURS WITH RCS DRAINED IEV-LOC24D DEL-ADASD SYS-TW2A SYS-TWNS
13	4.92E-10	.10	OVERDRAINING OF RCS DURING DRAIN DOWN TO MID-LOOP INITIATING EVENT OPERATOR SUCCEEDS IN STOPPING RNS DRAINDOWN FAILURE OF ADS SQUIB VALVES DURING MIDLOOP GIVEN TRANSIENT	OVERDRAINING OF RCS DURING DRAIN DOWN TO MID-LOOP INITIATING EVENT OPERATOR SUCCEEDS IN STOPPING RNS DRAINDOWN FAILURE OF ADS SQUIB VALVES DURING MIDLOOP GIVEN TRANSIENT IEV-RCSD RHN-MAN04-SUOC SYS-ADASD
14	1.35E-10	.03	LOCA/RNS PIPE OPERATOR FAILS SUCCESS OF ONE FAILURE OF TWO	RUPTURE WITH RCS FILLED INIT. TO ISOLATE OF TWO CORE FULL ADS OF TWO INRST EVENT OCCURS RNS PIPE RUPTURE MAKEUP TANKS DEPRESSURIZATION INJECTION LINES IEV-LOCAPPND RHN-MAN04 DEL-CM2AM DEL-ADAS SYS-TW2AB
15	8.72E-11	.02	LOSS OF OFFSITE FAILURE OF PASSIVE RHR SUCCESS OF ONE SUCCESS OF TWO FAILURE OF TWO	POWER INITIATING EVENT OCCURS SYSTEM MAKEUP TANKS DEPRESSURIZATION INJECTION LINES WITH RCS FILLED IEV-OSPD SYS-PRW DEL-CM2AMP DEL-ADALS SYS-TW2AB
16	7.13E-11	.01	LOCA/RNS PIPE OPERATOR FAILS SUCCESS OF ONE FAILURE OF	RUPTURE WITH RCS FILLED INIT. TO ISOLATE OF TWO CORE FULL ADS EVENT OCCURS RNS PIPE RUPTURE MAKEUP TANKS DEPRESSURIZATION IEV-LOCAPPND RHN-MAN04 DEL-CM2AM SYS-ADAS
17	4.61E-11	.01	LOSS OF OFFSITE FAILURE OF SUCCESS OF ONE FAILURE OF	POWER INITIATING EVENT OCCURS PASSIVE RHR OF TWO CORE FULL ADS WITH RCS FILLED SYSTEM MAKEUP TANKS DEPRESSURIZATION IEV-LOSPPD SYS-PRW DEL-CM2AMP SYS-ADALS
18	3.44E-11	.01	LOSS OF CCS/SNS FAILURE OF SUCCESS OF ONE SUCCESS OF TWO	WITH RCS FILLED INITIATING EVENT OCCURS PASSIVE RHR OF TWO CORE FULL ADS OF TWO INRST SYSTEM MAKEUP TANKS DEPRESSURIZATION INJECTION LINES IEV-OCWND SYS-PRW DEL-CM2AM DEL-ADAS SYS-TW2AB

Table 54B-6

DOMINANT SEQUENCES FOR SHUTDOWN FOCUSED PRA INCLUDING SURGE-LINE FLOODING EFFECTS

SEQUENCE NUMBER	SEQUENCE PROBABILITY	PERCENT CONTRIB	SEQUENCE DESCRIPTION	SEQUENCE IDENTIFIER
.9	3.40E-11	.01	OVERDRAINING OF RCS DURING DRAIN DOWN TO MID-LOOP INITIATING EVENT OPERATOR FAILS TO ISOLATE RNS PIPE RUPTURE FAILURE OF ADS SQUIB VALVES DURING MIDLOOP GIVEN TRANSIENT	IEV-RCS00D RHN-MAN04 SYS-ADASD
20	1.82E-11	.00	LOSS OF CCS/SMS WITH RCS FILLED INITIATING EVENT OCCURS FAILURE OF CCS/SMS PASSIVE RHR OF TWO CORE SUCCESS OF ONE FULL ADS	IEV-CW00D SYS-FRM DEL-CM2AM SYS-ADAS
21	1.03E-11	.00	LOSS OF RNS WITH RCS FILLED INITIATING EVENT OCCURS FAILURE OF PASSIVE RHR OF TWO CORE SUCCESS OF ONE FULL ADS FAILURE OF TWO ITRST OF TWO ITRST	IEV-BNS00D SYS-FRM DEL-CM2AM DEL-ADAS SYS-TM2AB
22	5.44E-12	.00	LOSS OF RNS WITH RCS FILLED INITIATING EVENT OCCURS FAILURE OF PASSIVE RHR OF TWO CORE SUCCESS OF ONE FULL ADS	IEV-BNS00D SYS-FRM DEL-CM2AM SYS-ADAS
23	4.11E-12	.00	LOCA/RNS-V024 OPENING INITIATING EVENT OCCURS WITH RCS FILLED FAILURE OF TWO CORE FAILURE OF FULL ADS	IEV-LOC24ND SYS-CM2AM SYS-ADTS
24	2.03E-13	.00	LOCA/RNS PIPE RUPTURE WITH RCS FILLED INIT. EVENT OCCURS OPERATOR FAILS TO ISOLATE RNS PIPE RUPTURE FAILURE OF TWO CORE FAILURE OF FULL ADS	IEV-LOCAPRND RHN-MAN04 SYS-CM2AM SYS-ADTS
25	1.60E-13	.00	LOCA/RNS PIPE RUPTURE WITH RCS FILLED INIT. EVENT OCCURS FAILURE OF PASSIVE RHR OF TWO CORE SUCCESS OF ONE FULL ADS FAILURE OF TWO ITRST OF TWO ITRST	IEV-LOCAPRND SYS-FRM DEL-CM2AM DEL-ADAS SYS-TM2AB
26	1.28E-13	.00	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS WITH RCS FILLED FAILURE OF PASSIVE RHR OF TWO CORE FAILURE OF TWO ITRST OF TWO ITRST	IEV-LOSFD SYS-FRM SYS-CM2AMP SYS-ADLS
27	8.12E-14	.00	LOCA/RNS PIPE FAILURE OF RCS FILLED INIT. EVENT OCCURS FAILURE OF ONE SYSTEM SUCCESS OF ONE MAKEUP TANKS	IEV-LOCAPRND SYS-FRM DEL-CM2AM

Table 54B-6

DOMINANT SEQUENCES FOR SHUTDOWN FOCUSED PRA INCLUDING SURGE-LINE FLOODING EFFECTS

NUMBER	SEQUENCE PROBABILITY	PERCENT CONTRIB	SEQUENCE DESCRIPTION	FAILURE OF	INITIATING EVENT	SYSTEM	DEPRESSURIZATION	SEQUENCE IDENTIFIER
								SYS-AUDS
28	4.89E-14	.00	LOSS OF CCS/SWS FAILURE OF TWO FAILURE OF	FULL ADS	WITH RCS FILLED PASSIVE RHR OF TWO CORE FULL ADS	DEPRESSURIZATION	DEPRESSURIZATION	TEV-COVID SYS-PRM SYS-CM2AM SYS-AUDS
29	1.40E-14	.00	LOSS OF RNS WITH RCS FILLED FAILURE OF TWO FAILURE OF TWO FAILURE OF	FULL ADS	INITIATING EVENT SYSTEM MAKEUP TANKS DEPRESSURIZATION	DEPRESSURIZATION	DEPRESSURIZATION	TEV-RNSND SYS-PRM SYS-CM2AM SYS-AUDS
30	.00E+00	.00	LOSS OF RNS WITH RCS FILLED FAILURE OF TWO FAILURE OF TWO SUCCESS OF	FULL ADS	INITIATING EVENT SYSTEM MAKEUP TANKS DEPRESSURIZATION	DEPRESSURIZATION	DEPRESSURIZATION	TEV-RNSND SYS-PRM SYS-CM2AM DEL-AUDS SYS-TW2AB
31	.00E+00	.00	LOSS OF OFFSITE FAILURE OF TWO SUCCESS OF FAILURE OF TWO	FULL ADS	POWER INITIATING SYSTEM PASSIVE RHR OF TWO CORE FULL ADS	DEPRESSURIZATION	DEPRESSURIZATION	TEV-LOSPND SYS-PRM SYS-CM2AMP DEL-AUDS SYS-TW2AB
32	.00E+00	.00	LOCA/RNS PIPE OPERATOR FAILS FAILURE OF TWO SUCCESS OF FAILURE OF TWO	FILLED INIT.	RUPTURE WITH RCS FILLED TO ISOLATE OF TWO CORE FULL ADS OF TWO IRRST	RNS PIPE RUPTURE MAKEUP TANKS DEPRESSURIZATION	DEPRESSURIZATION	TEV-LOCAPND RHN-MAND4 SYS-CM2AM DEL-AUDS SYS-TW2AB
33	.00E+00	.00	LOCA/RNS PIPE FAILURE OF TWO FAILURE OF FAILURE OF	FILLED INIT.	RUPTURE WITH RCS FILLED PASSIVE RHR OF TWO CORE FULL ADS	DEPRESSURIZATION	DEPRESSURIZATION	TEV-LOCAPND SYS-PRM SYS-CM2AM SYS-AUDS
34	.00E+00	.00	I/VA/RNS PIPE FAILURE OF TWO SUCCESS OF FAILURE OF TWO	FILLED INIT.	RUPTURE WITH RCS FILLED PASSIVE RHR OF TWO CORE FULL ADS OF TWO IRRST	DEPRESSURIZATION	DEPRESSURIZATION	TEV-LOCAPND SYS-PRM SYS-CM2AM DEL-AUDS SYS-TW2AB
35	.00E+00	.00	LOCA/RNS-V024 FAILURE OF TWO	FILLED INIT.	OPEN IN INITIATING OF TWO CORE	MAKEUP TANKS DEPRESSURIZATION	DEPRESSURIZATION	TEV-LOCAL-V-0 SYS-CM2AM

Table 54B-6

DOMINANT SEQUENCES FOR SHUTDOWN FOCUSED PRA INCLUDING SURGE-LINE FLOODING EFFECTS

NUMBER	SEQUENCE PROBABILITY	PERCENT CONTRIB	SEQUENCE DESCRIPTION	SEQUENCE		IDENTIFIER
				SUCCESS OF FAILURE OF TWO	FULL ADS OF TWO IRWST	
36	.00E+00	.00	LOSS OF CCS/SWS FAILURE OF TWO FAILURE OF TWO SUCCESS OF FAILURE OF TWO	WITH RCS FILLED PASSIVE RHR OF TWO CORE FULL ADS OF TWO IRWST	DEPRESSURIZATION INJECT. 2N LINES SYSTEM MAKEUP TANKS DEPRESSURIZATION INJECTION LINES	TEV-CWEND STS-PRM SYS-CM2AM DEL-ADTS SYS-TWZAB

Table 54B-7

TOP 200 DOMINANT CUTSETS FOR SHUTDOWN FOCUSED PRA SENSITIVITY CASE INCLUDING SURGE-LINE FLOODING EFFECTS

Reduced Sum of Cutsets: 5.1110E-07	NUMBER	CUTSET	PROB	PERCENT	BASIC EVENT NAME	EVENT PROB.	IDENTIFIER
	1	8.14E-08	15.93	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS CCF OF TRUST INJ MOV'S 121A, 121B, & RNS V023	WITH RCS DRAINED	1.48E-03 5.50E-05	TEV-LOSPD TRX-BY-G01
	2	6.96E-08	13.62	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS COMMON CAUSE FAILURE OF THE BATTERIES	WITH RCS DRAINED IDSA-DB-1A/1B	1.48E-03 4.70E-05	TEV-LOSPD CCR-BY-PN
	3	4.44E-08	8.69	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS DUE TO CCF OF THE SQUIB VALVES TO OPERATE	WITH RCS DRAINED	1.48E-03 3.00E-05	TEV-LOSPD ADM-EV-SA
	4	3.55E-08	6.95	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS COMMON CAUSE FAILURE OF THE INVERTER	WITH RCS DRAINED	1.48E-03 2.40E-05	TEV-LOSPD CCR-TV-XB
	5	2.33E-08	4.56	LOSS OF CCS/SWS WITH RCS DRAINED INITIATING EVENT OCCURS CCF OF TRUST INJ MOV'S 121A, 121B, & RNS V023	WITH RCS DRAINED	4.23E-04 5.50E-05	TEV-COBD TRX-BY-G01
	6	1.99E-08	3.89	LOSS OF CCS/SWS WITH RCS DRAINED INITIATING EVENT OCCURS COMMON CAUSE FAILURE OF THE BATTERIES	WITH RCS DRAINED IDSA-DB-1A/1B	4.23E-04 4.70E-05	TEV-COBD CCR-BY-PN
	7	1.78E-08	3.48	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS CCF OF STRAINERS IN TRUST TANK	WITH RCS DRAINED	1.48E-03 1.20E-05	TEV-LOSPD TRW-FL-GP
	8	1.28E-08	2.50	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS CCF OF THE POWER INTERFACE OUTPUT BOARDS IN PMS	WITH RCS DRAINED	1.48E-03 8.62E-06	TEV-LOSPD CCR-EP-SAE
	9	1.27E-08	2.48	LOSS OF CCS/SWS WITH RCS DRAINED INITIATING EVENT OCCURS DUE TO CCF OF THE SQUIB VALVES TO OPERATE	WITH RCS DRAINED	4.23E-04 3.00E-05	TEV-COBD ADM-EV-SA
	10	1.02E-08	2.00	LOSS OF CCS/SWS WITH RCS DRAINED INITIATING EVENT OCCURS COMMON CAUSE FAILURE OF THE INVERTER	WITH RCS DRAINED	4.23E-04 2.40E-05	TEV-COBD CCR-TV-XB
	11	6.84E-09	1.34	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS FAILURE OF PMS OUTPUT LOGIC I/O'S MECHANICAL FAILURE CAUSES MOV 023 TO FAIL-TO-OPEN	WITH RCS DRAINED PMR2MOD12 RNS2MOD55	1.48E-03 2.09E-03 2.21E-03	TEV-LOSPD PMR2MOD12 RNS2MOD55
	12	6.45E-09	1.26	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS FAILURE OF PMS OUTPUT LOGIC I/O'S PMR2MOD11	WITH RCS DRAINED	1.48E-03 2.09E-03 2.09E-03	TEV-LOSPD PMR2MOD11
	13	6.02E-09	1.18	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS FAILURE OF PMS OUTPUT LOGIC I/O'S INDICATION FAILURE	WITH RCS DRAINED	1.48E-03 4.07E-03 1.00E-03	TEV-LOSPD PMR2MOD21 ALL-IND-FAIL

Table 54B-7

TOP 200 DOMINANT CUTSETS FOR SHUTDOWN FOCUSED PRA SENSITIVITY CASE INCLUDING SURGE-LINE FLOODING EFFECTS

NUMBER	CUTSET PROB	PERCENT	BASIC EVENT NAME		EVENT PROB.	IDENTIFIER	
14	5.37E-09	1.05	LOSS OF OFFSITE CCF OF ORIFICES	POWER INITIATING EVENT OCCURS	WITH RCS DRAINED 1.48E-03 3.63E-06	IEV-LOSPD CCX-ORY-SPK	
15	5.08E-09	.99	LOSS OF CCS/SWS CCF OF STRAINERS IN IRWST TANK	WITH RCS DRAINED INITIATING EVENT OCCURS	4.23E-04 1.70E-05	IEV-CCWD INX-PL-GP	
16	4.95E-09	.97	LOSS OF OFFSITE FAILURE OF OPERATOR FAILS	POWER INITIATING EVENT OCCURS PMS OUTPUT TO RECOGNIZE	WITH RCS DRAINED LOGIC I/Os NEED AND TO OPEN RNS MOV V023 1.48E-03 2.09E-03 1.60E-03	IEV-LOSPD PMAMOD11 RHN-MAN05	
17	4.48E-09	.88	LOSS OF RNS WITH CCF OF IRWST INJ	RCS DRAINED MOVs 121A, 121B, & RNS V023	INITIATING EVENT OCCURS	8.15E-05 5.50E-05	IEV-RNSD INX-MV-G01
18	4.20E-09	.82	OVERDRAINING OF RHN-MAN04-SUCC INDICATION	RCS DURING DRAIN DOWN TO MID-LOOP	INITIATING EVENT FAILURE	4.44E-06 9.45E-01 1.00E-03	IEV-RCS0D RHN-MAN04-SUCC ALL-IND-FAIL
19	3.89E-09	.76	LOSS OF OFFSITE CCF OF PRESSURE	POWER INITIATING EVENT OCCURS TRANSMITTERS	WITH RCS DRAINED	1.48E-03 2.63E-06	IEV-LOSPD CCX-XMTRX
20	3.83E-09	.75	LOSS OF RNS WITH COMMON CAUSE	RCS DRAINED FAILURES OF THE	INITIATING EVENT OCCURS BATTERIES	8.15E-05 4.70E-05	IEV-RNSD CCX-BY-PN
21	3.79E-09	.74	LOSS OF OFFSITE FAILURE UPON MECHANICAL	POWER INITIATING EVENT OCCURS DEMAND OF LOGIC GROUP PROCESSING	WITH RCS DRAINED 1.48E-03 1.16E-03 2.21E-03	IEV-LOSPD PMA0301ASA RN23MOD55	
22	3.79E-09	.74	LOSS OF OFFSITE FAILURE UPON MECHANICAL	DEMAND OF LOGIC GROUP PROCESSING FAILURE CAUSES	MOV 023 TO FAIL-TO-OPEN	1.48E-03 1.16E-03 2.21E-03	IEV-LOSPD PMA0301BSA RN23MOD55
23	3.65E-09	.71	LOSS OF CCS/SWS CCF OF THE POWER INTERFACE	WITH RCS DRAINED INITIATING EVENT OCCURS OUTPUT BOARDS IN PMS	4.23E-04 8.62E-06	IEV-CCWD CCX-EP-SAM	
24	3.59E-09	.70	LOSS OF OFFSITE FAILURE OF PMD0301ASA	POWER INITIATING EVENT OCCURS PMS OUTPUT	WITH RCS DRAINED LOGIC I/Os	1.48E-03 2.09E-03 1.16E-03	IEV-LOSPD PMAMOD11 PMD0301ASA
25	3.55E-09	.70	LOSS OF OFFSITE FAILURE OF PMD0301BSA	POWER INITIAT. G/EVENT OCCURS PMS OUTPUT	WITH RCS DRAINED LOGIC I/Os	1.48E-03 2.09E-03 1.16E-03	IEV-LOSPD PMAMOD11 PMD0301BSA
26	3.59E-09	.70	LOSS OF OFFSITE FAILURE UPON	POWER INITIATING EVENT OCCURS DEMAND OF LOGIC GROUP PROCESSING	WITH RCS DRAINED	1.48E-03 1.16E-03	IEV-LOSPD PMA0301ASA

Table 54B-7

TOP 200 DOMINANT CUTSETS FOR SHUTDOWN FOCUSED PRA SENSITIVITY CASE INCLUDING SURGE-LINE FLOODING EFFECTS

NUMBER	CUTSET PROB	PERCENT	BASIC EVENT NAME		EVENT PROB.	IDENTIFIER
			PMDMOD11		2.09E-03	PMDMOD11
27	3.59E-09	.70	LOSS OF OFFSITE FAILURE UPON PMDMOD11	POWER INITIATING EVENT OCCURS DEMAND OF LOGIC GROUP PROCESSING	WITH RCS DRAINED	1.48E-03 1.16E-03 2.09E-03
28	3.09E-09	.60	LOSS OF OFFSITE FAILURE OF INDICATION	POWER INITIATING EVENT OCCURS PMS OUTPUT FAILURE	WITH RCS DRAINED LOGIC I/Os	1.48E-03 2.09E-03 1.00E-03
29	2.75E-09	.54	LOSS OF OFFSITE FAILURE UPON OPERATOR FAILS	POWER INITIATING EVENT OCCURS DEMAND OF LOGIC GROUP PROCESSING TO RECOGNIZE NEED AND TO OPEN RNS MOV V023	WITH RCS DRAINED	1.48E-03 1.16E-03 1.60E-03
30	2.75E-09	.54	LOSS OF OFFSITE FAILURE UPON OPERATOR FAILS	POWER INITIATING EVENT OCCURS DEMAND OF LOGIC GROUP PROCESSING TO RECOGNIZE NEED AND TO OPEN RNS MOV V023	WITH RCS DRAINED	1.48E-03 1.16E-03 1.60E-03
31	2.52E-09	.49	LOCA/RNS-V024 CCF OF GRAVITY	OPENS INITIATING EVENT OCCURS INJECTION CHECK	WITH RCS FILLED VALVES TO OPEN	1.68E-05 1.50E-04
32	2.44E-09	.48	LOSS OF RNS WITH DUE TO CCF OF	INITIATING EVENT OCCURS THE SQUIB VALVES TO OPERATE		8.15E-05 3.00E-05
33	1.99E-09	.39	LOSS OF OFFSITE FAILURE UPON PMD0301ASA	POWER INITIATING EVENT OCCURS DEMAND OF LOGIC GROUP PROCESSING	WITH RCS DRAINED	1.48E-03 1.16E-03 1.16E-03
34	1.99E-09	.39	LOSS OF OFFSITE FAILURE UPON PMD0301BSA	POWER INITIATING EVENT OCCURS DEMAND OF LOGIC GROUP PROCESSING	WITH RCS DRAINED	1.48E-03 1.16E-03 1.16E-03
35	1.99E-09	.39	LOSS OF OFFSITE FAILURE UPON PMD0301ASA	POWER INITIATING EVENT OCCURS DEMAND OF LOGIC GROUP PROCESSING	WITH RCS DRAINED	1.48E-03 1.16E-03 1.16E-03
36	1.99E-09	.39	LOSS OF OFFSITE FAILURE UPON PMD0301BSA	POWER INITIATING EVENT OCCURS DEMAND OF LOGIC GROUP PROCESSING	WITH RCS DRAINED	1.48E-03 1.16E-03 1.16E-03
37	1.96E-09	.38	LOSS OF RNS WITH COMMON CAUSE	INITIATING EVENT OCCURS FAILURE OF THE INVERTER		8.15E-05 1.40E-05
38	1.96E-09	.38	LOSS OF OFFSITE	POWER INITIATING EVENT OCCURS	WITH RCS DRAINED	1.48E-03

Table 54B-7

TOP 200 DOMINANT CUTSETS FOR SHUTDOWN FOCUSED PRA SENSITIVITY CASE INCLUDING SURGE-LINE FLOODING EFFECTS

NUMBER	CUTSET PROB	PERCENT	BASIC EVENT NAME		EVENT PROB.	IDENTIFIER
			FAILURE OF PMDMOD41	PMS OUTPUT	LOGIC I/Os	
						2.09E-03 6.35E-04
39	1.83E-09	.36	OVERDRAINING OF OPERATOR FAILS IWN-MAN00C COND. PROB. OF	RCS DURING DRAIN DOWN TO MID-LOOP INITIATING EVENT TO ISOLATE RNS PIPE RUPTURE		4.44E-06 5.50E-02 5.00E-02 1.50E-01
			RHN-MAN05 (OP. FAILS TO OPEN	RNS MOV V023)		IEN-RCS0D RHN-MAN04 IWN-MAN00C RHN-MAN05C
40	1.78E-09	.35	LOSS OF OFFSITE SOFTWARE CCF	POWER INITIATING EVENT OCCURS OF ALL CARDS	WITH RCS DRAINED	1.48E-03 1.20E-06
						IEN-LOSPD CCX-SFTW
41	1.72E-09	.34	LOSS OF OFFSITE FAILURE UPON INDICATION	POWER INITIATING EVENT OCCURS DEMAND OF LOGIC GROUP PROCESSING FAILURE	WITH RCS DRAINED	1.48E-03 1.16E-03 1.00E-03
						IEN-LOSPD PMA0301ASA ALL-IND-FAIL
42	1.72E-09	.34	LOSS OF OFFSITE FAILURE UPON INDICATION	POWER INITIATING EVENT OCCURS DEMAND OF LOGIC GROUP PROCESSING FAILURE	WITH RCS DRAINED	1.48E-03 1.16E-03 1.00E-03
						IEN-LOSPD PMA0301BSA ALL-IND-FAIL
43	1.69E-09	.33	LOSS OF OFFSITE FAILURE OF INV., MECHANICAL	POWER INITIATING EVENT OCCURS STATIC SWITCH AND ASSOC. FAILURE CAUSES	WITH RCS DRAINED BREAKERS MOV 023 TO FAIL-TO-OPEN	1.48E-03 5.16E-04 2.21E-03
						IDAMOD05 RN23MOD55
44	1.60E-09	.31	LOSS OF OFFSITE FAILURE OF INV., PMDMOD11	POWER INITIATING EVENT OCCURS PMS OUTPUT STATIC SWITCH AND ASSOC.	WITH RCS DRAINED BREAKERS	1.48E-03 2.09E-03 5.16E-04
						IEN-LOSPD PMAMOD11 IDDMOD33
45	1.60E-09	.31	LOSS OF OFFSITE FAILURE OF INV., PMDMOD11	POWER INITIATING EVENT OCCURS STATIC SWITCH AND ASSOC.	WITH RCS DRAINED BREAKERS	1.48E-03 5.16E-04 2.09E-03
						IEN-LOSPD IDAMOD05 PMAMOD11
46	1.54E-09	.30	LOSS OF CCS/SWS CCF OF ORIFICES	WITH RCS DRAINED INITIATING EVENT OCCURS		4.23E-04 3.63E-06
						IEN-CCWD CCX-ORY-SPX
47	1.22E-09	.24	LOSS OF OFFSITE FAILURE OF INV., OPERATOR FAILS	POWER INITIATING EVENT OCCURS STATIC SWITCH AND ASSOC. TO RECOGNIZE	WITH RCS DRAINED BREAKERS NEED AND TO OPEN RNS MOV V023	1.48E-03 5.16E-04 1.60E-03
						IDAMOD05 RHN-MAN05
48	1.14E-09	.22	LOSS OF OFFSITE MECHANICAL IRWST DISCHARGE	POWER INITIATING EVENT OCCURS FAILURE CAUSES MOV 121A TO LINE "B"	WITH RCS DRAINED FAIL-TO-OPEN STRAINER PLUGGED	1.48E-03 3.22E-03 2.40E-04
						IEN-LOSPD IRWMOD05S IWB-PLUG
49	1.11E-09	.22	LOSS OF CCS/SWS CCF OF PRESSURE	WITH RCS DRAINED INITIATING EVENT OCCURS TRANSMITTERS		4.23E-04 2.63E-06
						IEN-CCWD CCX-XMTRX

Table 54B-7

TOP 200 DOMINANT CUTSETS FOR SHUTDOWN FOCUSED PRA SENSITIVITY CASE INCLUDING SURGE-LINE FLOODING EFFECTS

NUMBER	CUTSET PROB.	PERCENT	BASIC EVENT NAME		EVENT PROB.	IDENTIFIER
50	1.09E-09	.21	LOSS OF OFFSITE FAILURE UPON PMDMOD41	POWER INITIATING EVENT OCCURS DEMAND OF LOGIC GROUP PROCESSING	WITH RCS DRAINED 1.48E-03 1.16E-03 6.35E-04	IEV-LOSPD PMA0301ASA PMDDMOD41
51	1.09E-09	.21	LOSS OF OFFSITE FAILURE UPON PMU/MOD41	POWER INITIATING EVENT OCCURS DEMAND OF LOGIC GROUP PROCESSING	WITH RCS DRAINED 1.48E-03 1.16E-03 6.35E-04	IEV-LOSPD PMA0301BSA PMDDMOD41
52	1.04E-09	.20	LOSS OF OFFSITE FAILURE OF OPERATOR FAILS COND. PROB. OF RHN-MAN05 (OP.)	POWER INITIATING EVENT OCCURS PMS OUTPUT LOGIC I/Os TO OPEN TWO IRWST MOVES RHN-MAN05 (OP.) FAILS TO OPEN	WITH RCS DRAINED 4.07E-03 1.15E-03 1.50E-01	IEV-LOSPD PMAMOD21 IWN-MAN00 RHN-MAN05C
53	1.04E-09	.20	LOSS OF OFFSITE LOSS OF DIST. MECHANICAL	POWER INITIATING EVENT OCCURS PANEL OR BREAKER A07 SPURIOUSLY FAILURE CAUSES MOV 023 TO	WITH RCS DRAINED 3.17E-04 FAIL-TO-OPEN 2.21E-03	IEV-LOSPD IDAMOD04 RN23MOD5S
54	9.81E-10	.19	LOSS OF OFFSITE BUS UNAVAILABLE MECHANICAL	POWER INITIATING EVENT OCCURS DUE TO TEST OR CORRECTIVE FAILURE CAUSES MOV 023 TO	WITH RCS DRAINED 3.00E-04 FAIL-TO-OPEN 2.21E-03	IEV-LOSPD IDABSDS1TM RN23MOD5S
55	9.81E-10	.19	LOSS OF OFFSITE FAILURE OF LOSS OF DIST.	POWER INITIATING EVENT OCCURS PMS OUTPUT LOGIC I/Os PANEL OR BREAKER A28 SPURIOUSLY	WITH RCS DRAINED 2.09E-03 OPENS 3.17E-04	IEV-LOSPD PKAMOD11 IDDMOD32
56	9.81E-10	.19	LOSS OF OFFSITE LOSS OF DIST. PMDDMOD11	POWER INITIATING EVENT OCCURS PANEL OR BREAKER A07 SPURIOUSLY	WITH RCS DRAINED 3.17E-04 OPENS 2.09E-03	IEV-LOSPD IDAMOD04 PMDDMOD11
57	9.78E-10	.19	LOSS OF RNS WITH RCS DRAINED CCF OF STRAINERS IN IRWST TANK	INITIATING EVENT OCCURS	8.15E-05 1.20E-05	IEV-RNSD IWX-FL-GP
58	9.28E-10	.18	LOSS OF OFFSITE FAILURE OF BUS UNAVAILABLE	POWER INITIATING EVENT OCCURS PMS OUTPUT LOGIC I/Os DUE TO TEST OR CORRECTIVE	WITH RCS DRAINED 2.09E-03 MAINTENANCE 3.00E-04	IEV-LOSPD PMAMOD11 IDDBSDS1TM
59	9.28E-10	.18	LOSS OF OFFSITE FAILURE OF BUS UNAVAILABLE	POWER INITIATING EVENT OCCURS PMS OUTPUT LOGIC I/Os DUE TO TEST OR CORRECTIVE	WITH RCS DRAINED 2.09E-03 MAINTENANCE 3.00E-04	IEV-LOSPD PMAMOD11 IDDBSDS1DTM
60	9.28E-10	.18	LOSS OF OFFSITE FAILURE OF BUS UNAVAILABLE	POWER INITIATING EVENT OCCURS PMS OUTPUT LOGIC I/Os DUE TO TEST OR CORRECTIVE	WITH RCS DRAINED 2.09E-03 MAINTENANCE 3.00E-04	IEV-LOSPD PMAMOD11 IDDBSD1KTM

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TOP 200 DOMINANT CUTSETS FOR SHUTDOWN FOCUSED PRA SENSITIVITY CASE INCLUDING SURGE-LINE FLOODING EFFECTS

NUMBER	CUTSET PROB.	PERCENT	BASIC EVENT NAME		EVENT PROB.	IDENTIFIER
61	9.28E-10	.18	LOSS OF OFFSITE BUS UNAVAILABLE PMDDMOD11	POWER INITIATING EVENT OCCURS DUE TO TEST OR CORRECTIVE	WITH RCS DRAINED MAINTENANCE	1.48E-03 3.00E-04 2.09E-03
62	8.86E-10	.17	LOSS OF OFFSITE FAILURE UPON FAILURE OF INV.,	POWER INITIATING EVENT OCCURS DEMAND OF LOGIC GROUP PROCESSING STATIC SWITCH AND ASSOC.	WITH RCS DRAINED BREAKERS	1.48E-03 1.16E-03 5.16E-04
63	8.86E-10	.17	LOSS OF OFFSITE FAILURE UPON FAILURE OF INV.,	POWER INITIATING EVENT OCCURS DEMAND OF LOGIC GROUP PROCESSING STATIC SWITCH AND ASSOC.	WITH RCS DRAINED BREAKERS	1.48E-03 1.16E-03 5.16E-04
64	8.86E-10	.17	LOSS OF OFFSITE FAILURE OF INV., PMDO301ASA	POWER INITIATING EVENT OCCURS STATIC SWITCH AND ASSOC.	WITH RCS DRAINED BREAKERS	1.48E-03 5.16E-04 1.16E-03
65	8.86E-10	.17	LOSS OF OFFSITE FAILURE OF INV., PMDO301BSA	POWER INITIATING EVENT OCCURS STATIC SWITCH AND ASSOC.	WITH RCS DRAINED BREAKERS	1.48E-03 5.16E-04 1.16E-03
66	7.90E-10	.15	LOCA/RNS-V024 COMMON CAUSE	OPENS INITIATING EVENT OCCURS FAILURE OF THE BATTERIES	WITH RCS FILLED IDSA-DB-1A/1B	1.68E-05 4.70E-05
67	7.64E-10	.15	LOSS OF OFFSITE FAILURE OF INV., INDICATION	POWER INITIATING EVENT OCCURS STATIC SWITCH AND ASSOC.	WITH RCS DRAINED BREAKERS	1.48E-03 5.16E-04 1.00E-03
68	7.51E-10	.15	LOSS OF OFFSITE LOSS OF DIST. OPERATOR FAILS	POWER INITIATING EVENT OCCURS PANEL OR BREAKER A07 SPURIOUSLY TO RECOGNIZE NEED AND TO OPEN RNS MOV V023	WITH RCS DRAINED OPENS	1.48E-03 3.17E-04 1.60E-03
69	7.42E-10	.15	LOSS OF OFFSITE FAILURE OF IRWST DISCHARGE	POWER INITIATING EVENT OCCURS PMS OUTPUT LINE "B"	WITH RCS DRAINED LOGIC I/Os STRAINER	1.48E-03 2.09E-03 2.40E-04
70	7.24E-10	.14	OVERDRAINING OF RHN-MAN04-SUCC OPERATOR FAILS COND. PROB. OF	RCS DURING DRAIN DOWN TO MID-LOOP TO OPEN TWO RHN-MAN05 (OP.)	INITIATING EVENT IRWST MOVs FAILS TO OPEN RNS MOV V023)	4.44E-06 9.45E-01 1.15E-03 1.50E-01
71	7.10E-10	.14	LOSS OF OFFSITE BUS UNAVAILABLE OPERATOR FAILS	POWER INITIATING EVENT OCCURS DUE TO TEST OR TO RECOGNIZE	WITH RCS DRAINED CORRECTIVE MAINTENANCE NEED AND TO OPEN RNS MOV V023	1.48E-03 3.00E-04 1.60E-03

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TOP 200 DOMINANT CUTSETS FOR SHUTDOWN FOCUSED PRA SENSITIVITY CASE INCLUDING SURGE-LINE FLOODING EFFECTS

NUMBER	CUTSET PROB.	PERCENT	BASIC EVENT NAME	INITIATING EVENT OCCURS	EVENT PROB.	IDENTIFIER
72	7.03E-10	.14	LOSS OF RNS WITH RCS DRAINED CCF OF THE POWER INTERFACE OUTPUT BOARDS IN PMS	INITIATING EVENT OCCURS	8.15E-05 8.62E-06	IEV-RNSD CCX-EP-SAM
73	6.22E-10	.12	LOCA/RNS-V024 OPENS CCF OF IRWST INJ MOVs 121A, 121B, & RNS V023	INITIATING EVENT OCCURS WITH RCS DRAINED	1.13E-05 5.50E-05	IEV-LOCA24D IWX-MV-G01
74	6.10E-10	.12	LOSS OF CCS/SWS FAILURE OF MECHANICAL	WITH RCS DRAINED PMS OUTPUT LOGIC I/Os FAILURE CAUSES MOV 023 TO FAIL-TO-OPEN	4.23E-04 6.53E-04 2.21E-03	IEV-CCWD PMAMOD11X RN23MOD5S
75	5.77E-10	.11	LOSS OF CCS/SWS FAILURE OF PMDDMOD11	WITH RCS DRAINED PMS OUTPUT LOGIC I/Os	4.23E-04 6.53E-04 2.09E-03	IEV-CCWD PMAMOD11X PMDDMOD11
76	5.44E-10	.11	LOSS OF OFFSITE FAILURE UPON LOSS OF DIST.	POWER INITIATING EVENT OCCURS DEMAND OF LOGIC GROUP PROCESSING PANEL OR BREAKER A28 SPURIOUSLY OPENS	1.48E-03 1.16E-03 3.17E-04	IEV-LOSPD PMA0301ASA IDDMOD32
77	5.44E-10	.11	LOSS OF OFFSITE FAILURE UPON LOSS OF DIST.	POWER INITIATING EVENT OCCURS DEMAND OF LOGIC GROUP PROCESSING PANEL OR BREAKER A28 SPURIOUSLY OPENS	1.48E-03 1.16E-03 3.17E-04	IEV-LOSPD PMA0301BSA IDDMOD32
78	5.44E-10	.11	LOSS OF OFFSITE LOSS OF DIST. PMDO301ASA	POWER INITIATING EVENT OCCURS PANEL OR BREAKER A07 SPURIOUSLY OPENS	1.48E-03 3.17E-04 1.16E-03	IEV-LOSPD IDAMOD04 PMDO301ASA
79	5.44E-10	.11	LOSS OF OFFSITE LOSS OF DIST. PMDO301BSA	POWER INITIATING EVENT OCCURS PANEL OR BREAKER A07 SPURIOUSLY OPENS	1.48E-03 3.17E-04 1.16E-03	IEV-LOSPD IDAMOD04 PMDO301BSA
80	5.31E-10	.10	LOCA/RNS-V024 COMMON CAUSE	OPENS INITIATING EVENT OCCURS FAILURE OF THE BATTERIES	1.13E-05 4.70E-05	IEV-LOCA24D CCX-BY-PN
81	5.29E-10	.10	LOSS OF OFFSITE FAILURE OF FAILURE OF	POWER INITIATING EVENT OCCURS PMS OUTPUT LOGIC I/Os OUTPUT DRIVER	1.48E-03 2.09E-03 1.71E-04	IEV-LOSPD PMAMOD11 RNDEP023SA
82	5.15E-10	.10	LOSS OF OFFSITE FAILURE UPON BUS UNAVAILABLE	POWER INITIATING EVENT OCCURS DEMAND OF LOGIC GROUP PROCESSING DUE TO TEST OR CORRECTIVE MAINTENANCE	1.48E-03 1.16E-03 3.00E-04	IEV-LOSPD PMA0301ASA IDDBSDS1TM
83	5.15E-10	.10	LOSS OF OFFSITE FAILURE UPON BUS UNAVAILABLE	POWER INITIATING EVENT OCCURS DEMAND OF LOGIC GROUP PROCESSING DUE TO TEST OR CORRECTIVE MAINTENANCE	1.48E-03 1.16E-03 3.00E-04	IEV-LOSPD PMA0301ASA IDDBSDD1TM

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TOP 200 DOMINANT CUTSETS FOR SHUTDOWN FOCUSED PRA SENSITIVITY CASE INCLUDING SURGE-LINE FLOODING EFFECTS

NUMBER	CUTSET PROB	PERCENT	BASIC EVENT NAME	EVENT PROB.	IDENTIFIER			
84	5.15E-10	.10	LOSS OF OFFSITE FAILURE UPON BUS UNAVAILABLE	POWER INITIATING DEMAND OF LOGIC DUE TO TEST OR	EVENT OCCURS GROUP PROCESSING CORRECTIVE MAINTENANCE	WITH RCS DRAINED	1.48E-03 1.16E-03 3.00E-04	IEV-LOSPD PMA0301ASA IDDBSDK1TM
85	5.15E-10	.10	LOSS OF OFFSITE FAILURE UPON BUS UNAVAILABLE	POWER INITIATING DEMAND OF LOGIC DUE TO TEST OR	EVENT OCCURS GROUP PROCESSING CORRECTIVE MAINTENANCE	WITH RCS DRAINED	1.48E-03 1.16E-03 3.00E-04	IEV-LOSPD PMA0301BSA IDDBSDS1TM
86	5.15E-10	.10	LOSS OF OFFSITE FAILURE UPON BUS UNAVAILABLE	POWER INITIATING DEMAND OF LOGIC DUE TO TEST OR	EVENT OCCURS GROUP PROCESSING CORRECTIVE MAINTENANCE	WITH RCS DRAINED	1.48E-03 1.16E-03 3.00E-04	IEV-LOSPD PMA0301BSA IDDBSDD1TM
87	5.15E-10	.10	LOSS OF OFFSITE FAILURE UPON BUS UNAVAILABLE	POWER INITIATING DEMAND OF LOGIC DUE TO TEST OR	EVENT OCCURS GROUP PROCESSING CORRECTIVE MAINTENANCE	WITH RCS DRAINED	1.48E-03 1.16E-03 3.00E-04	IEV-LOSPD PMA0301BSA IDDBSDK1TM
88	5.15E-10	.10	LOSS OF OFFSITE BUS UNAVAILABLE PMD0301ASA	POWER INITIATING DUE TO TEST OR	EVENT OCCURS CORRECTIVE	WITH RCS DRAINED MAINTENANCE	1.48E-03 3.00E-04 1.16E-03	IEV-LOSPD IDABSDS1TM PMD0301ASA
89	5.15E-10	.10	LOSS OF OFFSITE BUS UNAVAILABLE PMD0301BSA	POWER INITIATING DUE TO TEST OR	EVENT OCCURS CORRECTIVE	WITH RCS DRAINED MAINTENANCE	1.48E-03 3.00E-04 1.16E-03	IEV-LOSPD IDABSDS1TM PMD0301BSA
90	5.08E-10	.10	LOSS OF CCS/SWS SOFTWARE CCF	WITH RCS DRAINED	INITIATING EVENT OCCURS OF ALL CARDS		4.23E-04 1.20E-06	IEV-CCWD CCX-SFTW
91	4.91E-10	.10	LOSS OF CCS/SWS PMAMOD21X INDICATION	WITH RCS DRAINED	INITIATING EVENT OCCURS FAILURE		4.23E-04 1.16E-03 1.00E-03	IEV-CCWD PMAMOD21X ALL-IND-FAIL
92	4.91E-10	.10	LOSS OF OFFSITE CCF OF GRAVITY MECHANICAL	POWER INITIATING INJECTION CHECK FAILURE CAUSES	EVENT OCCURS VALVES TO OPEN MOV 023 TO	WITH RCS DRAINED FAIL-TO-OPEN	1.48E-03 1.50E-04 2.21E-03	IEV-LOSPD IWX-CV-AO RN23MOD5S
93	4.85E-10	.09	LOSS OF OFFSITE FAILURE OF INV., PMDMOD41	POWER INITIATING STATIC SWITCH	EVENT OCCURS AND ASSOC.	WITH RCS DRAINED BREAKERS	1.48E-03 5.16E-04 6.35E-04	IEV-LOSPD IDAMOD05 PMDMOD41
94	4.82E-10	.09	LOSS OF CCS/SWS FAILURE OF INV., MECHANICAL	WITH RCS DRAINED STATIC SWITCH FAILURE CAUSES	INITIATING EVENT OCCURS AND ASSOC. MOV 023 TO	BREAKERS FAIL-TO-OPEN	4.23E-04 5.16E-04 2.21E-03	IEV-CCWD IDAMOD05 RN23MOD5S
95	4.69E-10	.09	LOSS OF OFFSITE	POWER INITIATING	EVENT OCCURS	WITH RCS DRAINED	1.48E-03	IEV-LOSPD

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TOP 200 DOMINANT CUTSETS FOR SHUTDOWN FOCUSED PRA SENSITIVITY CASE INCLUDING SURGE-LINE FLOODING EFFECTS

NUMBER	CUTSET PROB	PERCENT	BASIC EVENT NAME		EVENT PROB.	IDENTIFIER
			LOSS OF DIST. INDICATION	PANEL OR BREAKER A07 SPURIOUSLY FAILURE	OPENS	3.17E-04 1.00E-03
96	4.64E-10	.09	LOSS OF OFFSITE CCF OF GRAVITY PMDMOD11	POWER INITIATING EVENT OCCURS INJECTION CHECK	WITH RCS DRAINED VALVES TO OPEN	1.48E-03 1.50E-04 2.09E-03
97	4.56E-10	.09	LOSS OF CCS/SWS FAILURE OF INV.. PMDMOD11	WITH RCS DRAINED FAILURE OF INV.. STATIC SWITCH AND ASSOC.	INITIATING EVENT OCCURS BREAKERS	4.23E-04 5.16E-04 2.09E-03
98	4.44E-10	.09	LOSS OF OFFSITE BUS UNAVAILABLE INDICATION	POWER INITIATING EVENT OCCURS DUE TO TEST OR CORRECTIVE FAILURE	WITH RCS DRAINED MAINTENANCE	1.48E-03 3.00E-04 1.00E-03
99	4.42E-10	.09	LOSS OF CCS/SWS FAILURE OF OPERATOR FAILS	WITH RCS DRAINED PMS OUTPUT TO RECOGNIZE	INITIATING EVENT OCCURS LOGIC I/Os NEED AND TO OPEN RNS MOV V023	4.23E-04 6.53E-04 1.60E-03
100	4.12E-10	.08	LOSS OF OFFSITE FAILURE UPON IRWST DISCHARGE	POWER INITIATING DEMAND OF LOGIC LINE "B"	EVENT OCCURS GROUP PROCESSING STRAINER	WITH RCS DRAINED 1.48E-03 1.16E-03 2.40E-04
101	4.12E-10	.08	LOSS OF OFFSITE FAILURE UPON IRWST DISCHARGE	POWER INITIATING DEMAND OF LOGIC LINE "B"	EVENT OCCURS GROUP PROCESSING STRAINER	WITH RCS DRAINED 1.48E-03 1.16E-03 2.40E-04
102	4.03E-10	.08	LOCA/RNS-V024 COMMON CAUSE	OPENS INITIATING FAILURE OF THE	EVENT OCCURS INVERTER	WITH RCS FILLED 1.68E-05 2.40E-05
103	3.94E-10	.08	LOSS OF OFFSITE FAILURE OF INV.. FAILURE OF INV..	POWER INITIATING STATIC SWITCH STATIC SWITCH	EVENT OCCURS AND ASSOC. AND ASSOC.	WITH RCS DRAINED BREAKERS BREAKERS
104	3.55E-10	.07	LOSS OF OFFSITE CCF OF GRAVITY OPERATOR FAILS	POWER INITIATING INJECTION CHECK TO RECOGNIZE	EVENT OCCURS VALVES TO OPEN NEED AND TO OPEN RNS MOV V023	WITH RCS DRAINED 1.48E-03 1.50E-04 1.60E-03
105	3.49E-10	.07	LOSS OF CCS/SWS FAILURE OF INV.. OPERATOR FAILS	WITH RCS DRAINED STATIC SWITCH TO RECOGNIZE	INITIATING EVENT OCCURS AND ASSOC. NEED AND TO OPEN RNS MOV V023	4.23E-04 5.16E-04 1.60E-03
106	3.39E-10	.07	LOCA/RNS-V024 DU TO CCF OF	OPENS INITIATING THE SQUIB VALVES TO OPERATE	EVENT OCCURS WITH RCS DRAINED	1.13E-05 3.00E-05
						IEV-LOSVD IDAMOD04 ALL-IND-FAIL
						IEV-LOSVD IWX-CV-AO PMDMOD11
						IEV-CCWD IDAMOD05 PMDMOD11
						IEV-LOSVD IDABSDS1TM ALL-IND-FAIL
						IEV-CCWD PMAMOD11X RHN-MAN05
						IEV-LOSVD PMA0301ASA IWB-PLUG
						IEV-LOSVD PMA0301BSA IWB-PLUG
						IEV-LOCA24ND CCX-IV-XR
						IEV-LOSPD IDAMOD05 IDDMOD33
						IEV-LOSVD IWX-CV-AO RHN-MAN05
						IEV-CCWD IDAMOD05 RHN-MAN05
						IEV-LOCA24D ADX-EV-SA

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TOP 200 DOMINANT CUTSETS FOR SHUTDOWN FOCUSED PRA SENSITIVITY CASE INCLUDING SURGE-LINE FLOODING EFFECTS

NUMBER	CUTSET PROB.	PERCENT	BASIC EVENT NAME	INITIATING EVENT OCCURS	EVENT PROB.	IDENTIFIER
107	3.27E-10	.06	LOSS OF CCS/SWS MECHANICAL IRWST DISCHARGE	WITH RCS DRAINED FAILURE CAUSES LINE "B"	4.23E-04 3.22E-03 2.40E-04	IEV-CCWD IRWMOD05S IWB-PLUG
108	3.20E-10	.06	LOSS OF CCS/SWS FAILURE OF PMD0301ASA	WITH RCS DRAINED PMS OUTPUT	4.23E-04 6.53E-04 1.16E-03	IEV-CCWD PMAMOD11X PMD0301ASA
109	3.20E-10	.06	LOSS OF CCS/SWS FAILURE OF PMD0301BSA	WITH RCS DRAINED PMS OUTPUT	4.23E-04 6.53E-04 1.16E-03	IEV-CCWD PMAMOD11X PMD0301BSA
110	2.98E-10	.06	LOSS OF OFFSITE LOSS OF DIST. PMDMOD41	POWER INITIATING EVENT OCCURS PANEL OR BREAKER A07 SPURIOUSLY	1.48E-03 3.17E-04 6.35E-04	IEV-LOSPD IDAMOD04 PMDMOD41
111	2.96E-10	.06	LOSS OF RNS WITH RCS DRAINED CCF OF ORIFICES	INITIATING EVENT OCCURS	8.15E-05 3.63E-06	IEV-RNSD CCX-ORY-SPX
112	2.96E-10	.06	LOSS OF CCS/SWS LOSS OF DIST. MECHANICAL	WITH RCS DRAINED INITIATING EVENT OCCURS PANEL OR BREAKER A07 SPURIOUSLY	4.23E-04 3.17E-04 2.21E-03	IEV-CCWD IDAMOD04 RN23MOD5S
113	2.94E-10	.06	LOSS OF OFFSITE FAILURE UPON FAILURE OF	POWER INITIATING EVENT OCCURS DEMAND OF LOGIC GROUP PROCESSING	1.48E-03 1.16E-03 1.71E-04	IEV-LOSPD PMA0301ASA RNDEP023SA
114	2.94E-10	.06	LOSS OF OFFSITE FAILURE UPON FAILURE OF	POWER INITIATING EVENT OCCURS DEMAND OF LOGIC GROUP PROCESSING	1.48E-03 1.16E-03 1.71E-04	IEV-LOSPD PMA0301BSA RNDEP023SA
115	2.82E-10	.06	LOSS OF OFFSITE BUS UNAVAILABLE PMDMOD41	POWER INITIATING EVENT OCCURS DUE TO TEST OR CORRECTIVE	1.48E-03 3.00E-04 6.35E-04	IEV-LOSPD IDABSDS1TM PMDMOD41
116	2.80E-10	.05	LOSS OF CCS/SWS BUS UNAVAILABLE MECHANICAL	WITH RCS DRAINED INITIATING EVENT OCCURS DUE TO TEST OR CORRECTIVE	4.23E-04 3.00E-04 2.21E-03	IEV-CCWD IDABSDS1TM RN23MOD5S
117	2.80E-10	.05	LOSS OF CCS/SWS LOSS OF DIST. PMDMOD11	WITH RCS DRAINED INITIATING EVENT OCCURS PANEL OR BREAKER A07 SPURIOUSLY	4.23E-04 3.17E-04 2.09E-03	IEV-CCWD IDAMOD04 PMDMOD11
118	2.76E-10	.05	LOSS OF CCS/SWS	WITH RCS DRAINED INITIATING EVENT OCCURS	4.23E-04	IEV-CCWD

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TOP 200 DOMINANT CUTSETS FOR SHUTDOWN FOCUSED PRA SENSITIVITY CASE INCLUDING SURGE-LINE FLOODING EFFECTS

NUMBER	CUTSET	PROB	PERCENT	BASIC EVENT NAME		EVENT PROB.	IDENTIFIER
				FAILURE OF INDICATION	PMS OUTPUT FAILURE	LOGIC I/Os	6.53E-04 1.00E-03
119	2.71E-10	.05	LOCA/RNS-V024 COMMON CAUSE	OPENS INITIATING FAILURE OF THE INVERTER	EVENT OCCURS	WITH RCS DRAINED	IEV-LOCA24D CCX-IV-XR
120	2.65E-10	.05	LOSS OF CCS/SWS BUS UNAVAILABLE PMDMOD11	WITH RCS DRAINED DUE TO TEST OR	INITIATING EVENT CORRECTIVE	OCCURS MAINTENANCE	IEV-CCWD IDABSDS1TM PMDMOD11
121	2.62E-10	.05	LOSS OF OFFSITE FAILURE OF MECHANICAL	POWER INITIATING FAILURE CAUSES	EVENT OCCURS SELECTOR BOARD	WITH RCS DRAINED FAIL-TO-OPEN	IEV-LOSPD PMAXS00ASA RN23MOD5S
122	2.58E-10	.05	LOSS OF OFFSITE CCF OF GRAVITY PMD0301ASA	POWER INITIATING INJECTION CHECK	EVENT OCCURS VALVES TO OPEN	WITH RCS DRAINED	IEV-LOSPD IWX-CV-AO PMD0301ASA
123	2.58E-10	.05	LOSS OF OFFSITE CCF OF GRAVITY PMD0301BSA	POWER INITIATING INJECTION CHECK	EVENT OCCURS VALVES TO OPEN	WITH RCS DRAINED	IEV-LOSPD IWX-CV-AO PMD0301BSA
124	2.53E-10	.05	LOSS OF CCS/SWS FAILURE OF INV., PMD0301ASA	WITH RCS DRAINED STATIC SWITCH	INITIATING EVENT AND ASSOC.	OCCURS BREAKERS	IEV-CCWD IDAMOD05 PMD0301ASA
125	2.53E-10	.05	LOSS OF CCS/SWS FAILURE OF INV., PMD0301BSA	WITH RCS DRAINED STATIC SWITCH	INITIATING EVENT AND ASSOC.	OCCURS BREAKERS	IEV-CCWD IDAMOD05 PMD0301BSA
126	2.47E-10	.05	LOSS OF OFFSITE FAILURE OF PMDXS00ASA	POWER INITIATING PMS OUTPUT	EVENT OCCURS LOGIC I/Os	WITH RCS DRAINED	IEV-LOSPD PMAMOD11 PMDXS00ASA
127	2.47E-10	.05	LOSS OF OFFSITE FAILURE OF PMDMOD11	POWER INITIATING MIMIC BUS	EVENT OCCURS SELECTOR BOARD	WITH RCS DRAINED	IEV-LOSPD PMAXS00ASA PMDMOD11
128	2.44E-10	.05	OVERDRAINING OF OPERATOR FAILS INDICATION	RCS DURING DRAIN DOWN TO MID-LOOP	INITIATING EVENT TO ISOLATE RNS PIPE RUPTURE	4.44E-06 5.50E-02 1.00E-03	IEV-RCSOD RHN-MAN04 ALL-IND-FAIL
129	2.42E-10	.05	LOSS OF OFFSITE FAILURE OF INV.,	POWER INITIATING STATIC SWITCH	EVENT OCCURS AND ASSOC.	WITH RCS DRAINED BREAKERS	IEV-LOSPD IDAMOD05

Table 54B-7

TOP 200 DOMINANT CUTSETS FOR SHUTDOWN FOCUSED PRA SENSITIVITY CASE INCLUDING SURGE-LINE FLOODING EFFECTS

NUMBER	CUTSET PROB	PERCENT	BASIC EVENT NAME		EVENT PROB.	IDENTIFIER
			LOSS OF DIST.	PANEL OR BREAKER A28 SPURIOUSLY	OPENS	3.17E-04
130	2.42E-10	.05	LOSS OF OFFSITE LOSS OF DIST. FAILURE OF INV.,	POWER INITIATING EVENT OCCURS PANEL OR BREAKER A07 SPURIOUSLY STATIC SWITCH AND ASSOC.	WITH RCS DRAINED OPENS BREAKERS	1.48E-03 3.17E-04 5.16E-04
131	2.31E-10	.05	OVERDRAINING OF RHN-MAN04-SUCC CCF OF IRWST INJ	RCS DURING DRAIN DOWN TO MID-LOOP MOVs 121A, 121B, & RNS V023	INITIATING EVENT	4.44E-06 9.45E-01 5.50E-05
132	2.29E-10	.04	LOSS OF OFFSITE FAILURE OF INV., BUS UNAVAILABLE	POWER INITIATING EVENT OCCURS STATIC SWITCH AND ASSOC. DUE TO TEST OR CORRECTIVE	WITH RCS DRAINED BREAKERS MAINTENANCE	1.48E-03 5.16E-04 3.00E-04
133	2.29E-10	.04	LOSS OF OFFSITE FAILURE OF INV., BUS UNAVAILABLE	POWER INITIATING EVENT OCCURS STATIC SWITCH AND ASSOC. DUE TO TEST OR CORRECTIVE	WITH RCS DRAINED BREAKERS MAINTENANCE	1.48E-03 5.16E-04 3.00E-04
134	2.29E-10	.04	LOSS OF OFFSITE FAILURE OF INV., BUS UNAVAILABLE	POWER INITIATING EVENT OCCURS STATIC SWITCH AND ASSOC. DUE TO TEST OR CORRECTIVE	WITH RCS DRAINED BREAKERS MAINTENANCE	1.48E-03 5.16E-04 3.00E-04
135	2.29E-10	.04	LOSS OF OFFSITE BUS UNAVAILABLE FAILURE OF INV.,	POWER INITIATING EVENT OCCURS DUE TO TEST OR CORRECTIVE STATIC SWITCH AND ASSOC.	WITH RCS DRAINED MAINTENANCE BREAKERS	1.48E-03 3.00E-04 5.16E-04
136	2.22E-10	.04	LOSS OF OFFSITE CCF OF GRAVITY INDICATION	POWER INITIATING EVENT OCCURS INJECTION CHECK VALVES TO OPEN FAILURE	WITH RCS DRAINED	1.48E-03 1.50E-04 1.00E-03
137	2.18E-10	.04	LOSS OF CCS/SWS FAILURE OF INV., INDICATION	WITH RCS DRAINED INITIATING EVENT OCCURS STATIC SWITCH AND ASSOC. FAILURE	OPENS	4.23E-04 5.16E-04 1.00E-03
138	2.15E-10	.04	LOSS OF CCS/SWS LOSS OF DIST. OPERATOR FAILS	WITH RCS DRAINED INITIATING EVENT OCCURS PANEL OR BREAKER A07 SPURIOUSLY TO RECOGNIZE NEED AND TO OPEN RNS MOV V023	OPENS	4.23E-04 3.17E-04 1.60E-03
139	2.14E-10	.04	LOSS OF RNS WITH CCF OF PRESSURE	RCS DRAINED TRANSMITTERS	INITIATING EVENT OCCURS	8.15E-05 2.63E-06
140	2.03E-10	.04	LOSS OF CCS/SWS BUS UNAVAILABLE OPERATOR FAILS	WITH RCS DRAINED DUE TO TEST OR CORRECTIVE TO RECOGNIZE NEED AND TO OPEN RNS MOV V023	INITIATING EVENT OCCURS MAINTENANCE	4.23E-04 3.00E-04 1.60E-03

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Table 54B-7

TOP 200 DOMINANT CUTSETS FOR SHUTDOWN FOCUSED TR SENSITIVITY CASE INCLUDING SURGE-LINE FLOODING EFFECTS

NUMBER	CUTSET PROB	PERCENT	BASIC EVENT NAME		EVENT PROB.	IDENTIFIER
141	2.02E-10	.04	LOCA/RNS-V024 CCF OF STRAINERS IN IRWST TANK	OPENS INITIATING EVENT OCCURS WITH RCS FILLED	1.68E-05 1.20E-05	IEV-LOCA24ND IWX-FL-GP
142	1.97E-10	.04	OVERDRAINING OF RHN-MAN04-SUCC COMMON CAUSE	RCS DURING DRAIN DOWN TO MID-LOOP FAILURE OF THE BATTERIES IDSA-DB-1A/1B	4.44E-06 9.45E-01 4.70E-05	IEV-RCS0D RHN-MAN04-SUCC CCX-BY-PN
143	1.89E-10	.04	LOSS OF OFFSITE FAILURE OF OPERATOR FAILS	POWER INITIATING EVENT OCCURS MIMIC BUS SELECTOR BOARD TO RECOGNIZE NEED AND TO OPEN RNS MOV V023	1.48E-03 8.00E-05 1.60E-03	IEV-LOSPD PMAXS00ASA RHN-MAN05
144	1.83E-10	.04	LOSS OF OFFSITE FAILURE OF INV. IRWST DISCHARGE	POWER INITIATING EVENT OCCURS STATIC SWITCH AND ASSOC. LINE "B" STRAINER	1.48E-03 5.16E-04 2.40E-04	IFV-LOSPD IDAMOD05 IWB-PLUG
145	1.75E-10	.03	LOSS OF CCS/SWS FAILURE OF PMDDMOD41	WITH RCS DRAINED INITIATING EVENT OCCURS PMS OUTPUT LOGIC I/Os	4.23E-04 6.53E-04 6.35E-04	IEV-CCWD PMAMOD11X PMDDMOD41
146	1.56E-10	.03	LOSS OF CCS/SWS LOSS OF DIST. PMDO301ASA	WITH RCS DRAINED INITIATING EVENT OCCURS LOSS OF DIST. PANEL OR BREAKER A07 SPURIOUSLY OPENS	4.23E-04 3.17E-04 1.16E-03	IEV-CCWD IDAMOD04 PMDO301ASA
147	1.56E-10	.03	LOSS OF CCS/SWS LOSS OF DIST. PMDO301BSA	WITH RCS DRAINED INITIATING EVENT OCCURS LOSS OF DIST. PANEL OR BREAKER A07 SPURIOUSLY OPENS	4.23E-04 3.17E-04 1.16E-03	IEV-CCWD IDAMOD04 PMDO301BSA
148	1.54E-10	.03	LOSS OF CCS/SWS FAILURE UPON MECHANICAL	WITH RCS DRAINED INITIATING EVENT OCCURS DEMAND OF LOGIC GROUP PROCESSING FAILURE CAUSES MOV 023 TO FAIL-TO-OPEN	4.23E-04 1.65E-04 2.21E-03	IEV-CCWD PMA0301ASAX RN23MOD5S
149	1.54E-10	.03	LOSS OF CCS/SWS FAILURE UPON MECHANICAL	WITH RCS DRAINED INITIATING EVENT OCCURS DEMAND OF LOGIC GROUP PROCESSING FAILURE CAUSES MOV 023 TO FAIL-TO-OPEN	4.23E-04 1.65E-04 2.21E-03	IEV-CCWD PMA0301BSAX RN23MOD5S
150	1.52E-10	.03	LOSS OF OFFSITE COMMON MODE INDICATION	POWER INITIATING EVENT OCCURS FAILURE OF INPUT LOGIC GROUPS FAILURE	1.48E-03 1.03E-04 1.00E-03	IEV-LOSPD CCX-INPUT-LOGIC ALL-IND-FAIL
151	1.49E-10	.03	LOSS OF OFFSITE LOSS OF DIST. LOSS OF DIST.	POWER INITIATING EVENT OCCURS PANEL OR BREAKER A07 SPURIOUSLY OPENS PANEL OR BREAKER A28 SPURIOUSLY OPENS	1.48E-03 3.17E-04 3.17E-04	IEV-LOSPD IDAMOD04 IDDMOD32
152	1.47E-10	.03	LOSS OF CCS/SWS	WITH RCS DRAINED INITIATING EVENT OCCURS	4.23E-04	IEV-CCWD

Table 54B-7

TOP 200 DOMINANT CUTSETS FOR SHUTDOWN FOCUSED PRA SENSITIVITY CASE INCLUDING SURGE-LINE FLOODING EFFECTS

NUMBER	CUTSET PROB	PERCENT	BASIC EVENT NAME			EVENT PROB.	IDENTIFIER
			BUS UNAVAILABLE PMD0301ASA	DUE TO TEST OR CORRECTIVE	MAINTENANCE	3.00E-04 1.16E-03	IDABSDS1TM PMD0301ASA
153	1.47E-10	.03	LOSS OF CCS/SWS BUS UNAVAILABLE PMD0301BSA	WITH RCS DRAINED INITIATING EVENT OCCURS DUE TO TEST OR CORRECTIVE	MAINTENANCE	4.23E-04 3.00E-04 1.16E-03	IEV-CCWD IDABSDS1TM PMD0301BSA
154	1.46E-10	.03	LOSS OF CCS/SWS FAILURE UPON PMDDMOD11	WITH RCS DRAINED INITIATING EVENT OCCURS DEMAND OF LOGIC GROUP PROCESSING		4.23E-04 1.65E-04 2.09E-03	IEV-CCWD PMA0301ASAX PMDDMOD11
155	1.46E-10	.03	LOSS OF CCS/SWS FAILURE UPON PMDDMOD11	WITH RCS DRAINED INITIATING EVENT OCCURS DEMAND OF LOGIC GROUP PROCESSING		4.23E-04 1.65E-04 2.09E-03	IEV-CCWD PMA0301BSAX PMDDMOD11
156	1.45E-10	.03	LOCA/RNS-V024 CCF OF THE POWER	OPENS INITIATING EVENT OCCURS INTERFACE OUTPUT BOARDS IN PMS	WITH RCS FILLED	1.68E-05 8.62E-06	IEV-LOCA24ND CCX-EP-SAM
157	1.43E-10	.03	LOSS OF CCS/SWS FAILURE OF PMS OUTPUT FAILURE OF INV.,	WITH RCS DRAINED INITIATING EVENT OCCURS LOGIC I/Os STATIC SWITCH AND ASSOC.	BREAKERS	4.23E-04 6.53E-04 5.16E-04	IEV-CCWD PMAMOD11X IDDMOD33
158	1.41E-10	.03	LOSS OF OFFSITE CCF OF GRAVITY PMDDMOD41	POWER INITIATING EVENT OCCURS INJECTION CHECK VALVES TO OPEN	WITH RCS DRAINED	1.48E-03 1.50E-04 6.35E-04	IEV-LOSPD IWX-CV-AO PMDDMOD41
159	1.41E-10	.03	LOSS OF OFFSITE LOSS OF DIST. BUS UNAVAILABLE	POWER INITIATING EVENT OCCURS PANEL OR BREAKER A07 SPURIOUSLY DUE TO TEST OR CORRECTIVE	WITH RCS DRAINED OPENS MAINTENANCE	1.48E-03 3.17E-04 3.00E-04	IEV-LOSPD IDAMOD04 IDDBSDS1TM
160	1.41E-10	.03	LOSS OF OFFSITE LOSS OF DIST. BUS UNAVAILABLE	POWER INITIATING EVENT OCCURS PANEL OR BREAKER A07 SPURIOUSLY DUE TO TEST OR CORRECTIVE	WITH RCS DRAINED OPENS MAINTENANCE	1.48E-03 3.17E-04 3.00E-04	IEV-LOSPD IDAMOD04 IDDBSDS1TM
161	1.41E-10	.03	LOSS OF OFFSITE LOSS OF DIST. BUS UNAVAILABLE	POWER INITIATING EVENT OCCURS PANEL OR BREAKER A07 SPURIOUSLY DUE TO TEST OR CORRECTIVE	WITH RCS DRAINED OPENS MAINTENANCE	1.48E-03 3.17E-04 3.00E-04	IEV-LOSPD IDAMOD04 IDDBSDK1TM
162	1.41E-10	.03	LOSS OF OFFSITE BUS UNAVAILABLE LOSS OF DIST.	POWER INITIATING EVENT OCCURS DUE TO TEST OR CORRECTIVE PANEL OR BREAKER A28 SPURIOUSLY	WITH RCS DRAINED MAINTENANCE OPENS	1.48E-03 3.00E-04 3.17E-04	IEV-LOSPD IDABSDS1TM IDDMOD32
163	1.40E-10	.03	LOSS OF CCS/SWS CCF OF GRAVITY	WITH RCS DRAINED INITIATING EVENT OCCURS INJECTION CHECK VALVES TO OPEN		4.23E-04 1.50E-04	IEV-CCWD IWX-CV-AO

Table 54B-7

TOP 200 DOMINANT CUTSETS FOR SHUTDOWN FOCUSED PRA SENSITIVITY CASE INCLUDING SURGE-LINE FLOODING EFFECTS

NUMBER	CUTSET PROB	PERCENT	BASIC EVENT NAME				EVENT PROB.	IDENTIFIER
				MECHANICAL	FAILURE CAUSES	MOV 023 TO	FAIL-TO-OPEN	
164	1.40E-10	.03	LOSS OF OFFSITE ORIFICE FAILURE INDICATION	POWER INITIATING EVENT OCCURS DUE TO PLUGGING FAILURE		WITH RCS DRAINED	2.21E-03	RN23MOD55
							1.48E-03	IEV-LOSPD
							9.46E-05	IW10R170SPX
							1.00E-03	ALL-IND-FAIL
165	1.40E-10	.03	LOSS OF OFFSITE ORIFICE FAILURE INDICATION	POWER INITIATING EVENT OCCURS DUE TO PLUGGING FAILURE		WITH RCS DRAINED	1.48E-03	IEV-LOSPD
							9.46E-05	IW20R160SPX
							1.00E-03	ALL-IND-FAIL
166	1.39E-10	.03	LOSS OF CCS/SWS FAILURE OF INV., PMDMOD41	WITH RCS DRAINED INITIATING EVENT OCCURS STATIC SWITCH AND ASSOC.		BREAKERS	4.23E-04	IEV-CCWD
							5.16E-04	IDAMOD05
							6.35E-04	PMDMOD41
167	1.37E-10	.03	LOSS OF OFFSITE FAILURE UPON PMDXS00ASA	POWER INITIATING EVENT OCCURS DEMAND OF LOGIC GROUP PROCESSING		WITH RCS DRAINED	1.48E-03	IEV-LOSPD
							1.16E-03	PMA0301ASA
							8.00E-05	PMDXS00ASA
168	1.37E-10	.03	LOSS OF OFFSITE FAILURE UPON PMDXS00ASA	POWER INITIATING EVENT OCCURS DEMAND OF LOGIC GROUP PROCESSING		WITH RCS DRAINED	1.48E-03	IEV-LOSPD
							1.16E-03	PMA0301BSA
							8.00E-05	PMDXS00ASA
169	1.37E-10	.03	LOSS OF OFFSITE FAILURE OF PMD0301ASA	POWER INITIATING EVENT OCCURS MIMIC BUS SELECTOR BOARD		WITH RCS DRAINED	1.48E-03	IEV-LOSPD
							8.00E-05	PMAXS00ASA
							1.16E-03	PMD0301ASA
170	1.37E-10	.03	LOSS OF OFFSITE FAILURE OF PMD0301BSA	POWER INITIATING EVENT OCCURS MIMIC BUS SELECTOR BOARD		WITH RCS DRAINED	1.48E-03	IEV-LOSPD
							8.00E-05	PMAXS00ASA
							1.16E-03	PMD0301BSA
171	1.36E-10	.03	LOCA/RNS-V024 CCF OF STRAINERS IN IRWST TANK	OPENS INITIATING EVENT OCCURS		WITH RCS DRAINED	1.13E-05	IEV-LOCA24D
							1.20E-05	IWX-FL-GP
172	1.34E-10	.03	LOSS OF CCS/SWS LOSS OF DIST. INDICATION	WITH RCS DRAINED INITIATING EVENT OCCURS PANEL OR BREAKER A07 SPURIOUSLY OPENS FAILURE			4.23E-04	IEV-CCWD
							3.17E-04	IDAMOD04
							1.00E-03	ALL-IND-FAIL
173	1.33E-10	.03	LOSS OF CCS/SWS CCF OF GRAVITY PMDMOD11	WITH RCS DRAINED INITIATING EVENT OCCURS INJECTION CHECK VALVES TO OPEN			4.23E-04	IEV-CCWD
							1.50E-04	IWX-CV-AO
							2.09E-03	PMDMOD11
174	1.33E-10	.03	LOSS OF OFFSITE BUS UNAVAILABLE BUS UNAVAILABLE	POWER INITIATING EVENT OCCURS DUE TO TEST OR CORRECTIVE		WITH RCS DRAINED MAINTENANCE	1.48E-03	IEV-LOSPD
							3.00E-04	IDABSPS1TM
							3.00E-04	IDDBBSDS1TM

Table 54B-7

TOP 200 DOMINANT CUTSETS FOR SHUTDOWN FOCUSED PRA SENSITIVITY CASE INCLUDING SURGE-LINE FLOODING EFFECTS

NUMBER	CUTSET PROB	PERCENT	BASIC EVENT NAME		EVENT PROB.	IDENTIFIER
175	1.33E-10	.03	LOSS OF OFFSITE BUS UNAVAILABLE BUS UNAVAILABLE	POWER INITIATING EVENT OCCURS DUE TO TEST OR CORRECTIVE DUE TO TEST OR CORRECTIVE	WITH RCS DRAINED MAINTENANCE MAINTENANCE	1.48E-03 3.00E-04 3.00E-04
176	1.33E-10	.03	LOSS OF OFFSITE BUS UNAVAILABLE BUS UNAVAILABLE	POWER INITIATING EVENT OCCURS DUE TO TEST OR CORRECTIVE DUE TO TEST OR CORRECTIVE	WITH RCS DRAINED MAINTENANCE MAINTENANCE	1.48E-03 3.00E-04 3.00E-04
177	1.31E-10	.03	LOSS OF OFFSITE FAILURE OF INV., FAILURE OF	POWER INITIATING EVENT OCCURS STATIC SWITCH AND ASSOC. OUTPUT DRIVER	WITH RCS DRAINED BREAKERS	1.48E-03 5.16E-04 1.71E-04
178	1.27E-10	.02	LOSS OF CCS/SWS BUS UNAVAILABLE INDICATION	WITH RCS DRAINED INITIATING EVENT OCCURS DUE TO TEST OR CORRECTIVE FAILURE	MAINTENANCE	4.23E-04 3.00E-04 1.00E-03
179	1.26E-10	.02	OVERDRAINING OF RHN-MAN04-SUCC DUE TO CCF OF	RCS DURING DRAIN DOWN TO MID-LOOP INITIATING EVENT THE SQUIB VALVES TO OPERATE		1.44E-06 9.45E-01 3.00E-05
180	1.25E-10	.02	LOCA/RNS PIPE OPERATOR FAILS CCF OF GRAVITY	RUPTURE WITH RCS FILLED INIT. TO ISOLATE RNS PIPE RUPTURE INJECTION CHECK VALVES TO OPEN	EVENT OCCURS	1.51E-05 5.50E-02 1.50E-04
181	1.18E-10	.02	LOSS OF RNS WITH FAILURE OF MECHI..ICAL	RCS DRAINED PMS OUTFUT FAILURE CAUSES	INITIATING EVENT OCCURS LOGIC I/Os MOV 023 TO FAIL-TO-OPEN	6.15E-05 6.53E-04 2.21E-03
182	1.18E-10	.02	LOSS OF OFFSITE FAILURE OF INDICATION	POWER INITIATING EVENT OCCURS MIMIC BUS SELECTOR BOARD FAILURE	WITH RCS DRAINED	1.48E-03 8.00E-05 1.00E-03
183	1.15E-10	.02	LOSS OF OFFSITE CCF OF GRAVITY FAILURE OF INV.,	POWER INITIATING EVENT OCCURS INJECTION CHECK VALVES TO OPEN STATIC SWITCH AND ASSOC.	WITH RCS DRAINED BREAKERS	1.48E-03 1.50E-04 5.16E-04
184	1.13E-10	.02	LOSS OF CCS/SWS FAILURE OF INV., FAILURE OF INV.,	WITH RCS DRAINED INITIATING EVENT OCCURS STATIC SWITCH AND ASSOC. STATIC SWITCH AND ASSOC.	BREAKERS	4.23E-04 5.16E-04 5.16E-04
185	1.13E-10	.02	LOSS OF OFFSITE LOSS OF DIST. IRWST DISCHARGE	POWER INITIATING EVENT OCCURS PANEL OR BREAKER A07 SPURIOUSLY LINE "B" STRAINER	WITH RCS DRAINED OPENS PLUGGED	1.48E-03 3.17E-04 2.40E-04

Table 54B-7

TOP 200 DOMINANT CUTSETS FOR SHUTDOWN FOCUSED PRA SENSITIVITY CASE INCLUDING SURGE-LINE FLOODING EFFECTS

NUMBER	CUTSET PROB.	PERCENT	BASIC EVENT NAME		EVENT PROB.	IDENTIFIER		
186	1.12E-10	.02	LOSS OF CCS/SWS FAILURE UPON OPERATOR FAILS	WITH RCS DRAINED DEMAND OF LOGIC TO RECOGNIZE	INITIATING EVENT OCCURS GROUP PROCESSING NEED AND TO OPEN RNS MOV V023	4.23E-04 1.65E-04 1.60E-03	IEV-CCWD PMA0301ASAX RHN-MAN05	
187	1.12E-10	.02	LOSS OF CCS/SWS FAILURE UPON OPERATOR FAILS	WITH RCS DRAINED DEMAND OF LOGIC TO RECOGNIZE	INITIATING EVENT OCCURS GROUP PROCESSING NEED AND TO OPEN RNS MOV V023	4.23E-04 1.65E-04 1.60E-03	IEV-CCWD PMA0301BSAX RHN-MAN05	
188	1.11E-10	.02	LOSS OF RNS WITH FAILURE OF PMDMOD11	RCS DRAINED PMS OUTPUT	INITIATING EVENT OCCURS LOGIC I/Os	8.15E-05 6.53E-04 2.09E-03	IEV-RNSD PMAMOD11X PMDMOD11	
189	1.07E-10	.02	LOSS OF OFFSITE BUS UNAVAILABLE IRWST DISCHARGE	POWER INITIATING DUE TO TEST OR LINE "B"	EVENT OCCURS CORRECTIVE STRAINER	WITH RCS DRAINED MAINTENANCE PLUGGED	1.48E-03 3.00E-04 2.40E-04	IEV-LOSPD IDABSDS1T, IW-B-PLUG
190	1.07E-10	.02	LOSS OF OFFSITE IRWST DISCHARGE BUS UNAVAILABLE	POWER INITIATING LINE "B"	EVENT OCCURS STRAINER	WITH RCS DRAINED PLUGGED	1.48E-03 2.40E-04 3.00E-04	IEV-LOSPD IW-B-PLUG IDBBSDS1TM
191	1.07E-10	.02	LOSS OF OFFSITE IRWST DISCHARGE BUS UNAVAILABLE	POWER INITIATING DUE TO TEST OR LINE "B"	EVENT OCCURS CORRECTIVE STRAINER	WITH RCS DRAINED PLUGGED	1.48E-03 2.40E-04 3.00E-04	IEV-LOSPD IW-B-PLUG IDBBSDDD1TM
192	1.07E-10	.02	LOSS OF OFFSITE IRWST DISCHARGE BUS UNAVAILAPLE	POWER INITIATING LINE "B"	EVENT OCCURS STRAINER	WITH RCS DRAINED PLUGGED	1.48E-03 2.40E-04 3.00E-04	IEV-LOSPD IW-B-PLUG IDBBSDK1TM
193	1.02E-10	.02	LOSS OF CCS/SWS CCF OF GRAVITY OPERATOR FAILS	WITH RCS DRAINED INJECTION CHECK TO RECOGNIZE	INITIATING EVENT OCCURS VALVES TO OPEN	NEED AND TO OPEN RNS MOV V023	4.23E-04 1.50E-04 1.60E-03	IEV-CCWD IWX-CV-A0 RHN-MAN05
194	1.01E-10	.02	OVERDRAINING OF RHN-MAN04-SUCC COMMON CAUSE	RCS DURING DRAIN DOWN TO MID-LOOP FAILURE OF THE	DOWN TO MID-LOOP INITIATING EVENT INVERTER	4.44E-06 9.45E-01 2.40E-05	IEV-RCSOD RHN-MAN04-SUCC CCX-IV-XR	
195	1.01E-10	.02	LOSS OF OFFSITE LEVEL INDICATION	POWER INITIATING TRANSMITTER FAILURE	EVENT OCCURS FAILURE	WITH RCS DRAINED	1.48E-03 6.84E-05 1.00E-03	IEV-LOSPD IW1TL170UFX ALL-IND-FAIL
196	1.01E-10	.02	LOSS OF OFFSITE LEVEL INDICATION	POWER INITIATING TRANSMITTER FAILURE	EVENT OCCURS FAILURE	WITH RCS DRAINED	1.48E-03 6.84E-05 1.00E-03	IEV-LOSPD IW2TL160UFX ALL-IND-FAIL

Table 54B-7

TOP 200 DOMINANT CUTSETS FOR SHUTDOWN FOCUSED PRA SENSITIVITY CASE INCLUDING SURGE-LINE FLOODING EFFECTS

NUMBER	CUTSET PROB.	PERCENT	BASIC EVENT NAME		EVENT PROB.	IDENTIFIER
197	9.78E-11	.02	LOSS OF RNS WITH RCS DRAINED SOFTWARE CCF OF ALL CARDS	INITIATING EVENT OCCURS	8.15E-05 1.20E-06	IEV-RNSD CCX-SFTW
198	9.74E-11	.02	LOCA/RNS-V024 OPENS CCF OF THE POWER INTERFACE OUTPUT BOARDS IN PMS	INITIATING EVENT OCCURS WITH RCS DRAINED	1.13E-05 8.62E-06	IEV-LOCA24D CCX-EP-SAM
199	9.45E-11	.02	LOSS OF RNS WITH RCS DRAINED PMAMOD21X INDICATION FAILURE	INITIATING EVENT OCCURS	8.15E-05 1.16E-03 1.00E-03	IEV-RNSD PMAMOD21X ALL-IND-FAIL
200	9.29E-11	.02	LOSS OF RNS WITH RCS DRAINED FAILURE OF INV., STATIC SWITCH MECHANICAL FAILURE CAUSES	INITIATING EVENT OCCURS AND ASSOC. MOV 023 TO	8.15E-05 5.16E-04 2.21E-03	IEV-RNSD IDAMOD05 RN23MOD5S

Table 54B-8

**BASIC EVENT IMPORTANCE - SHUTDOWN FOCUSED PRA SENSITIVITY CASE
INCLUDING SURGE-LINE FLOODING EFFECTS**

		SYSTEM UNAVAILABILITY (Q) = 5.111E-07	NUMBER OF BASIC EVENTS = 157	NUMBER OF CUTSETS = 7903	
BASIC EVENT	IMPORTANCE (%DECREASE)	NUMBER OF CUTSETS	DECREASE IN SYSTEM UNAVAILABILITY	BASIC EVENT PROBABILITY	
1 IEV-LOSPD	75.66	2772	3.8671E-07	1.4800E-03	
2 IWX-MV-GO1	21.53	6	1.1005E-07	5.5000E-05	
3 CCX-BY-PN	18.58	33	9.4937E-08	4.7000E-05	
4 IEV-CCWD	17.92	1981	9.1593E-08	4.2300E-04	
5 ADX-EV-SA	11.76	357	6.0099E-08	3.0000E-05	
6 CCX-IV-XR	9.49	31	4.8480E-08	2.4000E-05	
7 PMAMOD11	7.34	32	3.7510E-08	2.0900E-03	
8 IWX-FL-GP	4.75	30	2.4269E-08	1.2000E-05	
9 RN23MOD5S	4.27	629	2.1807E-08	2.2100E-03	
10 ALL-IND-FAIL	4.26	543	2.1785E-08	1.0000E-03	
11 PMA0301ASA	4.07	29	2.0820E-08	1.1600E-03	
12 PMA0301BSA	4.07	29	2.0820E-08	1.1600E-03	
13 PMDMOD11	4.04	629	2.0626E-08	2.0900E-03	
14 IEV-RNSD	3.45	1207	1.7620E-08	8.1500E-05	
15 CCX-EP-SAM	3.41	29	1.7448E-08	8.6200E-06	
16 RHN-MAN05	3.08	534	1.5753E-08	1.6000E-03	
17 IDAMOD05	2.45	126	1.2517E-08	5.1600E-04	
18 PMD0301ASA	2.24	543	1.1445E-08	1.1600E-03	
19 PMD0301BSA	2.24	543	1.1445E-08	1.1600E-03	
20 IEV-RCSOD	1.59	665	8.1424E-09	4.4400E-06	
21 IDAMOD04	1.51	123	7.6926E-09	3.1700E-04	
22 IDABSDS1TM	1.42	123	7.2736E-09	3.0000E-04	
23 CCX-ORY-SPX	1.42	6	7.2631E-09	3.6300E-06	
24 PMAMOD21	1.40	79	7.1743E-09	4.0700E-03	
25 IWX-CV-AO	1.25	149	6.4065E-09	1.5000E-04	
26 PMDMOD41	1.23	457	6.2614E-09	6.3500E-04	
27 RHN-MAN04-SUCC	1.15	445	5.8931E-09	9.4500E-01	
28 CCX-XMTRX	1.03	6	5.2553E-09	2.6300E-06	
29 IDDMOD33	1.00	439	5.0970E-09	5.1600E-04	
30 IW-B-PLUG	.91	231	4.6489E-09	2.4000E-04	
31 IEV-LOCA24ND	.82	178	4.1745E-09	1.6800E-05	
32 PMAMOD11X	.81	100	4.1148E-09	6.5300E-04	
33 RHN-MAN05C	.75	28	3.8418E-09	1.5000E-01	
34 IDDMOD32	.61	373	3.1284E-09	3.1700E-04	
35 IDDBSDS1TM	.58	373	2.9603E-09	3.0000E-04	
36 IDDBSDD1TM	.58	354	2.9602E-09	3.0000E-04	
37 IDDBSDK1TM	.58	364	2.9602E-09	3.0000E-04	
38 RHN-MAN04	.48	342	2.4560E-09	5.5000E-02	
39 IEV-LOCA24D	.48	573	2.4437E-09	1.1300E-05	
40 CCX-SFTW	.47	24	2.4269E-09	1.2000E-06	
41 IWN-MAN00	.42	366	2.1397E-09	1.1500E-03	
42 IWN-MAN00C	.38	20	1.9463E-09	5.0000E-02	
43 IRWMOD05S	.37	852	1.8888E-09	3.2200E-03	
44 RNDEP023SA	.33	329	1.6883E-09	1.7100E-04	
45 PMAXS00ASA	.28	25	1.4340E-09	8.0000E-05	
46 PMA0301ASAX	.20	97	1.0401E-09	1.6500E-04	
47 PMA0301BSAX	.20	97	1.0401E-09	1.6500E-04	
48 PMDXS00ASA	.15	229	7.8822E-10	8.0000E-05	
49 PMAMOL21X	.14	141	7.1319E-10	1.1600E-03	
50 PMAXS00ASAX	.10	97	5.0436E-10	8.0000E-05	
51 ADN-MAN01	.09	61	4.3628E-10	4.9300E-04	
52 IRWMOD06S	.07	921	3.6503E-10	3.2200E-03	
53 CCX-INPUT-LOGIC	.07	78	3.4244E-10	1.0300E-04	
54 IW1OR170SPX	.06	132	3.2034E-10	9.4600E-05	
55 IW2OR160SPX	.06	132	3.2034E-10	9.4600E-05	
56 IW1TL170UFX	.05	124	2.3133E-10	6.8400E-05	
57 IW2TL160UFX	.05	124	2.3133E-10	6.8400E-05	
58 IEV-LOCAPRND	.04	133	2.0692E-10	1.5100E-05	
59 PXX-AV-LA	.04	218	1.8660E-10	6.1000E-05	
60 IDBRSDS1TM	.03	488	1.7753E-10	3.0000E-04	
61 IDBBSDD1TM	.03	489	1.7680E-10	3.0000E-04	
62 ILBRSDK1TM	.03	489	1.7680E-10	3.0000E-04	
63 IDAMOD02	.03	99	1.7670E-10	2.7000E-03	
64 IDAMOD03	.03	99	1.7670E-10	2.7000E-03	
65 IWA-PLUG	.03	484	1.4332E-10	2.4000E-04	

66	IEV-LOSPND	.03	185	1.3332E-10	8.1300E-03
67	IDDFD019RQ	.02	120	1.1832E-10	1.2000E-05
68	IDDFD020RQ	.02	120	1.1832E-10	1.2000E-05
69	IDABSDS1LF	.02	98	1.1637E-10	4.8000E-06
70	IWACV122AO	.02	65U	9.1555E-11	8.7600E-03
71	IWACV123AO	.02	650	9.1555E-11	8.7600E-03
72	IWACV124AO	.02	650	9.1555E-11	8.7600E-03
73	IWACV125AO	.02	650	9.1555E-11	8.7600E-03
74	PMAMOD41	.02	342	8.4085E-11	6.3500E-04
75	IDDMOD22	.01	92	7.1799E-11	2.7000E-03
76	IDDMOD23	.01	92	7.1799E-11	2.7000E-03
77	IEV-CCWND	.01	125	5.2639E-11	3.2100E-03
78	IDDBSDD1LF	.01	84	4.7283E-11	4.8000E-06
79	IDDBSDK1LF	.01	84	4.7283E-11	4.8000E-06
80	IDDBSDD1LF	.01	84	4.7283E-11	4.8000E-06
81	JCX-IN-LOGIC-SW	.01	80	3.7545E-11	1.1000E-05
82	IRAEP121ASAX	.01	277	3.4129E-11	5.8300E-05
83	IDCBSDS1TM	.01	532	3.4030E-11	3.0000E-04
84	IDCBSDD1TM	.01	529	3.3997E-11	3.0000E-04
85	IDCBSDK1TM	.01	529	3.3997E-11	3.0000E-04
86	AD3M0D03	.01	79	2.5966E-11	5.5400E-02
87	AD3M0D04	.01	79	2.5966E-11	5.5400E-02
88	AD2M0D01	.01	76	2.5921E-11	5.5400E-02
89	AD2M0D02	.01	75	2.5920E-11	5.5400E-02
90	IWBCV122AO	.00	704	1.8653E-11	8.7600E-03
91	IWBCV123AO	.00	704	1.8653E-11	8.7600E-03
92	IWBCV124AO	.00	704	1.8653E-11	8.7600E-03
93	IWBCV125AO	.00	704	1.8653E-11	8.7600E-03
94	CCX-EP-SAMX	.00	73	1.8520E-11	2.9400E-06
95	CCX-INPUT-LOGICX	.00	47	1.5890E-11	2.5900E-05
96	IEV-RNSND	.00	84	1.5735E-11	9.6100E-04
97	IWNTK001AF	.00	58	7.3135E-12	2.4000E-06
98	IDBFD013RQ	.00	128	6.9550E-12	1.2000E-05
99	IDBFD014RQ	.00	128	6.9550E-12	1.2000E-05
100	IRAEP121BSAX	.00	304	6.4740E-12	5.8300E-05
101	PMAEH0A1SA	.00	93	5.9349E-12	8.0000E-05
102	PMBMOD11	.00	11	5.7805E-12	2.0900E-03
103	ADN-MAN01C	.00	6	5.3839E-12	5.0000E-02
104	CCX-LS-FA	.00	67	5.2541E-12	5.3700E-06
105	PRAAV108LA	.00	66	5.2489E-12	1.0900E-03
106	PRBAV108LA	.00	66	5.2489E-12	1.0900E-03
107	PMAEH0A1SAX	.00	105	4.5949E-12	8.0000E-05
108	IDBMOD10	.00	97	4.2154E-12	2.7000E-03
109	IDEMOD11	.00	97	4.2154E-12	2.7000E-03
110	LPM-MAN05	.00	33	3.3452E-12	6.8300E-04
111	PMB0301ASA	.00	8	3.2020E-12	1.1600E-03
112	PMB0301BSA	.00	8	3.2020E-12	1.1600E-03
113	ADX-1 /-GO	.00	8	3.0368E-12	1.1000E-03
114	IDDBSDD1LF	.00	77	2.7532E-12	4.8000E-06
115	IDDBSDD1LF	.00	76	2.7411E-12	4.8000E-06
116	IDDBSDK1LF	.00	76	2.7411E-12	4.8000E-06
117	CCX-AV-IA	.00	16	2.4361E-12	6.1000E-05
118	PRAAV108TM	.00	42	2.3882E-12	5.0000E-04
119	PRBAV108TM	.00	42	2.3882E-12	5.0000E-04
120	CMX-CV-GO	.00	15	2.0394E-12	5.1000E-05
121	CMX-VS-FA	.00	15	1.6777E-12	3.8400E-05
122	IDBMOD25	.00	15	1.4940E-12	5.1600E-04
123	IDCFD007RQ	.00	141	1.2559E-12	1.2000E-05
124	IDCFD008RQ	.00	141	1.2559E-12	1.2000E-05
125	PMAMOD31	.00	58	1.1878E-12	5.0200E-03
126	PMBMOD32	.00	49	1.0972E-12	5.0200E-03
127	PMCMOD33	.00	49	1.0972E-12	5.0200E-03
128	PMDMOD34	.00	34	9.4114E-13	5.0200E-03
129	IDBMOD24	.00	8	9.0961E-13	3.1700E-04
130	IDCMOD16	.00	102	7.2820E-13	2.7000E-03
131	IDCMOD17	.00	102	7.2820E-13	2.7000E-03
132	IDCBSD1LF	.00	80	4.6130E-13	4.8000E-06
133	IDCBSDK1LF	.00	80	4.6130E-13	4.8000E-06
134	IDCBSDS1LF	.00	80	4.6130E-13	4.8000E-06
135	PRX-HR-ML	.00	15	3.5660E-13	1.2000E-07
136	PMBXS00ASA	.00	4	2.2027E-13	8.0000E-05
137	CCX-XMTR	.00	4	1.4178E-13	2.0100E-04
138	IDABSD1TM	.00	9	1.3556E-13	3.0000E-04
139	IDABSDK1TM	.00	9	1.3556E-13	3.0000E-04
140	ADAEP002ASA	.00	6	7.5273E-14	1.7100E-04
141	ADAEP003ASA	.00	6	7.5273E-14	1.7100E-04
142	ADAEP012ASA	.00	6	7.5273E-14	1.7100E-04
143	ADAEP013ASA	.00	6	7.5273E-14	1.7100E-04
144	ADBEPO02BSA	.00	6	7.5273E-14	1.7100E-04
145	ADBEPO03BSA	.00	6	7.5273E-14	1.7100E-04
146	ADBEPO12BSA	.00	6	7.5273E-14	1.7100E-04

147	ADBEP013BSA	.00	6	7.5273E-14	1.7100E-04
148	IDCMOD29	.00	9	7.0055E-14	5.1600E-04
149	IDCMOD28	.00	3	3.5305E-14	3.1700E-04
150	PMBMOD21	.00	4	2.8977E-14	4.0700E-03
151	IWX-XMTRLW	.00	6	2.3759E-14	9.3000E-09
152	CMA-PLUG	.00	3	1.9318E-14	7.2700E-04
153	CMB-PLUG	.00	3	1.9318E-14	7.2700E-04
154	PMBMOD41	.00	1	6.5503E-15	6.3500E-04
155	IDAFD003RQ	.00	3	4.9960E-15	1.2000E-05
156	IDAFD004RQ	.00	3	4.9960E-15	1.2000E-05
157	CMX-TK-AF	.00	2	3.3307E-15	1.2000E-07

SYSTEM UNAVAILABILITY (Q) = 5.111E-07
 NUMBER OF BASIC EVENTS = 157
 NUMBER OF CUTSETS = 7903

BASIC EVENT	IMPORTANCE (%INCREASE)	NUMBER OF CUTSETS	INCREASE IN SYSTEM UNAVAILABILITY	BASIC EVENT PROBABILITY
1 CCX-EP-SAM	396036.	29	2.0241E-03	8.6200E-06
2 CCX-SFTW	395707.	24	2.0224E-03	1.2000E-06
3 IWX-PL-GP	395701.	30	2.0224E-03	1.2000E-05
4 CCX-IV-XR	395227.	31	2.0200E-03	2.4000E-05
5 CCX-BY-PN	395202.	33	2.0198E-03	4.7000E-05
6 ADX-EV-SA	391958.	357	2.0033E-03	3.0000E-05
7 CCX-ORY-SPX	391486.	6	2.0008E-03	3.6300E-06
8 IWX-MV-GO1	391464.	6	2.0007E-03	5.5000E-05
9 CCX-XMTRX	390973.	6	1.9982E-03	2.6300E-06
10 IEV-RCSOD	358817.	665	1.8339E-03	4.4400E-06
11 IEV-LOSPD	51048.3	2772	2.6090E-04	1.4800E-03
12 IEV-LOCA24ND	48617.6	178	2.4848E-04	1.6800E-05
13 IEV-CCWD	42348.7	1981	2.1644E-04	4.2300E-04
14 IEV-LOCA24D	42313.2	573	2.1626E-04	1.1300E-05
15 IEV-RNSD	42296.9	1207	2.1618E-04	8.1500E-05
16 IWX-CV-AO	8355.41	149	4.2704E-03	1.5000E-04
17 IDAMOD04	4746.58	123	2.4259E-05	3.1700E-04
18 IDAMOD05	4743.97	126	2.4246E-05	5.1600E-04
19 IDABSDS1LF	4743.72	98	2.4245E-05	4.8000E-06
20 IDABSDS1TM	4742.42	123	2.4238E-05	3.0000E-04
21 ALL-IND-FAIL	4258.11	543	2.1763E-05	1.0000E-03
22 IWB-PLUG	3789.08	231	1.9366E-05	2.4000E-04
23 PMA0301ASA	3507.63	29	1.7927E-05	1.1600E-03
24 PMA0301BSA	3507.63	29	1.7927E-05	1.1600E-03
25 PMAXS00ASA	3506.93	25	1.7924E-05	8.0000E-05
26 FMAMOD11	3504.24	32	1.7910E-05	2.0900E-03
27 IEV-LOCAPRND	2681.15	133	1.3703E-05	1.5100E-05
28 IDDMOD33	1931.70	439	9.8727E-06	5.1600E-04
29 RNDEP023SA	1931.47	329	9.8715E-06	1.7100E-04
30 IDDMOD32	1930.30	373	9.8656E-06	3.1700E-04
31 IDDBSDS1TM	1930.13	373	9.8647E-06	3.0000E-04
32 IDDBSDS21TM	1930.06	364	9.8644E-06	3.0000E-04
33 IDDBSDK1TM	1930.06	364	9.8644E-06	3.0000E-04
34 IDDFD019RQ	1929.13	120	9.8596E-06	1.2000E-05
35 IDDFD020RQ	1929.13	120	9.8596E-06	1.2000E-05
36 PMD0301ASA	1928.24	543	9.8551E-06	1.1600E-03
37 PMD0301BSA	1928.24	543	9.8551E-06	1.1600E-03
38 PMDNOD41	1928.09	457	9.8541E-06	6.3500E-04
39 PMDXS00ASA	1927.64	229	9.8520E-06	8.0000E-05
40 IDDBSDS1LF	1927.35	84	9.8505E-06	4.8000E-06
41 IDDBSDK1LF	1927.35	84	9.8505E-06	4.8000E-06
42 IDDBSDS1LF	1927.35	84	9.8505E-06	4.8000E-06
43 PMDMOD11	1926.88	629	9.8481E-06	2.0900E-03
44 RN23MOD55	1926.39	629	9.8456E-06	2.2100E-03
45 RHN-MAN05	1923.32	534	9.8299E-06	1.6000E-03
46 PMAXS00ASAX	1233.45	57	6.3041E-06	8.0000E-05
47 PMA0301ASAX	1233.13	97	6.3024E-06	1.6500E-04
48 PMA0301BSAX	1233.13	97	6.3024E-06	1.6500E-04
49 CCX-EP-SAMX	1232.53	73	6.2993E-06	2.9400E-06
50 FMAMOD11X	1232.12	100	6.2973E-06	6.5300E-04
51 CCX-IN-LOGIC-SW	667.819	80	3.4132E-06	1.1000E-05
52 IW1OR170SPX	662.485	132	3.3859E-06	9.4600E-05
53 IW2OR160SPX	662.485	132	3.3859E-06	9.4600E-05
54 IW1TL170UFX	661.672	124	3.3817E-06	6.8400E-05
55 IW2TL160UFX	661.672	124	3.3817E-06	6.8400E-05
56 CCX-INPUT-LOGIC	650.433	78	3.3243E-06	1.0300E-04
57 PXX-AV-LA	598.495	218	3.0588E-06	6.1000E-05
58 IWNTK001AF	596.232	58	3.0473E-06	2.4000E-06
59 PRX-HR-ML	581.443	15	2.9712E-06	1.2000E-07
60 IWX-XMTRLW	505.288	6	2.5825E-06	9.2000E-09
61 IWN-MAN00	363.620	366	1.8584E-06	1.1500E-03
62 PMAMOD21	343.492	79	1.7556E-06	4.0700E-03
63 CCX-LS-FA	191.438	67	9.7842E-07	5.3700E-06
64 ADN-MAN01	173.063	61	8.8451E-07	4.9300E-04
65 FMAMOD21X	120.156	141	6.1411E-07	1.1600E-03
66 CCX-INPUT-LOGICX	120.037	47	6.1350E-07	2.5900E-05
67 IWA-PLUG	116.814	484	5.9702E-07	2.4000E-04
68 IDDBSDS1TM	115.748	488	5.9158E-07	3.0000E-04
69 IDDBSDS21TM	115.275	489	5.8916E-07	3.0000E-04
70 IDDBSDK1TM	115.275	489	5.8916E-07	3.0000E-04
71 IRAEP121ASAX	114.534	277	5.8537E-07	5.8300E-05

72	IRWMOD05S	114.403	852	5.8470E-07	3.2200E-03
73	IDBFD013RQ	113.400	128	5.7958E-07	1.2000E-05
74	IDBFD014RQ	113.400	128	5.7958E-07	1.2000E-05
75	IDBBSDS1L1	112.229	77	5.7359E-07	4.8000E-06
76	IDBBSDD1LF	111.735	76	5.7107E-07	4.8000E-06
77	IDBBSDK1LF	111.735	76	5.7107E-07	4.8000E-06
78	PMAMOD41	25.8924	342	1.3233E-07	6.3500E-04
79	IDCBSDS1TM	22.1880	532	1.1340E-07	3.0000E-04
80	IDCBSDD1TM	22.1661	529	1.1329E-07	3.0000E-04
81	IDCBSDK1TM	22.1661	529	1.1329E-07	3.0000E-04
82	IRWMOD06S	22.1095	921	1.1300E-07	3.2200E-03
83	IRAEPI21BJAX	21.7262	304	1.1104E-07	5.8300E-05
84	IDCFD007RQ	20.4770	141	1.0466E-07	1.2000E-05
85	IDCFD008RQ	20.4770	141	1.0466E-07	1.2000E-05
86	IDCBSDD1LF	18.8036	80	9.6103E-08	4.8000E-06
87	IDCBSDK1LF	18.8036	80	9.6103E-08	4.8000E-06
88	IDCBSDS1LF	18.8036	80	9.6103E-08	4.8000E-06
89	PMAEH0A1SA	14.5142	93	7.4181E-08	8.1000E-05
90	IDAMOD02	12.7703	99	6.5268E-08	2.7000E-03
91	IDAMOD03	12.7703	99	6.5268E-08	2.7000E-03
92	PMAEH0A1SAX	11.2371	105	5.7431E-08	8.0000E-05
93	CMX-VS-FA	8.54788	19	4.3687E-08	3.8400E-05
94	RHN-MAN04	8.25656	342	4.2198E-08	5.5000E-02
95	CMX-CV-GO	7.82360	15	3.9986E-08	5.1000E-05
96	CCX-AV-LA	7.81327	16	3.9933E-08	6.1000E-05
97	IWN-MAN00C	7.23564	20	3.6981E-08	5.0000E-02
98	CMX-TK-AF	5.43067	2	2.7756E-08	1.2000E-07
99	IDDMOD22	5.18897	92	2.6520E-08	2.7000E-03
100	IDDMOD23	5.18897	92	2.6520E-08	2.7000E-03
101	RHN-MAN05C	4.25956	28	2.1770E-08	1.5000E-01
102	IEV-RNSND	3.20055	84	1.6358E-08	9.6100E-04
103	IEV-CCWND	3.19822	125	1.6346E-08	3.2100E-03
104	IEV-LOSPND	3.18252	185	1.6266E-08	8.1300E-03
105	IWACV122AO	2.02704	650	1.0360E-08	8.7500E-03
106	IWACV123AO	2.02704	650	1.0360E-08	8.7300E-03
107	IWACV124AO	2.02704	650	1.0360E-08	8.7600E-03
108	IWACV125AO	2.02704	650	1.0360E-08	8.7600E-03
109	LPM-MAN05	.957655	33	4.8945E-09	6.8300E-04
110	PRAAV108LA	.941179	66	4.8103E-09	1.0900E-03
111	PRBAV108LA	.941179	66	4.8103E-09	1.0900E-03
112	PRAAV108TM	.934085	42	4.7740E-09	5.0000E-04
113	PRBAV108TM	.934085	42	4.7740E-09	5.0000E-04
114	IDBMOD25	.566223	15	2.8939E-09	5.1600E-04
115	IDBMOD24	.561254	8	2.8685E-09	3.1700E-04
116	PMBMOD11	.540023	11	2.7600E-09	2.0900E-03
117	ADX-MV-GO	.539570	8	2.7577E-09	1.1000E-03
118	PMB0301ASA	.539463	8	2.7571E-09	1.1600E-03
119	PMB0301BSA	.539463	8	2.7571E-09	1.1600E-03
120	PMBXS00ASA	.538679	4	2.7531E-09	8.0000E-05
121	IWBCV122AO	.412974	704	2.1107E-09	8.7600E-03
122	IWBCV123AO	.412974	704	2.1107E-09	8.7600E-03
123	IWBCV124AO	.412974	704	2.1107E-09	8.7600E-03
124	IWBCV125AO	.412974	704	2.1107E-09	8.7600E-03
125	IDBMOD10	.304652	97	1.5570E-09	2.7000E-03
126	IDBMOD11	.304652	97	1.5570E-09	2.7000E-03
127	CCX-XMTR	.137981	4	7.0521E-10	2.0100E-04
128	IDABSDD1TM	8.838474E-02	9	4.5173E-10	3.0000E-04
129	IDABSDK1TM	8.838474E-02	9	4.5173E-10	3.0000E-04
130	AD3MOD03	8.662673E-02	79	4.4274E-10	5.5400E-02
131	AD3MOD04	8.662673E-02	79	4.4274E-10	5.5400E-02
132	AD2MOD01	8.647599E-02	76	4.4197E-10	5.5400E-02
133	AD2MOD02	8.647265E-02	75	4.4195E-10	5.5400E-02
134	ADARP002ASA	8.611375E-02	6	4.4012E-10	1.7100E-04
135	ADAEP003ASA	8.611375E-02	6	4.4012E-10	1.7100E-04
136	ADAEP012ASA	8.611375E-02	6	4.4012E-10	1.7100E-04
137	ADAEP013ASA	8.611375E-02	6	4.4012E-10	1.7100E-04
138	ADBEP002BSA	8.611375E-02	6	4.4012E-10	1.7100E-04
139	ADBEP003BSA	8.611375E-02	6	4.4012E-10	1.7100E-04
140	ADBEP012BSA	8.611375E-02	6	4.4012E-10	1.7100E-04
141	ADBEP013BSA	8.611375E-02	6	4.4012E-10	1.7100E-04
142	IDAFD003RQ	8.145903E-02	3	4.1633E-10	1.2000E-05
143	IDAFD004RQ	8.145903E-02	3	4.1633E-10	1.2000E-05
144	RHN-MAN04-SUCC	6.710897E-02	445	3.4299E-10	9.4500E-01
145	IDCMOD16	5.262752E-02	102	2.6897E-10	2.7000E-03
146	IDCMOD17	5.262752E-02	102	2.6897E-10	2.7000E-03
147	PMAMOD31	4.606457E-02	58	2.3543E-10	5.0200E-03
148	PMBMOD32	4.255128E-02	49	2.1748E-10	5.0200E-03
149	PMCMOD33	4.255128E-02	49	2.1748E-10	5.0200E-03
150	PMDDMOD34	3.649775E-02	34	1.8654E-10	5.0200E-03
151	IDCMOD29	2.655026E-02	9	1.3570E-10	5.1600E-04
152	IDCMOD28	2.178429E-02	3	1.1134E-10	3.1700E-04

153	ADN-MAN01C	2.001497E-02	6	1.0229E-10	5.0000E-02
154	CMA-PLUG	5.195319E-03	3	2.6553E-11	7.2700E-04
155	CMB-PLUG	5.195319E-03	3	2.6553E-11	7.2700E-04
156	PMEMOD41	2.017045E-03	1	1.0309E-11	6.3500E-04
157	PMBMOD21	1.387357E-03	4	7.0906E-12	4.0700E-03

Table 54B-9

CASE 1 LIST OF TOP 200 DOMINANT CUTSETS

Reduced Sum of Cutsets: 7.0490E-08

NUMBER	CUTSET PROB	PERCENT	BASIC EVENT NAME	EVENT PROB.	IDENTIFIER
1	1.81E-08	25.68	LOSS OF CCS/SWS WITH RCS DRAINED INITIATING EVENT OCCURS CCF OF THE ADS SQUIB VALVES TO OPERATE	6.02E-04 3.00E-05	IEV-CCWD ADX-EV-SA
2	1.57E-08	22.27	LOSS OF CCS/SWS WITH RCS DRAINED INITIATING EVENT OCCURS CCF OF IRWST INJ SQUIB VALVES	6.02E-04 2.50E-05	IEV-CCWD IWX-MV-G01
3	7.22E-09	10.24	LOSS OF CCS/SWS WITH RCS DRAINED INITIATING EVENT OCCURS CCF OF STRAINERS IN IRWST TANK	6.02E-04 1.20E-05	IEV-CCWD IWX-FL-GP
4	3.09E-09	4.38	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS OFFSITE AC POWER RECOVERED IN 1 HOUR SOFTWARE CCF OF ALL CARDS	4.44E-03 5.80E-01 1.20E-06	IEV-LOSPD SUC-RIS CCX-SPTW
5	2.45E-09	3.48	LOSS OF RNS WITH RCS DRAINED INITIATING EVENT OCCURS CCF OF THE ADS SQUIB VALVES TO OPERATE	8.15E-05 3.00E-05	IEV-RNSD ADX-EV-SA
6	2.24E-09	3.18	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS FAILURE TO RECOVER AC POWER IN 1 HOUR SOFTWARE CCF OF ALL CARDS	4.44E-03 4.20E-01 1.20E-06	IEV-LOSPD OTH-R1 CCX-SPTW
7	2.19E-09	3.11	LOSS OF CCS/SWS WITH RCS DRAINED INITIATING EVENT OCCURS CCF OF ORIFICES	6.02E-04 3.63E-06	IEV-CCWD CCX-ORY-SPX
8	2.12E-09	3.01	LOSS OF RNS WITH RCS DRAINED INITIATING EVENT OCCURS CCF OF IRWST INJ SQUIB VALVES	8.15E-05 2.60E-05	IEV-RNSD IWX-MV-G01
9	1.83E-09	2.60	OVERDRAINING OF RCS DURING DRAIN DOWN TO MID-LOOP INITIATING EVENT OPERATOR FAILS TO ISOLATE RNS PIPE RUPTURE IWN-MAN00C COND. PROB. OF RHN-MAN05 (OP. FAILS TO OPEN RNS MOV V023)	4.44E-06 5.50E-02 5.00E-02 1.50E-01	IEV-PCSOD RHN-MAN04 IWN-MAN00C RHN-MAN05C
10	1.58E-09	2.24	LOSS OF CCS/SWS WITH RCS DRAINED INITIATING EVENT OCCURS CCF OF PRESSURE TRANSMITTERS	6.02E-04 2.63E-06	IEV-CCWD CCX-XMTRX
11	9.78E-10	1.39	LOSS OF RNS WITH RCS DRAINED INITIATING EVENT OCCURS CCF OF STRAINERS IN IRWST TANK	8.15E-05 1.20E-05	IEV-RNSD IWX-FL-GP

Table 54B-9

CASE 1 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PROB	PERCENT	BASIC EVENT NAME		EVENT PROB.	IDENTIFIER
12	7.24E-10	1.03	OVERDRAINING OF RCS DURING DRAIN DOWN TO MID-LOOP INITIATING EVENT RHN-MAN04-SUCC OPERATOR FAILS TO OPEN TWO IRWST MOVs COND. PROB. OF RHN-MAN05 (OP. FAILS TO OPEN RNS MOV V023)		4.44E-06 9.45E-01 1.15E-03 1.50E-01	IEV-RCSOD RHN-MAN04-SUCC IWN-MAN00 RHN-MAN05C
13	7.22E-10	1.02	LOSS OF CCS/SWS WITH RCS DRAINED INITIATING EVENT OCCURS SOFTWARE CCF OF ALL CARDS		6.02E-04 1.20E-06	IEV-CCWD CCX-SFTW
14	5.04E-10	.71	LOCA/RNS-V024 CCF OF GRAVITY OPENS INITIATING EVENT OCCURS INJECTION CHECK VALVES TO OPEN WITH RCS FILLED		1.68E-05 3.00E-05	IEV-LOCA24ND IWX-CV-AO
15	4.33E-10	.61	LOSS OF CCS/SWS WITH RCS DRAINED INITIATING EVENT OCCURS MECHANICAL FAILURE CAUSES MOV 121A TO FAIL-TO-OPEN IRWST DISCHARGE LINE "B" STRAINER PLUGGED		6.02E-04 3.00E-03 2.40E-04	IEV-CCWD IRWMOD05S IWB-PLUG
16	3.75E-10	.53	LOSS OF CCS/SWS WITH RCS FILLED INITIATING EVENT OCCURS FAILURE OF MANUAL DAS ACTUATION CCF OF THE POWER INTERFACE OUTPUT BOARDS IN PMS		3.75E-03 1.16E-02 8.62E-06	IEV-CCWND REC-MANDAS CCX-EP-SAM
17	3.59E-10	.51	LOSS OF CCS/SWS WITH RCS FILLED INITIATING EVENT OCCURS COND. PROB. OF REC-MANDAS (FAILURE OF MANUAL DAS ACT.) CCF OF ORIFICES OPERATOR FAILS TO RECOGNIZE THE NEED FOR RCS DEPRESSURIZATION		3.75E-03 5.06E-01 2.77E-04 6.83E-04	IEV-CCWND REC-MANDASC CCX-ORY-SP LPM-MAN05
18	3.39E-10	.48	LOCA/RNS-V024 CCF OF THE ADS SQUIB VALVES TO OPERATE OPENS INITIATING EVENT OCCURS WITH RCS DRAINED		1.13E-05 3.00E-05	IEV-LOCA24D ADX-EV-SA
19	3.23E-10	.46	LOSS OF CCS/SWS WITH RCS FILLED INITIATING EVENT OCCURS FAILURE OF MANUAL DAS REACTOR TRIP HARDWARE CCF OF THE POWER INTERFACE OUTPUT BOARDS IN PMS		3.75E-03 1.00E-02 8.62E-06	IEV-CCWND MDAS CCX-EP-SAM
20	2.96E-10	.42	LOSS OF RNS WITH RCS DRAINED INITIATING EVENT OCCURS CCF OF ORIFICES		8.15E-05 3.63E-06	IEV-RNSD CCX-ORY-SPX
21	2.94E-10	.42	LOCA/RNS-V024 CCF OF IRWST INJ SQUIB VALVES OPENS INITIATING EVENT OCCURS WITH RCS DRAINED		1.13E-05 2.60E-05	IEV-LOCA24D IWX-MV-G01
22	2.60E-10	.37	LOSS OF CCS/SWS WITH RCS FILLED INITIATING EVENT OCCURS		3.75E-03	IEV-CCWND

Table 54B-9

CASE 1 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PROB.	PERCENT	BASIC EVENT NAME		EVENT PROB.	IDENTIFIER
			COND. PROB. OF CCF OF PRESSURE OPERATOR FAILS	REC-MANDAS TRANSMITTERS TO RECOGNIZE THE NEED FOR RCS	(FAILURE OF MANUAL DAS ACT. DEPRESSURIZATION	5.06E-01 2.01E-04 6.83E-04
23	2.14E-10	.30	LOSS OF RNS WITH RCS DRAINED CCF OF PRESSURE	CCF OF TRANSMITTERS	INITIATING EVENT OCCURS	8.15E-05 2.63E-06
24	2.02E-10	.29	LOCA/RNS-V024	OPENS	INITIATING EVENT OCCURS WITH RCS FILLED	1.68E-05 1.20E-05
			CCF OF STRAINERS	IN IRWST TANK		
25	1.81E-10	.26	LOSS OF OFFSITE OFFSITE SOFTWARE CCF FAILURE OF	POWER AC POWER OF ALL CARDS MANUAL DAS	INITIATING EVENT OCCURS RECOVERED IN 2 HOURS ACTUATION	1.71E-02 7.60E-01 1.20E-06 1.16E-02
					WITH RCS FILLED	
26	1.75E-10	.25	LOSS OF OFFSITE FAILURE TO CCF TO START COMMON CAUSE	POWER RECOVER AC POWER IN 1 HOUR OF ENGINE-DRIVEN FUEL PUMPS FAILURE OF THE BATTERIES	INITIATING EVENT OCCURS RECOVERED IN 2 HOURS IDSA-DB-1A/1B	4.44E-03 4.20E-01 2.00E-03 4.70E-05
					WITH RCS DRAINED	
27	1.56E-10	.22	LOSS OF OFFSITE OFFSITE SOFTWARE CCP FAILURE OF	POWER AC POWER OF ALL CARDS MANUAL DAS	INITIATING EVENT OCCURS RECOVERED IN 2 HOURS REACTOR TRIP	1.71E-02 7.60E-01 1.20E-06 1.00E-02
					WITH RCS FILLED HARDWARE	
28	1.36E-10	.19	LOCA/RNS-V024	OPENS	INITIATING EVENT OCCURS WITH RCS DRAINED	1.13E-05 1.20E-05
			CCF OF STRAINERS	IN IRWST TANK		
29	1.33E-10	.19	LOSS OF CCS/SWS COND. PROB. OF COMMON MODE OPERATOR FAILS	WITH RCS FILLED REC-MANDAS FAILURE OF INPUT LOGIC GROUPS TO RECOGNIZE THE NEED FOR RCS	INITIATING EVENT OCCURS (FAILURE OF MANUAL DAS ACT. DEPRESSURIZATION	3.75E-03 5.06E-01 1.03L-04 6.83E-04
30	1.26E-10	.18	OVERDRAINING OF RHN-MAN04-SUCC CCF OF THE ADS SQUIB VALVES	RCS DURING DRAIN DOWN TO MID-LOOP TO OPERATE	INITIATING EVENT	4.44E-06 9.45E-01 3.00E-05
31	1.23E-10	.17	LOSS OF OFFSITE	POWER INITIATING EVENT OCCURS	INITIATING EVENT WITH RCS DRAINED	4.44E-03

Table 54B-9

CASE 1 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PROB	PERCENT	BASIC EVENT NAME		EVENT PROB.	IDENTIFIER
			FAILURE TO RECOVER AC POWER IN 1 HOUR BATTERY DB1 UNAVAILABLE CCF OF THE ADS SQUIB VALVES TO OPERATE		4.20E-01 2.20E-03 3.00E-05	OTH-R1 ED1MOD03 ADX-EV-SA
32	1.17E-10	.17	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS FAILURE TO RECOVER AC POWER IN 1 HOUR FAILURE OF PLS OUTPUT LOGIC I/Os CCF OF THE ADS SQUIB VALVES TO OPERATE	WITH RCS DRAINED	4.44E-03 4.20E-01 2.09E-03 3.00E-05	IEV-LOSPD OTH-R1 PLSMOD11 ADX-EV-SA
33	1.12E-10	.16	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS FAILURE TO RECOVER AC POWER IN 1 HOUR CCF TO START OF ENGINE-DRIVEN FUEL PUMPS CCF OF THE ADS SQUIB VALVES TO OPERATE	WITH RCS DRAINED	4.44E-03 4.20E-01 2.00E-03 3.00E-05	IEV-LOSPD OTH-R1 ZOX-PD-ES ADX-EV-SA
34	1.09E-10	.15	OVERDRAINING OF RCS DURING DRAIN DOWN TO MID-LOOP INITIATING EVENT RHN-MAN04-SUCC CCF OF IRWST INJ SQUIB VALVES		4.44E-06 9.45E-01 2.60E-05	IEV-RCSOD RHN-MAN04-SUCC IWX-MV-G01
35	1.07E-10	.15	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS FAILURE TO RECOVER AC POWER IN 1 HOUR BATTERY DB1 UNAVAILABLE CCF OF IRWST INJ SQUIB VALVES	WITH RCS DRAINED	4.44E-03 4.20E-01 2.20E-03 2.60E-05	IEV-LOSPD OTH-R1 ED1MOD03 IWX-MV-G01
36	1.05E-10	.15	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS FAILURE TO RECOVER AC POWER IN 1 HOUR COMMON CAUSE FAILURE 4KV BREAKERS TO OPEN COMMON CAUSE FAILURE OF THE BATTERIES IDGA-DB-1A/1B	WITH RCS DRAINED	4.44E-03 4.20E-01 1.20E-03 4.70E-05	IEV-LOSPD OTH-R1 ECX-CB-G0 CCX-BY-PN
37	1.01E-10	.14	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS FAILURE TO RECOVER AC POWER IN 1 HOUR FAILURE OF PLS OUTPUT LOGIC I/Os CCF OF IRWST INJ SQUIB VALVES	WITH RCS DRAINED	4.44E-03 4.20E-01 2.09E-03 2.60E-05	IEV-LOSPD OTH-R1 PLSMOD11 IWX-MV-G01
38	9.78E-11	.14	LOSS OF RNS WITH RCS DRAINED INITIATING EVENT OCCURS SOFTWARE CCF OF ALL CARDS		8.15E-05 1.20E-06	IEV-RNSD CCX-SFTW
39	9.70E-11	.14	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS FAILURE TO RECOVER AC POWER IN 1 HOUR	WITH RCS DRAINED	4.44E-03 4.20E-01	IEV-LOSPD OTH-R1

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Table 54B-9

CASE 1 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PROB	PERCENT	BASIC EVENT NAME		EVENT PROB.	IDENTIFIER
			CCF TO START OF ENGINE-DRIVEN FUEL PUMPS		2.00E-03	ZOK-PD-ES
			CCF OF IRWST INJ SQUIB VALVES		2.60E-05	IWX-MV-G01
40	9.61E-11	.14	LOSS OF RNS WITH RCS FILLED FAILURE OF MANUAL DAS CCF OF THE POWER INTERFACE OUTPUT BOARDS IN PMS	INITIATING EVENT OCCURS ACTUATION	9.61E-04 1.16E-02 8.62E-06	IEV-RNSND REC-MANDAS CCX-EP-SAM
41	9.20E-11	.13	LOSS OF RNS WITH RCS FILLED COND. PROB. OF REC-MANDAS CCF OF GRIFFICES OPERATOR FAILS	INITIATING EVENT OCCURS (FAILURE OF MANUAL DAS ACT.)	9.61E-04 5.06E-01 2.77E-04 6.83E-04	IEV-RNSND REC-MANDASC CCX-ORY-SP LPM-MAN05
42	8.28E-11	.12	LOSS OF RNS WITH RCS FILLED FAILURE OF MANUAL DAS CCF OF THE POWER INTERFACE OUTPUT BOARDS IN PMS	INITIATING EVENT OCCURS REACTOR TRIP	9.61E-04 1.00E-02 8.62E-06	IEV-RNSND MDAS CCX-EP-SAM
43	6.71E-11	.10	LOSS OF OFFSITE POWER FAILURE TO RECOVER AC POWER IN 1 HOUR COMMON CAUSE FAILURE CCF OF THE ADS SQUIB VALVES TO OPERATE	INITIATING EVENT OCCURS WITH RCS DRAINED	4.44E-03 4.20E-01 1.20E-03 3.00E-05	IEV-LOSPD OTH-R1 ECX-CB-GO ADX-EV-SA
44	6.68E-11	.09	LOSS OF RNS WITH RCS FILLED COND. PROB. OF REC-MANDAS CCF OF PRESSURE TRANSMITTERS OPERATOR FAILS	INITIATING EVENT OCCURS (FAILURE OF MANUAL DAS ACT.)	9.61E-04 5.06E-01 2.01E-04 6.83E-04	IEV-RNSND REC-MANDASC CCX-XMTR195 LPM-MAN05
45	6.47E-11	.09	LOSS OF OFFSITE POWER FAILURE TO RECOVER AC POWER IN 1 HOUR PLS LOGIC GROUP PROCESSING CCF OF THE ADS SQUIB VALVES TO OPERATE	INITIATING EVENT OCCURS WITH RCS DRAINED	4.44E-03 4.20E-01 1.16E-03 3.00E-05	IEV-LCSPD OTH-R1 PLS0301ASA ADX-EV-SA
46	6.49E-11	.09	LOSS OF OFFSITE POWER FAILURE TO RECOVER AC POWER IN 1 HOUR PLS LOGIC GROUP PROCESSING CCF OF THE ADS SQUIB VALVES TO OPERATE	INITIATING EVENT OCCURS WITH RCS DRAINED	4.44E-03 4.20E-01 1.16E-03 3.00E-05	IEV-LOSPD OTH-R1 PLS0301BSA ADX-EV-SA
47	6.40E-11	.09	LOSS OF OFFSITE POWER FAILURE TO RECOVER AC POWER IN 1 HOUR	INITIATING EVENT OCCURS WITH RCS DRAINED	4.44E-03 4.20E-01	IEV-LOSPD OTH-F1

Table 54B-9

CASE 1 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PROB	PERCENT	BASIC EVENT NAME			EVENT PROB.	IDENTIFIER
			COMMON CAUSE FAILURE	4KV BREAKER TO CLOSE		7.30E-04	ECX-CB-GC
			COMMON CAUSE FAILURE OF THE BATTERIES	IDSA-DB-1A/1B		4.70E-05	CCX-BY-PN
48	5.16E-11	.09	LOSS OF CCS/SWS WITH RCS DRAINED INITIATING EVENT OCCURS			6.02E-04	IEV-CCWD
			CCF OF ACTUATION LOGIC GROUPS			4.63E-05	CCX-PMAMODIX
			MECHANICAL FAILURE CAUSES MOV 023 TO FAIL-TO-OPEN			2.21E-03	RN23MOD55
49	6.02E-11	.09	LOSS OF CCS/SWS WITH RCS DRAINED INITIATING EVENT OCCURS			6.02E-04	IEV-CCWD
			FAILURE OF MANUAL DAS ACTUATION			1.16E-02	REC-MANDAS
			CCF OF THE POWER INTERFACE OUTPUT BOARDS IN PMS			8.62E-06	CCX-EP-SAM
50	5.95E-11	.08	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS	WITH RCS DRAINED		4.44E-03	IEV-LOSPD
			OFFSITE AC POWER RECOVERED IN 1 HOUR			5.80E-01	SUC-R1S
			CCF TO START OF THE PUMPS			7.70E-04	RNX-PM-FS
			CCF OF THE ADS SQUIB VAL IS TO OPERATE			3.00E-05	ADX-EV-SA
51	5.87E-11	.08	LOSS OF RNS WITH RCS DRAINED INITIATING EVENT OCCURS			8.15E-05	IEV-RNSD
			MECHANICAL FAILURE CAUSES MOV 121A TO FAIL-TO-OPEN			3.00E-03	IRWMOD55
			IRWST DISCHARGE LINE "B" STRAINER PLUGGED			2.40E-04	IWB-PLUG
52	5.82E-11	.08	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS	WITH RCS DRAINED		4.44E-03	IEV-LOSPD
			FAILURE TO RECOVER AC POWER IN 1 HOUR			4.20E-01	OTH-R1
			COMMON CAUSE FAILURE 4KV BREAKERS TO OPEN			1.20E-03	ECX-CB-GO
			CCF OF IRWST INJ SQUIB VALVES			2.60E-05	IWX-MV-GO1
53	5.71E-11	.08	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS	WITH RCS FILLED		1.71E-02	IEV-LOSPD
			FAILURE TO RECOVER AC POWER IN 2 HOURS			2.40E-01	OTH-R2
			SOFTWARE CCF OF ALL CARDS			1.20E-06	CCX-SFTW
			FAILURE OF MANUAL DAS ACTUATION			1.16E-02	REC-MANDAS
54	5.62E-11	.08	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS	WITH RCS DRAINED		4.44E-03	IEV-LOSPD
			FAILURE TO RECOVER AC POWER IN 1 HOUR			4.20E-01	OTH-R1
			PLS LOGIC GROUP PROCESSING FAILURE UPON DEMAND			1.16E-03	PL50301BSA
			CCF OF IRWST INJ SQUIB VALVES			2.60E-05	IWX-MV-GO1
55	5.62E-11	.08	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS	WITH RCS DRAINED		4.44E-03	IEV-LOSPD
			FAILURE TO RECOVER AC POWER IN 1 HOUR			4.20E-01	OTH-R1
			PLS LOGIC GROUP PROCESSING FAILURE UPON DEMAND			1.16E-03	PL50301ASA

Table 54B-9

CASE 1 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PROB	PERCENT	BASIC EVENT NAME		EVENT PROB.	IDENTIFIER
			CCF OF IRWST INJ SQUIB VALVES		2.60E-05	IWX-MV-G01
56	5.22E-11	.07	LOSS OF CCS/SWS WITH RCS FILLED INITIATING EVENT OCCURS SOFTWARE CCF OF ALL CARDS FAILURE OF MANUAL DAS ACTUATION		3.75E-03 1.20E-06 1.16E-02	IEV-CCWND CCX-SFTW REC-MANDAS
57	5.19E-11	.07	LOSS OF CCS/SWS WITH RCS DRAINED INITIATING EVENT OCCURS FAILURE OF MANUAL DAS REACTOR TRIP HARDWARE CCF OF THE POWER INTERFACE OUTPUT BOARDS IN PMS		6.02E-04 1.00E-02 8.62E-06	IEV-CCWD MDAS CCX-EP-SAM
58	5.16E-11	.07	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS WITH RCS DRAINED OFFSITE AC POWER RECOVERED IN 1 HOUR CCF TO START OF THE PUMPS CCF OF IRWST INJ SQUIB VALVES		4.44E-03 5.80E-01 7.70E-04 2.60E-05	IEV-LOSPD SUC-RIS RNX-PM-FS IWX-MV-G01
59	5.03E-11	.07	OVERDRAINING OF RCS DURING DRAIN DOWN TO MID-LOOP INITIATING EVENT RHN-MAN04-SUCC CCF OF STRAINERS IN IRWST TANK		4.44E-06 9.45E-01 1.20E-05	IEV-RCSOD RHN-MAN04-SUCC IWX-FL-GP
60	4.93E-11	.07	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS WITH RCS DRAINED FAILURE TO RECOVER AC POWER IN 1 HOUR BATTERY DB1 UNAVAILABLE CCF OF STRAINERS IN IRWST TANK		4.44E-03 4.20E-01 2.20E-03 1.20E-05	IEV-LOSPD OTH-R1 EDIMOD03 IWX-FL-GP
61	4.92E-11	.07	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS WITH RCS FILLED FAILURE TO RECOVER AC POWER IN 2 HOURS SOFTWARE CCF OF ALL CARDS FAILURE OF MANUAL DAS REACTOR TRIP HARDWARE		1.71E-02 2.40E-01 1.20E-06 1.00E-02	IEV-LOSPND OTH-R2 CCX-SFTW MDAS
62	4.71E-11	.07	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS WITH RCS DRAINED OFFSITE AC POWER RECOVERED IN 1 HOUR CCF TO OPEN OF THE STOP CHECK VALVES CCF OF THE ADS SQUIB VALVES TO OPERATE		4.44E-03 5.80E-01 6.10E-04 3.00E-05	IEV-LOSPD SUC-R1S RNX-KV-GO ADX-EV-SA
63	4.68E-11	.07	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS WITH RCS DRAINED FAILURE TO RECOVER AC POWER IN 1 HOUR FAILURE OF PLS OUTPUT LOGIC I/Os CCF OF STRAINERS IN IRWST TANK		4.44E-03 4.20E-01 2.09E-03 1.20E-05	IEV-LOSPD OTH-R1 PLSMOD11 IWX-FL-GP

Table 54B-9

CASE 1 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PROB	PERCENT	BASIC EVENT NAME	INITIATING EVENT OCCURS	EVENT PROB.	IDENTIFIER
64	4.50E-11	.06	LOSS OF CCS/SMS SOFTWARE CCF FAILURE OF MANUAL DAS	WITH RCS FILLED OF ALL CARDS REACTOR TRIP - HARDWARE	3.73E-03 1.20E-06 1.00E-02	IEV-COOND CCX-SFTW MDAS
65	4.49E-11	.06	LOSS OF OFFSITE FAILURE TO RECOVER AC POWER IN 1 HOUR CCF TO START CCF OF STRAIGHTERS IN IRWST TANK	POWER INITIATING EVENT OCCURS WITH RCS DRAINED	4.44E-03 4.20E-01 2.00E-03 1.20E-05	IEV-LOSPD 0TH-B1 ZOK-PD-EIS TRK-FL-GP
66	4.46E-11	.06	LOSS OF CCS/SMS CCF OF ACTUATION LOGIC GROUPS OPERATOR FAILS TO RECOGNIZE	WITH RCS DRAINED INITIATING EVENT OCCURS NEED AND TO OPEN RNS MON VO23	6.02E-04 4.63E-05	IEV-COOND CCX-EMAKSDIX RHN-MANOS
67	4.33E-11	.06	LOSS OF CCS/SMS IRWST DISCHARGE LINE "B" BUS UNAVAILABLE	WITH RCS DRAINED INITIATING EVENT OCCURS STRAINER PLUGGED DUE TO TEST OR CORRECTIVE MAINTENANCE	6.02E-04 2.40E-04 3.00E-04	IEV-COOND IRWB-PLUG IRDBSD1TM
68	4.33E-11	.06	LOSS OF CCS/SMS IRWST DISCHARGE LINE "B" BUS UNAVAILABLE	WITH RCS DRAINED INITIATING EVENT OCCURS STRAINER PLUGGED DUE TO TEST OR CORRECTIVE MAINTENANCE	6.02E-04 2.40E-04 3.00E-04	IEV-COOND IRWB-PLUG IRDBSD1TM
69	4.33E-11	.06	LOSS OF CCS/SMS IRWST DISCHARGE LINE "B" BUS UNAVAILABLE	WITH RCS DRAINED INITIATING EVENT OCCURS STRAINER PLUGGED DUE TO TEST OR CORRECTIVE MAINTENANCE	6.02E-04 2.40E-04 3.00E-04	IEV-COOND IRWB-PLUG IRDBSD1TM
70	4.31E-11	.06	LOSS OF OFFSITE FAILURE TO RECOVER AC POWER IN 1 HOUR CCF TO START CCF OF THE ADS SQUIB VALVES TO OPERATE	POWER INITIATING EVENT OCCURS WITH RCS DRAINED	4.44E-03 4.20E-01 2.00E-04 3.00E-05	IEV-LOSPD 0TH-B1 ZOK-PH-FS AOX-EV-SA
71	4.10E-11	.06	LOSS/RNS-V024 CCF OF ORIFIES	OPENS INITIATING EVENT OCCURS WITH RCS DRAINED	1.13E-05 3.63E-06	IEV-LOCA24D CCX-ORY-SPX
72	4.08E-11	.06	LOSS OF OFFSITE AC POWER CCF TO OPEN CCF OF IRWST INIT SQUIB VALVES	POWER INITIATING EVENT OCCURS RECOVERED IN CP > X VALVES	4.44E-03 5.80E-01 6.10E-04 2.60E-05	IEV-LOSPD SNC-B1S RNC-PV-G2 TRK-NPT-G01

Table 54B-9

CASE I LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET	TROB	PERCENT	BASIC EVENT NAME	EVENT PROB.	IDENTIFIER
73	4.08E-11	.06	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS FAILURE TO RECOVER AC POWER IN 1 HOUR COMMON CAUSE FAILURE OF THE ADS SQUIB VALVES TO OPERATE	WITH RCS DRAINED CLOSE	4.44E-03 4.20E-01 7.30E-04 3.02E-05	TEV-LOSPD 0TH-R1 BCX-CB-GC ADX-EV-GA
74	3.99E-11	.06	LOSS OF CCS/SWS CCF OF GRAVITY MECHANICAL	WITH RCS DRAINED INITIATING EVENT OCCURS INJECTION CHECK VALVES TO OPEN NOW 023 TO FAIL-TO-OPEN	6.02E-04 3.00E-05 2.21E-03	TEV-COCD TRX-CV-AO RNS23M0095S
75	3.86E-11	.05	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR COMMON CAUSE FAILURE OF THE BATTERIES	WITH RCS DRAINED STANDBY DG TO RUN IDSA-DB-1A/1B	4.44E-03 4.20E-01 4.40E-04 4.70E-05	TEV-LOSPD 0TH-R1 Z0X-DG-DR CCX-BV-PN
76	3.73E-11	.05	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS FAILURE TO RECOVER AC POWER IN 1 HOUR CCF TO START OF THE PUMPS CCF OF TRUST INU SQUIB VALVES	WITH RCS DRAINED IDSA-DB-1A/1B	4.44E-03 4.20E-01 7.70E-04 2.60E-05	TEV-LOSPD 0TH-R1 RNSX-BW-FS TRX-MV-QD1
77	3.58E-11	.05	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS FAILURE TO RECOVER AC POWER IN 1 HOUR D/G FAILS TO START & RUN OR D/G FAILS TO COMMON CAUSE FAILURE OF THE BATTERIES	WITH RCS DRAINED BKR 102 FAILS TO CLOSE BKR 202 FAILS TO CLOSE IDSA-DB-1A/1B	4.44E-03 4.20E-01 2.02E-02 2.02E-02 4.70E-05	TEV-LOSPD 0TH-R1 Z01M001 Z02M001 CCX-BV-PN
78	3.54E-11	.05	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS FAILURE TO RECOVER AC POWER IN 1 HOUR CCF OF THE POWER INTERFACE OUTPUT BOARDS IN RCS	WITH RCS DRAINED DB1 UNAVAILABLE	4.44E-03 4.20E-01 2.20E-03 8.62E-06	TEV-LOSPD 0TH-R1 SD1M003 CCX-BP-SM
79	3.54E-11	.05	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS FAILURE TO RECOVER AC POWER IN 1 HOUR COMMON CAUSE FAILURE OF THE SQUIB VALVES	WITH RCS DRAINED 4KV BREAKER TO CLOSE	4.44E-03 4.20E-01 7.30E-04 2.60E-05	TEV-LOSPD 0TH-R1 BCX-CB-GC TRX-MV-QD1
80	3.47E-11	.05	LOSS OF CCS/SWS COMMON CAUSE FAILURE OF THE ADS SQUIB VALVES TO OPERATE IBWST DISCHARGE LINE "A" IBWST DISCHARGE LINE "B"	INITIATING EVENT OCCURS PLUNGED PLUNCHED STRAINER STRAINER	6.02E-04 2.40E-04 2.40E-04	TEV-COCD TMA-PLUG TRB-PLUG

Table 54B-9

CASE 1 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PROB	PERCENT	BASIC EVENT NAME	INITIATING EVENT OCCURS	EVENT PROB.	IDENTIFIER
81	3.42E-11	.05	LOSS OF RNS WITH RCS FILLED COND. PROB. OF REC-MANDAS COMMON MODE OPERATOR FAILS	(FAILURE OF FAILURE OF INPUT LOGIC GROUPS TO RECOGNIZE THE NEED FOR RCS)	9.61E-04 5.06E-01 1.03E-04 6.83E-04	IEV-RNSND REC-MANDASC CCX-INPUT-LOGIC LPM-MAN05
82	3.41E-11	.05	LOSS OF OFFSITE FAILURE TO CCF TO OPEN	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR OF THE STOP CHECK VALVES CCF OF THE ADS SQUIB VALVES TO OPERATE	4.44E-03 4.20E-01 6.10E-04 3.00E-05	IEV-LOSPD OTH-R1 RNX-KV-GO ADX-EV-SA
83	3.36E-11	.05	LOSS OF OFFSITE FAILURE TO FAILURE OF CCF OF THE POWER	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR PLS OUTPUT LOGIC I/Os INTERFACE OUTPUT BOARDS IN PMS	4.44E-03 4.20E-01 2.09E-03 8.62E-06	IEV-LOSPD OTH-R1 PLSMOD11 CCX-EP-SAM
84	3.21E-11	.05	LOSS OF OFFSITE FAILURE TO CCF TO START CCF OF THE POWER	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR OF ENGINE-DRIVEN FUEL PUMPS INTERFACE OUTPUT BOARDS IN PMS	4.44E-03 4.20E-01 2.00E-03 8.62E-06	IEV-LOSPD OTH-R1 ZOK-FD-ES CCX-EP-SAM
85	2.97E-11	.04	LOCA/RNS-1024 CCF OF PRESSURE	OPENS INITIATING EVENT OCCURS TRANSMITTERS	1.13E-05 2.63E-06	IEV-LOCA24P CCX-XMTX
86	2.96E-11	.04	LOSS OF OFFSITE FAILURE TO CCF TO OPEN CCF OF IRWST INJ	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR OF THE STOP CHECK VALVES SQUIB VALVES	4.44E-03 4.20E-01 6.10E-04 2.60E-05	IEV-LOSPD OTH-R1 RNX-KV-GO DWN-KV-GO1
87	2.89E-11	.04	LOSS OF CCS/SWS CCF OF GRAVITY OPERATOR FAILS	WITH RCS DRAINED INJECTION CHECK VALVES TO OPEN TO RECOGNIZE NEED AND TO OPEN RNS MOV V023	6.02E-04 3.00E-05 1.60E-03	IEV-CCWD INX-CV-AO RHN-MAN05
88	2.82E-11	.04	LOSS OF OFFSITE FAILURE TO FIXED COMPONENT CCF OF THE ADS	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR FAILURES SQUIB VALVES TO OPERATE	4.44E-03 4.20E-01 5.04E-04 3.00E-05	IEV-LOSPD OTH-R1 EDIMOD01 ADX-EV-SA
89	2.76E-11	.04	LOSS OF OFFSITE	POWER INITIATING EVENT OCCURS	4.44E-03	IEV-LOSPD

Table 54B-9

CASE I LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET	PROB	PERCENT	BASIC EVENT NAME	EVENT	PROB.	IDENTIFIER
				RECOVER AC POWER IN 1 HOUR		4.20E-01	OTH-R1
				SEGMENT HARDWARE FAILURE OR PUMP MP O1B D/G FAILS TO START & RUN OR BHR 102 FAILS TO CLOSE		2.44E-02	SWMOD002
				CCF OF THE ADS SQUIB VALVES TO OPERATE		2.02E-02	Z01MOD01
						3.00E-05	ADX-EV-SA
90	2.70E-11	.04		OVERDRAINING OF RCS DURING DRAIN DOWN TO MID-LOOP INITIATING EVENT	IEV-RCSD0	4.44E-06	
				TO ISOLATE BNS PIPE RUPTURE		5.50E-02	RBN-MANO4
				TWN-MANO4C MECHANICAL FAILURE CAUSES POWER INITIATING EVENT OCCURS		5.09E-02	TWN-MANO4C
				RECOVER AC POWER IN 1 HOUR		2.21E-03	EN23M005S
92	2.69E-11	.04		LOSS OF OFFSITE FAILURE TO COMMON CAUSE CCF OF STRAINERS IN IRWST TANK	WITH RCS DRAINED	4.44E-03	IEV-LOSPD
				4KV BREAKERS TO OPEN		4.20E-01	OTH-R1
						1.20E-03	Z0X-CB-G0
						1.20E-05	TRX-FL-GP
93	2.60E-11	.04		LOSS OF OFFSITE FAILURE TO PLS LOGIC GROUP CCF OF STRAINERS IN IRWST TANK	WITH RCS DRAINED	4.44E-03	IEV-LOSPD
				POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR FAILURE UPON PROCESSING		4.20E-01	OTH-R1
				DEMAND		1.16E-03	PLS0301BSR
						1.20E-05	TRX-FL-GP
94	2.60E-11	.04		LOSS OF OFFSITE FAILURE TO PLS LOGIC GROUP CCF OF STRAINERS IN IRWST TANK	WITH RCS DRAINED	4.44E-03	IEV-LOSPD
				POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR FAILURE UPON PROCESSING		4.20E-01	OTH-R1
				DEMAND		1.16E-03	PLS0301ASA
						1.20E-05	TRX-FL-GP
95	2.49E-11	.04		LOCAL BNS PIPE RUPTURE WITH RCS OPERATOR FAILS CCF OF GRAVITY INJECTION CHECK	FILLED INIT. VALVES TO OPEN	1.51E-05	IEV-LOCAPPEND
					EVENT OCCURS	5.50E-02	RBN-MANO4
						3.00E-05	TRX-CV-A0
96	2.46E-11	.03		LOSS OF OFFSITE FAILURE TO COMMON CAUSE CCF OF THE ADS SQUIB VALVES TO OPERATE	WITH RCS DRAINED	4.44E-03	IEV-LOSPD
				POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR		4.20E-01	OTH-R1
				STANDBY DG TO RUN		4.40E-04	Z0X-DG-DR
						3.00E-05	ADX-EV-SA
97	2.45E-11	.03		LOSS OF OFFSITE FAILURE TO COMMON CAUSE COMMON CAUSE	WITH RCS DRAINED	4.44E-03	IEV-LOSPD
				POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR		4.20E-01	OTH-R1
				STANDBY DG TO IDSA-DB-1A/1B		2.80E-04	Z0X-DG-DS
				BATTERIES		4.70E-05	CCX-BY-IPN

Table 54B-9

CASE I LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PROB	PERCENT	BASIC EVENT NAME		EVENT PROB.	IDENTIFIER
98	2.44E-11	.03	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS FAILURE TO RECOVER AC POWER IN 1 HOUR FIXED COMPONENT FAILURES CCF OF IRWST INJ SQUIB VALVES	WITH RCS DRAINED	4.44E-03 4.20E-01 5.04E-04 2.60E-05	IEV-LOSPD OTH-R1 EDIMOD01 INX-MV-G01
99	2.39E-11	.03	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS FAILURE TO RECOVER AC POWER IN 1 HOUR PUMP MP 01B SEGMENT HARDWARE FAILURE OR D/G FAILS TO START & RUN OR BKR 102 FAILS TO CLOSE CCF OF IRWST INJ SQUIB VALVES	WITH RCS DRAINED DIVERTED FLOW	4.44E-03 4.20E-01 2.44E-02 2.02E-02 2.60E-05	IEV-LOSPD OTH-R1 SWBMOD02 Z01MOD01 INX-MV-G01
100	2.38E-11	.03	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS OFFSITE AC POWER RECOVERED IN CCF TO START OF THE PUMPS CCF OF STRAINERS IN IRWST TANK	WITH RCS DRAINED 1 HOUR	4.44E-03 5.80E-01 7.70E-04 1.20E-05	IEV-LOSPD SUC-R1S RNX-PM-FS INX-FL-GP
101	2.28E-11	.03	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS FAILURE TO RECOVER AC POWER IN 1 HOUR D/G FAILS TO START & RUN OR BKR 102 FAILS TO CLOSE D/G FAILS TO START & RUN OR BKR 202 FAILS TO CLOSE CCF OF THE ADS SQUIB VALVES TO OPERATE	WITH RCS DRAINED	4.44E-03 4.20E-01 2.02E-02 2.02E-02 3.00E-05	IEV-LOSPD OTH-R1 Z01MOD01 Z02MOD01 ADK-EV-SA
102	2.18E-11	.03	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS FAILURE TO RECOVER AC POWER IN 1 HOUR BREAKER 100 FAILS TO OPEN D/G FAILS TO START & RUN OR BKR 202 FAILS TO CLOSE COMMON CAUSE FAILURE OF THE BATTERIES	WITH RCS DRAINED [#3,5] IDSA-DB-1A/1B	4.44E-03 4.20E-01 1.23E-02 2.02E-02 4.70E-05	IEV-LOSPD OTH-R1 EC1CB100V0 Z02MOD01 CCX-BY-PN
103	2.18E-11	.03	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS FAILURE TO RECOVER AC POWER IN 1 HOUR D/G FAILS TO START & RUN OR BKR 102 FAILS TO CLOSE BREAKER 200 FAILS TO OPEN COMMON CAUSE FAILURE OF THE BATTERIES	WITH RCS DRAINED [#5,3] IDG-A-DB-1A/1B	4.44E-03 4.20E-01 2.02E-02 1.23E-02 4.70E-05	IEV-LOSPD OTH-R1 Z01MOD01 EC2CB200V0 CCX-BY-PN
104	2.13E-11	.03	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS FAILURE TO RECOVER AC POWER IN 1 HOUR COMMON CAUSE FAILURE STANDBY DG TO RUN CCF OF IRWST INJ SQUIB VALVES	WITH RCS DRAINED	4.44E-03 4.20E-01 4.40E-04 2.60E-05	IEV-LOSPD OTH-R1 Z0X-DG-DR INX-MV-G01

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Table 54B-9

CASE 1 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PROB	PERCENT	BASIC EVENT NAME	EVENT PROB.	IDENTIFIER
105	1.98E-11	.03	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS FAILURE TO RECOVER AC POWER IN 1 HOUR D/G FAILS TO START & RUN OR BKR 102 FAILS TO CLOSE D/G FAILS TO START & RUN OR BKR 202 FAILS TO CLOSE CCF OF IRWST INJ SQUIB VALVES	4.44E-03 4.70E-01 2.02E-02 2.02E-02 2.60E-05	IEV-LOSPD OTH-R1 Z01M001 Z02M001 INX-M7-G01
106	1.93E-11	.02	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS FAILURE TO RECOVER AC POWER IN 1 HOUR 4KV BREAKERS TO OPEN CCF OF THE POWER INTERFACE OUTPUT BOARDS IN PMS	4.44E-03 4.20E-01 2.20E-03 8.62E-06	IEV-LOSPD OTH-R1 BCX-CB-GO CCX-EP-SAM
107	1.90E-11	.03	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS FAILURE TO RECOVER AC POWER IN 1 HOUR COMMON CAUSE UNAVAILABLE DB1 4KV BREAKERS TO OPEN CCF OF THE POWER INTERFACE OUTPUT BOARDS IN PMS	4.44E-03 4.20E-01 2.20E-03 2.09E-03 2.21E-03	IEV-LOSPD OTH-R1 SD1M003 EMAN011 RN23M005S
108	1.89E-11	.03	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS FAILURE TO RECOVER AC POWER IN 1 HOUR OFFSITE CCF TO OPEN OF THE STOP CHECK VALVES CCF OF STRAINERS IN IRWST TANK	4.44E-03 5.80E-01 6.10E-04 1.20E-05	IEV-LOSPD SUC-R1S BNX-KV-GO INX-FL-GP
109	1.86E-11	.03	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS FAILURE TO RECOVER AC POWER IN 1 HOUR PLS LOGIC GROUP PROCESSING FAILURE UPON CCF OF THE POWER INTERFACE OUTPUT BOARDS IN PMS	4.44E-03 4.20E-01 1.16E-03 8.62E-06	IEV-LOSPD OTH-R1 PL50301BSA CCX-EP-SAM
110	1.86E-11	.03	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS FAILURE TO RECOVER AC POWER IN 1 HOUR PLS LOGIC GROUP PROCESSING FAILURE UPON CCF OF THE POWER INTERFACE OUTPUT BOARDS IN PMS	4.44E-03 4.20E-01 1.16E-03 8.62E-06	IEV-LOSPD OTH-R1 PL50301BSA CCX-EP-SAM
111	1.84E-11	.03	LOSS OF CCS/SSES WITH RCS DRAINED INITIATING EVENT OCCURS GROUP PROCESSING FAILURE CAUSES MOV 023 TO FAIL-TO-OPEN MECHANICAL	6.02E-04 1.38E-05 2.21E-03	IEV-CWCD CCX-7M0A030X RN23M005S
112	1.81E-11	.03	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS RECOVERED IN 1 HOUR AC POWER OFFSITE	4.44E-03 5.80E-01	IEV-LOSPD SUC-R1S

Table 54B-9

CASE 1 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PROB	PERCENT	BASIC EVENT NAME	EVENT PROB.	IDENTIFIER
			PUMP 01A FAILS; STOP CK V007A, CB & RELAY PTC; CB BCS122 SPO	1.53E-02	RNAMOD06S
			PUMP 01B FAILS & ST CK V007B & C B PTC & RE PTC & CB BCS221 SPO	1.53E-02	RNBMOD07S
			CCF OF THE ADS SQUIB VALVES TO OPERATE	3.00E-05	ADX-EV-SA
113	1.77E-11	.03	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS WITH RCS DRAINED	4.44E-03	IEV-LOSPD
			FAILURE TO RECOVER AC POWER IN 1 HOUR	4.20E-01	OTH-R1
			FIXED COMPONENTS FAILURE	3.17E-04	EDIMOD11
			CCF OF THE ADS SQUIB VALVES TO OPERATE	3.00E-05	ADX-EV-SA
114	1.77E-11	.03	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS WITH RCS DRAINED	4.44E-03	IEV-LOSPD
			FAILURE TO RECOVER AC POWER IN 1 HOUR	4.20E-01	OTH-R1
			FIXED COMPONENTS FAILURE	3.17E-04	EDIMOD13
			CCF OF THE ADS SQUIB VALVES TO OPERATE	3.00E-05	ADX-EV-SA
115	1.77E-11	.03	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS WITH RCS DRAINED	4.44E-03	IEV-LOSPD
			FAILURE TO RECOVER AC POWER IN 1 HOUR	4.20E-01	OTH-R1
			FIXED COMPONENTS FAILURE	3.17E-04	EDIMOD113
			CCF OF THE ADS SQUIB VALVES TO OPERATE	3.00E-05	ADX-EV-SA
116	1.73E-11	.02	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS WITH RCS DRAINED	4.44E-03	IEV-LOSPD
			FAILURE TO RECOVER AC POWER IN 1 HOUR	4.20E-01	OTH-R1
			PUMP 01B FAILS & ST CK V007B & C B PTC & RE PTC & CB BCS221 SPO	1.53E-02	RNBMOD07S
			D/G FAILS TO START & RUN OR BKR 102 FAILS TO CLOSE	2.02E-02	Z01MOD01
			CCF OF THE ADS SQUIB VALVES TO OPERATE	3.00E-05	ADX-EV-SA
117	1.73E-11	.02	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS WITH RCS DRAINED	4.44E-03	IEV-LOSPD
			FAILURE TO RECOVER AC POWER IN 1 HOUR	4.20E-01	OTH-R1
			PUMP 01A FAILS; STOP CK V007A, CB & RELAY PTC; CB BCS122 SPO	1.53E-02	RNAMOD06S
			D/G FAILS TO START & RUN OR BKR 202 FAILS TO CLOSE	2.02E-02	Z02MOD01
			CCF OF THE ADS SQUIB VALVES TO OPERATE	3.00E-05	ADX-EV-SA
118	1.72E-11	.02	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS WITH RCS DRAINED	4.44E-03	IEV-LOSPD
			FAILURE TO RECOVER AC POWER IN 1 HOUR	4.20E-01	OTH-R1
			CCF TO START OF THE PUMPS	7.70E-04	RNX-PM-FS
			CCF OF STRAINERS IN IRWST TANK	1.20E-05	INX-FL-GP
119	1.72E-11	.02	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS WITH RCS DRAINED	4.44E-03	IEV-LOSPD
			FAILURE TO RECOVER AC POWER IN 1 HOUR	4.20E-01	OTH-R1

Table S4B-9

CASE I LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET	PROB	PERCENT	BASIC EVENT NAME	EVENT PROB.	IDENTIFIER
120	1.71E-11	.02		CCF TO START OF ENGINE-DRIVEN FUEL PUMPS FAILURE OF PMS OUTPUT LOGIC I/O'S MECHANICAL FAILURE CAUSES MOV 023 TO FAIL-TO-OPEN	2.00E-03 2.09E-03 2.21E-03	ZOR-PD-ES PRAMOD11 BN23M0055
121	1.68E-11	.02		LOSS OF OFFSITE POWER INITIATING EVENT OCCURS FAILURE TO RECOVER AC POWER IN 1 HOUR EDSI EA 1 DISTH. FML FAILURE OR TAN CCF OF THE ADS SQUIB VALVES TO OPERATE	4.44E-03 4.20E-01 3.05E-04 3.00E-05	IEV-LOSPD OTR-R1 ED1M0D07 ADK-EV-SA
122	1.63E-11	.02		LOSS OF OFFSITE POWER INITIATING EVENT OCCURS FAILURE TO RECOVER AC POWER IN 1 HOUR SEGMENT HARDWARE FAILURE OR PUMP MP 01B BREAKER 109 FAILS TO OPEN CCF OF THE ADS SQUIB VALVES TO OPERATE	4.44E-03 4.20E-01 2.44E-02 1.23E-02 3.00E-05	IEV-LOSPD OTR-R1 SWEMOD12 BC1CB100WD TRX-EV-SA
123	1.57E-11	.02		LOSS OF OFFSITE POWER INITIATING EVENT OCCURS FAILURE TO RECOVER AC POWER IN 1 HOUR COMMON CAUSE FAILURE 4KV BREAKER TO CLOSE CCF OF STRAINERS IN INSTR TANK	4.44E-03 4.20E-01 7.30E-04 1.20E-05	IEV-LOSPD OTR-R1 BCX-CB-C4C TRX-FL-GP
124	1.57E-11	.02		LOSS OF OFFSITE POWER INITIATING EVENT OCCURS AC POWER FAILS: STOP CK V007A, CB & RELAY FTC; PUMP 01A FAILS & ST CK V007B & C B FTC & 2E FTC & CCF OF INSTR INJ SQUIB VALVES	4.44E-03 5.80E-02 1.53E-02 1.53E-02 2.60E-05	IEV-LOSPD STC-R1S PRAMOD065 PNEW0D075 TRX-MU-GO1
125	1.55E-11	.02		LOSS OF OFFSITE POWER INITIATING EVENT OCCURS FAILURE TO RECOVER AC POWER IN 1 HOUR COMMON CAUSE FAILURE STANDBY DG TO OPERATE	4.44E-03 4.20E-01 2.80E-04 3.00E-05	IEV-LOSPD OTR-R1 ZOR-DG-DS ADK-EV-SA
126	1.54E-11	.02		LOSS OF OFFSITE POWER INITIATING EVENT OCCURS COND. PROB. OF REC-MANDAS (FAILURE OF COMMON MODE FAILURE OF INPUT LOGIC GROUPS OPERATOR FAILS TO ACTUATE ADS BEFORE CORE DAMAGE)	5.02E-04 5.06E-01 1.03E-04 4.93E-04	IEV-COUD REC-MANDASC CCK-INPUT-LOGIC ADK-MANDA
127	1.54E-11	.02		LOSS OF RCS/SWS WITH RCS DRAINED COND. PROB. OF REC-MANDAS (FAILURE OF COMMON MODE FAILURE OF INPUT LOGIC GROUPS OPERATOR FAILS TO ACTUATE ADS BEFORE CORE DAMAGE)	4.44E-03 4.20E-01	IEV-LOSPD OTR-R1

Table 54B-9

CASE I LIST OF TOP 206 DOMINANT CUTSETS

NUMBER	CUTSET	PROB	PERCENT	BASIC EVENT NAME	COMPONENTS	FAILURE	EVENT PROB.	IDENTIFIER
				FIXED CCF OF IRWST INJ SQUIB VALVES			3.17E-04 2.60E-05	ED1MOD13 TRX-MV-G01
127	1.54E-11	.02	.02	LOSS OF OFFSITE FAILURE TO RECOVER AC POWER IN 1 HOUR	POWER INITIATING EVENT OCCURS. COMPONENTS FAILURE	WITH RCS DRAINED	4.44E-03 4.20E-01 3.17E-04 2.60E-05	TEV-LOSPD OTH-R1 ED1MOD13 TRX-MV-G01
128	1.54E-11	.02	.02	LOSS OF OFFSITE FAILURE TO RECOVER AC POWER IN 1 HOUR	POWER INITIATING EVENT OCCURS. COMPONENTS FAILURE	WITH RCS DRAINED	4.44E-03 4.20E-01 3.17E-04 2.60E-05	TEV-LOSPD OTH-R1 ED1MOD11 TRX-MV-G01
129	1.52F-11	.02	.02	ONE TRAINING OF RBN-MANO4-SUCC CCF OF ORIFICES	RECOVER AC POWER IN 1 HOUR	WITH RCS DRAINED	4.44E-06 9.45E-01 3.63E-06	TEV-RC50D RBN-MANO4-SUCC CCK-ORY-SPX
130	1.50E-11	.02	.02	LOSS OF OFFSITE FAILURE TO RECOVER AC POWER IN 1 HOUR	POWER INITIATING EVENT OCCURS. STOP CR V007A. CB & RELAY FTC: CB ECS122 SPO	WITH RCS DRAINED	4.44E-03 4.20E-01 1.53E-02 2.02E-02 2.60E-05	TEV-LOSPD OTH-R1 RBNMOD06S Z03M0001 TRX-MV-G01
131	1.50E-11	.02	.02	LOSS OF OFFSITE FAILURE TO RECOVER AC POWER IN 1 HOUR	POWER INITIATING EVENT OCCURS. START & RUN OR BBR 202 FAILS TO CLOSE	WITH RCS DRAINED	4.44E-03 4.20E-01 1.53E-02 2.02E-02 2.60E-05	TEV-LOSPD OTH-R1 RBNMOD07S Z03M0001 TRX-MV-G01
132	1.49E-11	.02	.02	LOSS OF OFFSITE FAILURE TO RECOVER AC POWER IN 1 HOUR	POWER INITIATING EVENT OCCURS. UNAVAILABLE DB1	WITH RCS DRAINED	4.44E-03 4.20E-01 2.20E-03 3.63E-06	TEV-LOSPD OTH-R1 ED1MOD03 CCK-ORY-SPX
133	1.48E-11	.02	.02	LOSS OF OFFSITE FAILURE TO RECOVER AC POWER IN 1 HOUR	POWER INITIATING EVENT OCCURS. EDS1 EA 1 DISTR. PNL FAILURE OR TSM	WITH RCS DRAINED	4.44E-03 4.20E-01 3.05E-04 2.60E-05	TEV-LOSPD OTH-R1 ED1MOD07 TRX-MV-G01

Table 54B-9

CASE 1 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PROB	PERCENT	BASIC EVENT NAME		EVENT PROB.	IDENTIFIER
134	1.46E-11	.02	LOSS OF CCS/SWS WITH RCS DRAINED INITIATING EVENT OCCURS SOFTWARE CCF OF OUTPUT LOGIC T/O'S MECHANICAL FAILURE CAUSES MON 023 TO FAIL-TO-OPEN		6.02E-04 1.10E-04 2.21E-03	TEV-CCWD CCK-2NAM001-SW BN2 3M0055
135	1.46E-11	.02	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS FAILURE TO RECOVER AC POWER IN 1 HOUR PUMP MP D1B SEGMENT HARDWARE FAILURE OR BREAKER 100 FAILS TO OPEN CCF OF IRWST INR SQUIB VALVES	WITH RCS DRAINED DIVERTED FLOW [#3,5]	4.44E-03 4.20E-01 2.44E-02 1.23E-02 2.60E-05	TEV-LOSPD OTH-B1 SWBMD002 BC1CB100W0 IRW-MU-1031
136	1.42E-11	.02	LOSS OF CCS/SWS WITH RCS DRAINED INITIATING EVENT OCCURS COND. PROB. OF REC-MANDAS (FAILURE OF ORIFICE FAILURE DUE TO PLUGGING OPERATOR FAILS TO ACTUATE ADS BEFORE CORE DAMAGE	MANUAL DAS ACT. MANUAL DAS ACT.	6.02E-04 5.06E-01 9.46E-05 4.93E-04	TEV-CCWD REC-MANDASC TWR0R1705PX REN-MAN01
137	1.42E-11	.02	LOSS OF CCS/SWS WITH RCS DRAINED INITIATING EVENT OCCURS COND. PROB. OF REC-MANDAS (FAILURE OF ORIFICE FAILURE DUE TO PLUGGING OPERATOR FAILS TO ACTUATE ADS BEFORE CORE DAMAGE	MANUAL DAS ACT. MANUAL DAS ACT.	6.02E-04 5.06E-01 9.46E-05 4.93E-04	TEV-CCWD REC-MANDASC TWR0R1605PX REN-MAN-1
138	1.41E-11	.02	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS FAILURE TO RECOVER AC POWER IN 1 HOUR FAILURE OF PLS OUTPUT LOGIC T/O'S CCF OF ORIFICES	WITH RCS DRAINED [#3,5]	4.44E-03 4.20E-01 2.09E-03 3.63E-06	TEV-LOSPD OTH-B1 PLSMOD11 CCK-ORY-SP%
139	1.39E-11	.02	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS FAILURE TO RECOVER AC POWER IN 1 HOUR FAILS TO OPEN BREAKER 100 D/G FAILS TO START & RUN OR BKR 202 FAILS TO CLOSE CCF OF THE ADS SQUIB VALVES TO OPERATE	WITH RCS DRAINED [#3,5]	4.44E-03 4.20E-01 1.23E-02 2.02E-02 3.00E-05	TEV-LOSPD OTH-B1 BC1CB100W0 Z02M0001 ADK-EV-SA
140	1.39E-11	.02	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS FAILURE TO RECOVER AC POWER IN 1 HOUR D/G FAILS TO BREAKER 200 FAILS TO OPEN CCF OF THE ADS SQUIB VALVES TO OPERATE	WITH RCS DRAINED [#5,3]	4.44E-03 4.20E-01 2.02E-02 1.23E-02 3.00E-05	TEV-LOSPD OTH-B1 ZD1M0001 BC2CB200W0 ADK-FU-SA
141	1.37E-11	.02	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS	WITH RCS DRAINED	4.44E-03	TEV-LOSPD

Table 54B-9

CASE 1 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PROB.	PERCENT	BASIC EVENT NAME		EVENT PROB.	IDENTIFIER	
			FAILURE TO BATTERY FAILURE OF OPERATOR FAILS	RECOVER AC POWER IN 1 HOUR DBI PMS OUTPUT TO RECOGNIZE	4.20E-01 2.20E-03 2.09E-03 1.60E-03	OTH-R1 EDIMOD03 PMAMOD11 RHN-MAN05	
142	1.37E-11	.02	LOSS OF OFFSITE FAILURE TO CCF TO OPEN CCF OF STRAINERS	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR OF THE STOP IN IRWST TANK	WITH RCS DRAINED CHECK VALVES	4.44E-03 4.20E-01 6.10E-04 1.20E-05	IEV-LOSPD OTH-R1 RNX-KV-GO INX-FL-GP
143	1.36E-11	.02	LOSS OF OFFSITE FAILURE TO COMMON CAUSE CCF OF IRWST INJ	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR FAILURE SQUIB VALVES	WITH RCS DRAINED STANDBY DG TO START	4.44E-03 4.20E-01 2.80E-04 2.60E-05	IEV-LOSPD OTH-R1 ZOX-DG-DS INX-MV-GO1
144	1.36E-11	.02	LOCA/RNS-V024 SOFTWARE CCF	OPENS INITIATING EVENT OCCURS OF ALL CARDS	WITH RCS DRAINED	1.13E-05 1.20E-06	IEV-LOCA24D CCX-SFTW
145	1.35E-11	.02	LOSS OF OFFSITE FAILURE TO CCF TO START CCF OF ORIFICES	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR OF ENGINE-DRIVEN FUEL PUMPS	WITH RCS DRAINED	4.44E-03 4.20E-01 2.00E-03 3.63E-06	IEV-LOSPD OTH-R1 ZOX-PD-ES CCX-ORY-SPX
146	1.34E-11	.02	LOSS OF RNS WITH SOFTWARE CCF FAILURE OF	RCS FILLED OF ALL CARDS MANUAL DAS	INITIATING EVENT OCCURS ACTUATION	9.61E-04 1.20E-06 1.16E-02	IEV-RNSND CCX-SFTW REC-MANDAS
147	1.33E-11	.02	LOSS OF CCS/SWS CCF OF LOGIC OPERATOR FAILS	WITH RCS DRAINED GROUP PROCESSING TO RECOGNIZE	INITIATING EVENT OCCURS NEED AND TO OPEN RNS MOV V023	6.02E-04 1.38E-05 1.60E-03	IEV-CWWD CCX-PMA030X RHN-MAN05
148	1.33E-11	.02	LOSS OF OFFSITE FAILURE TO BREAKER 100 BREAKER 200 COMMON CAUSE	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR FAILS TO OPEN FAILS TO OPEN FAILURE OF THE	WITH RCS DRAINED [#3,5] [#5,3] BATTERIES	4.44E-03 4.20E-01 1.23E-02 1.23E-02 IDSA-DB-1A/1B	IEV-LOSPD OTH-R1 BC1CB100V0 BC2CB200V0 CCX-BY-PN
149	1.31E-11	.02	LOSS OF OFFSITE	POWER INITIATING EVENT OCCURS	WITH RCS DRAINED	4.44E-03	IEV-LOSPD

Table 54B-9

CASE 1 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET	FREQ	PERCENT	BASIC EVENT NAME	EVENT PROB.	IDENTIFIER
				FAILURE TO RECOVER AC POWER IN 1 HOUR	4.20E-01	OTH-R1
				PUMP 01A FAILS; STOP CK V007A, CB & RELAY FTC; CB ECS122 SPO	1.53E-02	BNAMOD06S
				PUMP 01B FAILS & ST CK V007B & C B FTC & RE FTC & CB ECS221 SPO	1.53E-02	BNBMOD07S
				CCF OF THE ADS SQUIB VALVES TO OPERATE	3.00E-05	ADX-EV-SA
150	1.25E-11	.02		LOSS OF OFFSITE POWER INITIATING EVENT OCCURS	4.44E-03	TEV-LOSPD
				RECOVER AC POWER IN 1 HOUR	4.20E-01	OTH-R1
				OF ENGINE-DRIVEN FUEL PUMPS	2.00E-03	20X-PD-ES
				PMS OUTPUT LOGIC I/O'S	2.09E-03	PRAMOD11
				NEED AND TO OPEN BNS MNU V023	1.60E-03	RHN-MAN05
151	1.24E-11	.02		LOSS OF OFFSITE POWER INITIATING EVENT OCCURS	4.44E-03	TEV-LOSPD
				RECOVER AC POWER IN 1 HOUR	4.20E-01	OTH-R1
				NEED TO RECOGNIZE	7.70E-04	BNX-PM-FS
				CCF OF THE PUMPS	8.62E-06	CCX-EP-SAM
152	1.20E-11	.02		LOSS OF OFFSITE POWER INITIATING EVENT OCCURS	4.44E-03	TEV-LOSPD
				RECOVER AC POWER IN 1 HOUR	4.20E-01	OTH-R1
				FAILS TO OPEN	1.23E-02	ECICB100VO
				START & RUN OR BKR 202 FAILS TO CLOSE	2.02E-02	Z02M0D01
				CCF OF IRONTM SQUIB VALVES	2.60E-05	TMX-W7-G01
153	1.20E-11	.02		LOSS OF OFFSITE POWER INITIATING EVENT OCCURS	4.44E-03	TEV-LOSPD
				RECOVER AC POWER IN 1 HOUR	4.20E-01	OTH-R1
				START & RUN OR BKR 102 FAILS TO CLOSE	2.02E-02	Z01M0D01
				FAILS TO OPEN	1.23E-02	BC2CB200VO
				CCF OF IRONTM SQUIB VALVES	2.60E-05	TMX-W7-G01
154	1.18E-11	.02		LOSS OF OFFSITE POWER INITIATING EVENT OCCURS	4.44E-03	TEV-LOSPD
				RECOVER AC POWER IN 1 HOUR	4.20E-01	OTH-R1
				HARDWARE FAILURE OR DIVERTED FLOW	1.04E-02	CCBMOD11S
				D/G FAILS TO START & RUN OR BKR 102 FAILS TO CLOSE	2.02E-02	Z01M0D01
				CCF OF THE ADS SQUIB VALVES TO OPERATE	3.00E-05	ADX-EV-SA
155	1.17E-11	.02		LOSS OF OFFSITE POWER INITIATING EVENT OCCURS	4.44E-03	TEV-LOSPD
				RECOVER AC POWER IN 1 HOUR	4.20E-01	OTH-R1
				COMMON CAUSE FAILURE	7.30E-04	BCX-CB-GC
				CCF OF THE POWER INTERFACE OUTPUT BOARDS IN PMS	8.62E-06	CCX-EP-SAM

Table 54B-9

CASE 1 LIST OF TOP 296 DOMINANT CUTSETS

NUMBER	CUTSET PROB	INT	BASIC EVENT NAME	INITIATING EVENT OCCURS	EVENT PROB.	IDENTIFIER	
156	1.15E-11	.02	LOSS OF PNS WITH RCS FILLED SOFTWARE CCF FAILURE OF MANUAL DAS	INITIATING EVENT OCCURS REACTOR TRIP HARDWARE	9.61E-04 1.20E-06 1.00E-02	IEV-RNSND CCX-SFTW MDAS	
157	1.14E-11	.02	LOSS OF OFFSITE FAILURE TO CCF TO RUN OF COMMON CAUSE	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR ENGINE-DRIVEN FUEL PUMPS FAILURE OF THE BATTERIES	4.44E-03 4.20E-01 1.30E-04 4.70E-05	IEV-LOSPD OTH-R1 ZOK-PD-ER CCX-BY-PN	
158	1.13E-11	.02	LOSS OF OFFSITE FAILURE TO RECOVER AC POWER IN 1 HOUR PUMP 01A FAILS; STOP CK V007A, CB & RELAY FTC; PUMP 01B FAILS & ST CK V007B & C B FTC & RE FTC & CB RCS221 SPO CCF OF IRWST INJ SQUIB VALVES	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR STOP CK V007A, CB & RELAY FTC; PUMP 01B FAILS & ST CK V007B & C B FTC & RE FTC & CB RCS221 SPO CCF OF IRWST INJ SQUIB VALVES	4.44E-03 4.70E-01 1.51E-02 1.51E-02 2.60E-05	IEV-LOSPD OTH-R1 RNAMOD04S RNBMOD07S INX-MV-G01	
159	1.13E-11	.02	LOSS OF OFFSITE FAILURE TO RECOVER AC POWER IN 1 HOUR FIXED COMPONENT FAILURES CCF OF STRAINERS IN IRWST TANK	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR	4.44E-03 4.20E-01 5.04E-04 1.20E-05	IEV-LOSPD OTH-R1 EDIMOD01 INX-FL-GP	
160	1.11E-11	.02	LOSS OF CCS/SWS CHECK VALVE CHECK VALVE IRWST DISCHARGE	WITH RCS DRAINED 123A 124A LINE "B"	INITIATING EVENT OCCURS FAILS TO OPEN FAILS TO OPEN STRAINER PLUGGED	6.02E-04 8.76E-03 8.76E-03 2.40E-04	IEV-COWD IWACV123AO IWACV124AO INB-PLUG
161	1.11E-11	.02	LOSS OF CCS/SWS CHECK VALVE CHECK VALVE IRWST DISCHARGE	WITH RCS DRAINED 123A 125A LINE "B"	INITIATING EVENT OCCURS FAILS TO OPEN FAILS TO OPEN STRAINER PLUGGED	6.02E-04 8.76E-03 8.76E-03 2.40E-04	IEV-COWD IWACV123AO IWACV125AO INB-PLUG
162	1.11E-11	.02	LOSS OF CCS/SWS CHECK VALVE CHECK VALVE IRWST DISCHARGE	WITH RCS DRAINED 122A 124A LINE "B"	INITIATING EVENT OCCURS FAILS TO OPEN FAILS TO OPEN STRAINER PLUGGED	6.02E-04 8.76E-03 8.76E-03 2.40E-04	IEV-COWD IWACV122AO IWACV124AO INB-PLUG
163	1.11E-11	.02	LOSS OF CCS/SWS CHECK VALVE CHECK VALVE	WITH RCS DRAINED 122A 125A	INITIATING EVENT OCCURS FAILS TO OPEN FAILS TO OPEN	6.02E-04 8.76E-03 8.76E-03	IEV-COWD IWACV122AO IWACV125AO

Table S4B-9

CASE 1 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PROB	PERCENT	BASIC EVENT NAME	STRAINER	PLUGGED	EVENT PROB.	IDENTIFIER
164	1.10E-11	.02	OVERDRAINING OF RCS DURING DRAIN DOWN TO MID-LOOP INITIATING EVENT RHN-MAND4-SUCC CCF OF PRESSURE TRANSMITTERS			2.40E-04	TBV-BCSOD RHN-MAND4-SUCC CCK-3MTRX
165	1.10E-11	.02	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS FAILURE TO RECOVER AC POWER IN 1 HOUR PUMP MP 01B DIG FAILS TO START & RUN OR BKR 102 FAILS TO CLOSE CCF OF STRAINERS IN TRUST TANK	WITH RCS DRAINED		4.44E-06 9.45E-01 2.63E-06	TBV-LOSPD OTH-B1 SHRM0D02 2D1MD001 TWR-FL-GP
166	1.39E-11	.02	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS OFFSITE AC POWER RECOVERED IN 1 HOUR CMF OF OUTPUT LOGIC I/O'S CCF OF THE ADS SQUIB VALVES TO OPERATE	WITH RCS DRAINED 1 HOUR		4.44E-03 5.80E-01 1.41E-04 3.00E-05	TBV-LOSPD SPC-R1S CCK-PL4M001 ADK-EV-SA
167	1.08E-11	.02	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS FAILURE TO RECOVER AC POWER IN 1 HOUR BATTERY DB1 CCF OF PRESSURE TRANSMITTERS	WITH RCS DRAINED		4.44E-03 4.20E-01 2.20E-03 2.63E-06	TBV-LOSPD OTH-B1 ED1MC003 CCK-3MTRX
168	1.07E-11	.02	OVERDRAINING OF RCS DURING DRAIN DOWN TO MID-LOOP INITIATING EVENT RHN-MAND4-SUCC OPERATOR FAILS MECHANICAL	TO OPEN TWO FAILURE CAUSES MOV -23 TO FAIL-TO-OPEN		4.44E-06 9.45E-01 1.15E-03 2.21E-03	TBV-BCSOD RHN-MAND4-SUCC RHN-MAND5 PAC23M005S
169	1.05E-11	.02	LOSS OF CCS/SMS SOFTWARE CCF OF OPERATOR FAILS WITH RCS DRAINED INITIATING EVENT OCCURS NEED AND TO OPEN ENS MOV V023	1/O'S TO RECOGNIZE		6.02E-04 1.10E-05 1.60E-03	TBV-CO0D CCK-PL4M001-SC RHN-MAND5
170	1.05E-11	.01	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS FAILURE TO RECOVER AC POWER IN 1 HOUR PUMP 01B FAILS & ST CK V007B & C B FTC & BE FTC & CB RCS221 SPD BREAKER 100 FAILS TO OPEN CCF OF THE ADS SQUIB VALVES TO OPERATE	WITH RCS DRAINED		4.44E-03 4.20E-01 1.53E-02 1.23E-02 3.00E-05	TBV-LOSPD OTH-B1 SHRM0D07S EC1CB100V0 ADK-EV-SA
171	1.05E-11	.01	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS WITH RCS DRAINED			4.44E-03	TBV-LOSPD

Table 54B-9

CASE I LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PROB.	PERCENT	BASIC EVENT NAME	EVENT PROB.	IDENTIFIER
			FAILURE TO RECOVER AC POWER IN 1 HOUR STOP CK V007A, CB & RELAY FTC: C8 BCS122 SPO [05, 31]	4.20E-01 1.53E-02 PNM00065 BCCB200VO ADM-EV-SA	OTH-R1 PNM00065 BCCB200VO ADM-EV-SA
172	1.05E-11	.01	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR UNAVAILABLE DB1 BATTERY DEMAND OF LOGIC GROUP PROCESSING FAILURE UPON MECHANICAL FAILURE CAUSES MOV 023 TO FAIL-TO-OPEN	4.44E-03 4.20E-01 2.20E-03 1.16E-03 PNM00055	TEV-LOSPD OTH-R1 ED1MOD03 PNM0301ASA
173	1.05E-11	.01	LOSS OF OFFSITE FAILURE TO RECOVER AC POWER IN 1 HOUR POWER INITIATING EVENT OCCURS UNAVAILABLE DB1 BATTERY DEMAND OF LOGIC GROUP PROCESSING FAILURE UPON MECHANICAL FAILURE CAUSES MOV 023 TO FAIL-TO-OPEN	4.44E-03 4.20E-01 2.20E-03 1.16E-03 PNM00055	TEV-LOSPD OTH-R1 ED1MOD03 PNM0301BSA
174	1.03E-11	.01	LOSS OF OFFSITE FAILURE TO RECOVER AC POWER IN 1 HOUR COMMON CAUSE 4KV BREAKERS TO OPEN FAILURE OF PMS OUTPUT LOGIC I/Os MECHANICAL FAILURE CAUSES MOV 023 TO FAIL-TO-OPEN	4.44E-03 4.20E-01 1.20E-03 2.09E-03 2.21E-03	TEV-LOSPD OTH-R1 ECK-CB-G0 PNM00011 PNM00055
175	1.03E-11	.01	LOSS OF CCS/SNS WITH RCS DRAINED INITIATING EVENT OCCURS COND. PROB. OF REC-MANDAS FAILURE OF MANUAL DAS ACT. LEVEL TRANSMITTER FAILURE BEFORE CORE DAMAGE OPERATOR FAILS TO ACTUATE ADS	6.02E-04 5.06E-01 6.84E-05 4.93E-04	TEV-COD REC-MANDASC TW2TL160UFX ADM-MANO1
176	1.03E-11	.01	LOSS OF CCS/SNS WITH RCS DRAINED INITIATING EVENT OCCURS COND. PROB. OF REC-MANDAS FAILURE OF MANUAL DAS ACT. LEVEL TRANSMITTER FAILURE BEFORE CORE DAMAGE OPERATOR FAILS TO ACTUATE ADS	6.02E-04 5.06E-01 6.84E-05 4.93E-04	TEV-COD REC-MANDASC TW2TL170UFX ADM-MANO1
177	1.03E-11	.01	LOSS OF OFFSITE FAILURE TO RECOVER AC POWER IN 1 HOUR FAILURE OF PLS OUTPUT LOGIC I/Os CCF OF PRESSURE TRANSMITTERS	4.44E-03 4.20E-01 2.09E-03 2.63E-06	TEV-LOSPD OTH-R1 PL5MOD11 COK-XMTFX

Table 54B-9

CASE I LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PROB	PERCENT	BASIC EVENT NAME		EVENT PHOB.	IDENTIFIER
178	1.02E-11	.01	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS FAILURE TO RECOVER AC POWER IN 1 HOUR PUMP SUBLOOP B HARDWARE FAILURE OR DIVERTED FLOW CCF OF IRWST INJ SQUIB VALVES	WITH RCS DRAINED	6.44E-03 4.20E-01 1.04E-02 2.02E-04 2.60E-05	TEV-LOSPO 0TH-B1 L-BMO001S Z01-M0001 ZMK-M01-G01
179	9.97E-12	.01	LOCAL RNS PIPE OPERATOR FAILS CCF OF STRAINERS IN IRWST TANK	RUPTURE WITH RCS FILLED INIT. RNS PIPE RUPTURE	1.51E-05 5.50E-02 1.20E-05	TEV-LOCAPR0D RNS-MAN04 TMR-FL-GP
180	9.85E-12	.01	LOSS OF CCS/SNS CCF OF THE POWER INTERFACE OUTPUT BOARDS IN PES EDS3 EA 1 DISTR.	WITH RCS FILLED INITIATING EVENT OCCURS	3.75E-03 8.62E-06 3.05E-04	TEV-CWD CCX-EP-SAW EDSM007
181	9.85E-12	.01	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS FAILURE TO RECOVER AC POWER IN 1 HOUR COMMON CAUSE FAILURE CCF OF STRAINERS IN IRWST TANK	WITH RCS DRAINED STANDBY LS TO RTN	4.44E-03 4.40E-04 1.20E-05	TEV-LOSPO 0TH-B1 Z0K-DG-DR TMR-FL-GP
182	9.82E-12	.01	LOSS OF CCS/SNS ORIFICE FAILURE OPERATOR FAILS COND. PROB. OF	WITH RCS DRAINED INITIATING EVENT OCCURS DUE TO PLUGGING TO OPEN TWO RBN-MAN05 top.	6.02E-04 9.46E-05 1.15E-03 1.50E-01	TEV-CWD TMR08160SPX RBN-MAN00 RBN-MAN05C
183	9.82E-12	.01	LOSS OF CCS/SNS ORIFICE FAILURE OPERATOR FAILS COND. PROB. OF	WITH RCS DRAINED INITIATING EVENT OCCURS DUE TO PLUGGING TO OPEN TWO RBN-MAN05 top.	6.02E-04 9.46E-05 1.15E-03 1.50E-01	TEV-CWD TMR08170SPX RBN-MAN00 RBN-MAN05C
184	9.81E-12	.01	LOSS OF OFFSITE FAILURE TO CCF TO START CCF OF PRESSURE	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR OF ENGINE-DRIVEN TRANSMITTERS	4.44E-03 4.20E-01 2.00E-03 2.63E-06	TEV-LOSPO 0TH-B1 Z0K-FD-ES COCK-XNTBX
185	9.81E-12	.01	LOSS OF OFFSITE FAILURE TO CCF TO OPEN CCF OF THE POWER INTERFACE OUTPUT-	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR CHECK VALVES OF THE STOP BOARDS IN PES	4.44E-03 4.20E-01 6.10E-04 8.62E-06	TEV-LOSPO 0TH-B1 Z0K-FV-GO CCX-EP-SAW

Table 54B-9

CASE I LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PROB	PERCENT	BASIC EVENT NAME	EVENT PROB.	IDENTIFIER
186	9.72E-12	.01	LOSS OF OFFSITE POWER INITIATING EVENT. OCCURS FAILURE TO RECOVER AC POWER IN 1 HOUR	WITH RCS DRAINED 4.44E-03	TEV-LOSPD
			PUMP MP 01A SEGMENT HARDWARE FAILURE OR CCF OF THE ADS SQUIB VALVES TO OPERATE	4.20E-01 7.12E-03 2.44E-02 3.00E-05	OTH-B1 SWARMOD07 SWEMOD02 ADX-EV-SA
187	9.57E-12	.01	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS FAILURE TO RECOVER AC POWER IN 1 HOUR	WITH RCS DRAINED 4.44E-03	TEV-LOSPD
			FAILURE OF OUTPUT DRIVER CCF OF THE ADS SQN 1B VALVES TO OPERATE	4.20E-01 1.71E-04 3.00E-05	OTH-B1 BCSEPMB15S ADX-EV-SA
188	9.56E-12	.01	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS FAILURE TO RECOVER AC POWER IN 1 HOUR	WITH RCS DRAINED 4.44E-03	TEV-LOSPD
			CCF TO START OF ENGINE-DRIVEN FUEL PUMPS FAILURE UPON DEMAND OF LOGIC GROUP PROCESSING MECHANICAL FAILURE CAUSES MOV 023 TO FAIL-TO-OPEN	4.20E-01 2.00E-03 1.36E-03 2.21E-03	OTH-B1 ZOK-PD-ES PMAN0301ASA RN23M0055
189	9.56E-12	.01	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS FAILURE TO RECOVER AC POWER IN 1 HOUR	WITH RCS DRAINED 4.44E-03	TEV-LOSPD
			CCF TO START OF ENGINE-DRIVEN FUEL PUMPS FAILURE UPON DEMAND OF LOGIC GROUP PROCESSING MECHANICAL FAILURE CAUSES MOV 023 TO FAIL-TO-OPEN	4.20E-01 2.00E-03 1.36E-03 2.21E-03	OTH-B1 ZOK-PD-ES PMAN0301ASA RN23M0055
190	9.44E-12	.01	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS FAILURE TO RECOVER AC POWER RECORDED IN "CMF OF OUTPUT" LOGIC I/O.	WITH RCS DRAINED 4.44E-03	TEV-LOSPD
			CCP OF IRNST INJ SQUIB VALVES	5.80E-01 1.41E-04 2.60E-05	SUC-C-15 CX-PL4M0011 TOK-MT-G01
191	9.13E-12	.01	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS FAILURE TO RECOVER AC POWER IN 1 HOUR	WITH RCS DRAINED 4.44E-03	TEV-LOSPD
			D/G FAIL-TO-D/G FAILS TO CCP OF STRAINQS IN IRNST TANK	4.20E-01 2.02E-02 2.02E-02 1.20E-05	OTH-B1 201M0001 202M0001 TOK-FL-02P
192	9.12E-12	.01	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS FAILURE TO RECOVER AC POWER IN 1 HOUR	WITH RCS DRAINED 4.44E-03	TEV-LOSPD
			PUMP 01A FAILS: STOP CK V007A, CB & RELAY FTC: BREAKER 200 FAILS TO OPEN	4.20E-01 1.53E-02 1.23E-02	OTH-B1 PMAN0306S BC2CB200070

Table 54B-9

CASE I LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PROB	PERCENT	BASIC EVENT NAME		EVENT PROB.	IDENTIFIER
			CCF OF TRUST INJ SQUIB VALVES			
193	9.12E-12	.01	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS FAILURE TO RECOVER AC POWER IN 1 HOUR PUMP 01B FAILS & ST. CR. V007B & C B FTC & CB BREAKER 100 FAILS TO OPEN CCF OF TRUST INJ SQUIB VALVES	WITH RCS DRAINED	4.44E-03 4.20E-01 3.52E-02 1.23E-02 2.60E-05	TEV-LOSSF2 OTH-R1 RNEMOD07S RC1CB100W TRX-MT-G01
194	8.91E-12	.01	LOSS OF CCS/SMS CCF OF ACTUATION LOGIC GROUPS OPERATOR FAILS TO OPEN TWO RIN MANDS (OP. COND. PROB. OF	INITIATING EVENT OCCURS TRUST MOVES FAILS TO OPEN	6.02E-04 8.58E-05 1.15E-03 1.50E-01	TEV-COND CCX-PMAN00ZK TRN-MAND05 RPN-MAND05C
195	8.88E-12	.01	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS FAILURE TO RECOVER AC POWER IN 1 HOUR BATTERY DB1 COMMON CAUSE FAILURE OF THE BATTERIES STANDBY DC UNAVAILABLE DUE TO TEST AND	WITH RCS DRAINED UNAVAILABLE MAINTENANCE	4.44E-03 4.20E-01 2.20E-02 4.70E-05 4.60E-02	TEV-LOSSD OTH-R1 ED1M00D3 CTX-BY-EPN Z02DG002TM
196	8.46E-12	.01	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS FAILURE TO RECOVER AC POWER IN 1 HOUR BREAKER 100 FAILS TO OPEN BREAKER 200 FAILS TO OPEN CCF OF THE ADS SQUIS VALVES TO OPERATE	WITH RCS DRAINED	4.44E-03 4.20E-01 1.23E-02 1.23E-02 3.00E-05	TEV-LOSSD OTH-R1 RC1CB100W EC2CB200W ADX-EV-SA
197	8.42E-12	.01	LOSS OF CCS/SMS TRUST DISCHARGE LINE "B" FAILURE OF POWER INTERFACE OUTPUT BOARD	INITIATING EVENT OCCURS PUMP020	6.02E-04 2.40E-04 5.83E-05	TEV-COMN TRB-PMSG TRAEPL2IASX
198	8.42E-12	.01	LOSS OF OFF-TE POWER INITIATING EVENT OCCURS FAILURE TO RECOVER AC POWER IN 1 HOUR PUMP MP 01A PUMP MP 01B CCF OF TRUST INJ SQUIB VALVES	WITH RCS DRAINED SEGMENT HARWARE FAILURE OR SEGMENT HARWARE FAILURE OR DIVERTED FLOW	4.44E-03 4.20E-01 7.12E-03 2.44E-02 2.60E-05	TEV-LOSSD OTH-R1 SEBEM007 SWBEM002 TRX-MT-G01
199	8.36E-12	.01	LOSS OF CCS/SMS WITH RCS DRAINED CCF OF ACTUATION LOGIC GROUPS BUS UNAVAILABLE DUE TO TEST OR	INITIATING EVENT OCCURS CORRECTIVE MAINTENANCE	6.02E-04 4.63E-05 3.00E-04	TEV-COND CCX-PMAN00ZK ID008SD1TM
200	8.34E-12	.01	LOSS OF CCS/SMS WITH RCS DRAINED CCF OF ACTUATION LOGIC GROUPS BUS UNAVAILABLE DUE TO TEST OR	CORRECTIVE MAINTENANCE	6.02E-04 4.63E-05 3.00E-04	TEV-COND CCX-PMAN00ZK ID008SD1TM

Table 54B-10

BASIC EVENT IMPORTANCE - CASE 1

BASIC EVENT	IMPORTANCE (%DECREASE)	NUMBER OF CUTSETS	DECREASE IN SYSTEM UNAVAILABILITY	BASIC EVENT PROBABILITY
1 IEV-CCWD	66.35	2122	4.6836E-08	6.0200E-04
2 ADX-EV-SA	31.73	290	2.2397E-08	3.0000E-05
3 IWX-MV-GO1	27.50	266	1.9414E-08	2.6000E-05
4 IEV-LOSPD	14.63	2450	1.0326E-08	4.4400E-03
5 IWX-FL-GP	12.96	168	9.1450E-09	1.1000E-05
6 OTH-R1	9.69	2292	6.8425E-09	4.2000E-11
7 CCX-SPTW	9.55	26	6.7434E-09	1.2000E-06
8 IEV-RNED	8.97	1015	6.3345E-09	8.1500E-05
9 SUC-R1S	4.94	158	3.4836E-09	5.8000E-01
10 IEV-RCBD	4.21	484	2.9711E-09	4.4400E-06
11 CCX-ORY-SPX	3.83	112	2.7053E-09	3.6300E-06
12 RHN-MAN05C	3.70	27	2.6101E-09	1.5000E-01
13 CCX-XMTRX	2.77	97	1.9519E-09	2.6300E-06
14 RHN-MAN04	2.74	123	1.9325E-09	5.5000E-02
15 IVM-MAN00C	2.66	23	1.8777E-09	5.0000E-02
16 IEV-CWEND	2.25	69	1.5863E-09	3.7500E-03
17 CCX-EP-SAM	1.97	218	1.3927E-09	8.6200E-06
18 RHN-MAN04-SUCC	1.52	399	1.0743E-09	9.4500E-01
19 REC-MANDABC	1.46	46	1.0312E-09	5.0600E-01
20 LPM-MAN05	1.38	37	9.7191E-10	6.8300E-04
21 IEV-LOCA24D	1.24	428	8.7778E-10	1.1300E-05
22 REC-MANDAB	1.22	36	8.5761E-10	1.1600E-02
23 IWB-PLUG	1.21	443	8.5150E-10	2.4000E-04
24 IVM-MAN00	1.13	189	8.0059E-10	1.1500E-03
25 MDAB	1.08	79	7.5911E-10	1.0000E-02
26 IEV-LOCA24ND	1.04	121	7.3323E-10	1.6800E-05
27 IWX-CV-AO	.94	395	6.6008E-10	3.0000E-05
28 ZOX-PD-ES	.87	113	6.1060E-10	2.0000E-03
29 CCX-BY-PN	.83	237	5.8284E-10	4.7000E-05
30 IRWMOD05B	.78	380	5.4779E-10	3.0000E-03
31 ZO1MOD01	.76	524	5.3414E-10	2.0200E-02
32 RN23MOD5B	.75	917	5.2999E-10	2.2300E-03
33 ED1MOD03	.71	131	4.9867E-10	2.2020E-03
34 IEV-LOSPND	.67	40	4.7026E-10	1.7100E-02
35 CCX-ORY-SP	.66	18	4.6569E-10	2.7700E-04
36 IEV-RNSND	.58	46	4.0677E-10	9.6100E-04
37 ECX-CB-GO	.52	92	3.6510E-10	1.2000E-03
38 RHN-MAN05	.50	785	3.5326E-10	1.6000E-03
39 SUC-R2S	.49	9	3.4566E-10	7.6000E-01
40 PL5MOD11	.48	73	3.4195E-10	2.0900E-03
41 CCX-XMTR195	.48	16	3.3742E-10	2.0100E-04
42 ZO2MOD01	.46	187	3.2753E-10	2.0200E-02
43 EC1CB100VO	.45	380	3.1668E-10	1.2300E-02
44 RNX-PM-FB	.39	50	2.7618E-10	7.7000E-04
45 PMAMOD11	.34	296	2.4119E-10	2.0900E-03
46 ECX-CB-GC	.31	74	2.2118E-10	7.3000E-04
47 RNX-KV-GO	.31	44	2.1853E-10	6.1000E-04
48 SWBMOD02	.29	150	2.0748E-10	2.4400E-02
49 RNBMOD07B	.29	146	2.0625E-10	1.5300E-02
50 EC2CB200VO	.28	144	1.9692E-10	1.2300E-02
51 CCX-INPUT-LOGIC	.27	29	1.9140E-10	1.0300E-04
52 PL50301ASA	.27	47	1.8850E-10	1.1600E-03
53 PL50301BSA	.27	47	1.8850E-10	1.1600E-03
54 RNAMOD06S	.26	90	1.8655E-10	1.5300E-02
55 CCX-PMAMOD1X	.26	195	1.8036E-10	4.6300E-05
56 ZOX-DG-DR	.19	57	1.3222E-10	4.4000E-04
57 PMA0301ASA	.18	218	1.2936E-10	1.1600E-03
58 PMA0301BSA	.18	218	1.2936E-10	1.1600E-03
59 OTH-R2	.18	29	1.2447E-10	2.4000E-01
60 CCBMOD01S	.12	91	8.5340E-11	1.0400E-02
61 ZOX-DG-DS	.12	50	8.3609E-11	2.8000E-04
62 ED1MOD01	.11	23	8.0589E-11	5.0400E-04
63 ADN-MAN01	.11	58	7.9719E-11	4.9300E-04
64 ED1MOD11	.10	55	6.9890E-11	3.1700E-04
65 ED1MOD113	.10	55	6.9890E-11	3.1700E-04
66 SWAMOD07	.10	42	6.9016E-11	7.1200E-03

67	IDAMOD95	.10	354	6.8742E-11	5.1600E-04
68	IDDBSD1TM	.09	370	6.4586E-11	3.0000E-04
69	IDDBSDK1TM	.09	370	6.4586E-11	3.0000E-04
70	IDDBSDS1TM	.09	370	6.4586E-11	3.0000E-04
71	CCX-PMA030X	.08	130	5.3556E-11	1.5800E-05
72	IDBFEDD1TM	.08	125	5.35536E-11	3.0000E-04
73	IDBFSDK1TM	.08	125	5.35536E-11	3.0000E-04
74	IDBBSDE1TM	.08	125	5.35536E-11	3.0000E-04
75	CCAMOD02	.08	40	5.3178E-11	7.1000E-03
76	ED1MOD13	.07	17	5.0329E-11	3.1700E-04
77	CCX-PL4MOD1	.07	17	4.9372E-11	1.4100E-04
78	ED1MOD07	.07	17	4.8478E-11	3.0500E-04
79	IWA-PLUG	.06	136	4.5067E-11	2.4000E-04
80	CCX-PMA MOD1-SW	.06	128	4.2992E-11	1.3000E-05
81	EC1REDG2GA	.06	57	4.2477E-11	4.3600E-03
82	IeV-LOCAPRND	.06	59	4.2065E-11	1.5100E-05
83	ED2MOD03	.06	68	4.1838E-11	2.7000E-03
84	IDAMOD04	.06	340	4.0934E-11	3.1700E-04
85	EC1REDG1GA	.05	39	3.8569E-11	4.3600E-03
86	ZOX-PD-ER	.05	32	3.7969E-11	1.3000E-04
87	IDABSDS1TM	.05	255	3.7163E-11	3.0000E-04
88	RNDEPO23SA	.05	291	3.4971E-11	1.7100E-04
89	CCX-PL403	.05	34	3.3840E-11	9.6900E-05
90	IWIOR170SPX	.04	34	2.8797E-11	9.4600E-05
91	IWIOR160SPX	.04	34	2.8797E-11	9.4600E-05
92	CCX-PMDMOD1	.04	270	2.8108E-11	1.4100E-04
93	IWACV122AO	.04	126	2.8029E-11	8.7600E-03
94	IWACV123AO	.04	126	2.8029E-11	8.7600E-03
95	IWACV124AO	.04	126	2.8029E-11	8.7600E-03
96	IWACV125AO	.04	126	2.8029E-11	8.7600E-03
97	EC5EPMB1SA	.04	9	2.6790E-11	1.7100E-04
98	ZO1MOD04	.04	82	2.5979E-11	1.2500E-03
99	ZO1DG001TM	.04	95	2.5243E-11	4.6000E-02
100	EC1BS001TM	.04	442	2.5138E-11	2.7000E-03
101	EC1BS012TM	.04	442	2.5138E-11	2.7000E-03
102	EC1BS121TM	.04	442	2.5138E-11	2.7000E-03
103	ED3MOD07	.03	26	2.4418E-11	3.0500E-04
104	PMAMOD11X	.03	369	2.4116E-11	6.5300E-04
105	ZO2DG002TM	.03	42	2.3965E-11	4.6000E-02
106	CCX-PL1MOD1	.03	9	2.2094E-11	1.4100E-04
107	CCX-PL7MOD1	.03	9	2.2094E-11	1.4100E-04
108	CCX-PMA MOD1	.03	87	2.1346E-11	1.4100E-04
109	IWI TL170UFX	.03	33	2.0855E-11	6.8400E-05
110	IWI TL160UFX	.03	33	2.0855E-11	6.8400E-05
111	ED3MOD03	.03	35	2.0850E-11	2.2020E-03
112	CCX-BY-PN1	.03	17	1.8431E-11	5.7000E-05
113	CCX-PMD030	.03	184	1.8183E-11	9.6900E-05
114	RNX-CV-GO	.03	12	1.7721E-11	5.1000E-05
115	ZO2MODD4	.03	44	1.7694E-11	1.2500E-03
116	ZOX-BL-ES	.02	16	1.6716E-11	6.0000E-05
117	PL4MOD11	.02	43	1.5793E-11	2.0900E-03
118	CCX-PL103	.02	7	1.5111E-11	9.6900E-05
119	CCX-PL703	.02	7	1.5111E-11	9.6900E-05
120	PL1MOD11	.02	36	1.4332E-11	2.0900E-03
121	PL7MOD11	.02	36	1.4332E-11	2.0900E-03
122	CCX-PMA030	.02	59	1.2905E-11	9.6900E-05
123	PXN-AV-LA	.02	57	1.2491E-11	6.1000E-05
124	PL5XS001SA	.02	7	1.2481E-11	8.0000E-05
125	JCX-IV-XR	.02	132	1.2178E-11	2.4000E-05
126	SWBMOD09P	.02	31	1.2089E-11	1.8500E-03
127	CCX-EP-SAMX	.02	87	1.1380E-11	2.9400E-06
128	SWAMOD09P	.02	22	1.0838E-11	1.8500E-03
129	CCX-PMA MOD2X	.01	22	1.0555E-11	8.5800E-05
130	IRAEPI21ASAX	.01	42	1.0003E-11	5.8300E-05
131	CCX-PMDMOD4	.01	133	8.2095E-12	4.9800E-05
132	PL40301ASA	.01	29	7.8139E-12	1.1600E-03
133	PL40301BSA	.01	26	7.5545E-12	1.1600E-03
134	ALL-IND-FAIL	.01	27	7.3433E-12	1.0000E-06
135	PL10301ASA	.01	25	7.2707E-12	1.1600E-03
136	PL70301ASA	.01	25	7.2707E-12	1.1600E-03
137	PL10301BSA	.01	24	7.2056E-12	1.1600E-03
138	PL70301BSA	.01	24	7.2056E-12	1.1600E-03
139	PMA0301ASAX	.01	176	5.8789E-12	1.6500E-04
140	PMA0301BSAX	.01	157	5.7396E-12	1.6500E-04
141	PMAX800ASA	.01	28	5.5586E-12	8.0000E-05
142	RNX-PM-ER	.01	10	5.4562E-12	1.6000E-05
143	AD2MOD01	.01	21	5.0340E-12	5.5400E-02
144	AD2MOD02	.01	21	5.0340E-12	5.5400E-02
145	AD3MOD03	.01	21	5.0340E-12	5.5400E-02
146	AD3MOD04	.01	21	5.0340E-12	5.5400E-02
147	RHN-MAN03	.01	36	5.0231E-12	2.2600E-03

148	IDCBSDD1TM	.01	176	4.9447E-12	3.0000E-04
149	IDCBSDK1TM	.01	176	4.9447E-12	3.0000E-04
150	IDCBSDS1TM	.01	176	4.9447E-12	3.0000E-04
151	CCX-PM-ER	.01	10	4.7707E-12	1.4000E-05
152	SWX-PM-ER	.01	10	4.7707E-12	1.4000E-05
153	ED2MOD11	.01	20	4.3133E-12	5.1700E-04
154	EC2BB002TM	.01	187	3.9581E-12	3.7000E-03
155	EC2BB022TM	.01	187	3.9581E-12	3.7000E-03
156	EC2BE221TM	.01	187	3.9581E-12	3.7000E-03
157	IWBCV122AO	.01	184	3.8876E-12	3.7500E-03
158	IWBCV123AO	.01	184	3.8876E-12	3.7600E-03
159	IWBCV124AO	.01	184	3.8876E-12	3.7600E-03
160	IWBCV125AO	.01	184	3.8876E-12	3.7600E-03
161	CCX-IV-XR1	.01	6	3.7030E-12	2.4000E-05
162	CCX-PL4MOD1-SW	.01	8	3.6009E-12	1.1000E-05
163	PMAMOD12X	.00	123	3.4291E-12	6.5300E-04
164	ED3MOD01	.00	10	3.2503E-12	5.0400E-04
165	CCX-INPUT-LOGICX	.00	12	3.1284E-12	5.5900E-05
166	PMAXS00ABA	.00	158	3.1161E-12	5.0000E-05
167	CCX-EP-SA	.00	8	2.7215E-12	5.6200E-06
168	FC1MOD01	.00	16	2.6423E-12	5.0200E-04
169	PMDDMOD11	.00	206	2.6317E-12	5.0900E-03
170	PL4MOD12	.00	16	2.6108E-12	5.0900E-03
171	IDBFD013RQ	.00	10	2.0343E-12	3.2000E-05
172	IDBFD014RQ	.00	10	2.0343E-12	3.2000E-05
173	EC2MOD01	.00	14	2.0179E-12	5.0200E-04
174	CCX-LS-FA	.00	32	1.7374E-12	3.7000E-06
175	IDAMOD08	.00	96	1.6454E-12	3.1700E-04
176	CCX-PL1MOD1-SW	.00	4	1.5710E-12	1.1000E-05
177	CCX-PL7MOD1-SW	.00	4	1.5710E-12	1.1000E-05
178	IDD70019RW	.00	58	1.4450E-12	1.2000E-05
179	IDDFD020RQ	.00	58	1.4450E-12	1.2000E-05
180	ZON-MAN01	.00	7	1.3393E-12	2.6700E-03
181	CCY-IN-LOGIC-SW	.00	8	1.3228E-12	1.1000E-05
182	CCX-PMAMOD2-SW	.00	8	1.3228E-12	1.1000E-05
183	CCX-PMDMOD1-SW	.00	56	1.3217E-12	1.1000E-05
184	CCX-PMDMOD4-SW	.00	56	1.3217E-12	1.1000E-05
185	RNAEPRNPSA	.00	9	1.3107E-12	1.7100E-04
186	RNBEPRNPSA	.00	9	1.3107E-12	1.7100E-04
187	CCX-PMAMOD6	.00	41	1.2623E-12	4.9800E-05
188	SWNTPD001RI	.00	5	1.2469E-12	5.2300E-03
189	SWB-MAN02	.00	4	1.1959E-12	1.6000E-03
190	PMD0301ASA	.00	134	1.1637E-12	1.1600E-03
191	PMAMOD21X	.00	14	1.1450E-12	1.1600E-03
192	SW7EPSPBABA	.00	7	1.1083E-12	1.7100E-04
193	CCB-MAN01	.00	6	1.1010E-12	1.0700E-03
194	PL1MOD12	.00	7	1.0618E-12	5.0900E-03
195	PL7MOD12	.00	7	1.0618E-12	5.0900E-03
196	PMD0301BSA	.00	117	1.0526E-12	1.1600E-03
197	DG2-LOGIC	.00	1	9.6501E-13	5.0000E-03
198	PMDMOD12	.00	86	9.0394E-13	5.0900E-03
199	IRAEPI21BSAX	.00	66	8.9639E-13	5.8300E-05
200	PL40302ASA	.00	7	8.6231E-13	1.1600E-03
201	CCNTF101RI	.00	5	8.4991E-13	5.2300E-03
202	IDBBSDD1LF	.00	7	8.1146E-13	4.8000E-06
203	IDBBSDK1LF	.00	7	8.1146E-13	4.8000E-06
204	IDBBBSDS11F	.00	7	8.1146E-13	4.8000E-06
205	CC1EPSPBABA	.00	6	7.6561E-13	1.7100E-04
206	PMA0302ASAX	.00	59	7.3963E-13	1.6500E-04
207	DAS	.00	4	7.3730E-13	2.0000E-02
208	ZO1MOD03	.00	8	7.3574E-13	1.3000E-04
209	CC1EPSPBPBSA	.00	5	6.3893E-13	1.7100E-04
210	SW7EPSPBPBSA	.00	5	6.3893E-13	1.7100E-04
211	CCX-AV-1A	.00	5	6.2306E-13	6.1000E-05
212	ED1BSDS1LF	.00	3	6.0907E-13	4.8000E-06
213	PL40302BSA	.00	4	6.0296E-13	1.1600E-03
214	PMA0302BSAX	.00	40	6.0041E-13	1.5500E-04
215	ADX-MV-GO	.00	4	5.9086E-13	1.1000E-03
216	SW7EPCTFAS	.00	4	5.7998E-13	1.7100E-04
217	SW7EPCTFBBA	.00	4	5.7998E-13	1.7100E-04
218	CMX-VS-FA	.00	7	5.2991E-13	3.8400E-05
219	CMX-CV-GO	.00	4	5.2034E-13	5.1000E-05
220	ED3BSDS1TM	.00	1	4.8805E-13	3.0000E-04
221	IDDBBSDD1LF	.00	31	4.7840E-13	4.8000E-06
222	IDDBSDK1LF	.00	31	4.7840E-13	4.8000E-06
223	IDBBSDS11F	.00	31	4.7840E-13	4.8000E-06
224	IWNTK001AF	.00	5	4.7595E-13	2.4000E-06
225	PMDMOD41	.00	67	4.6219E-13	6.3500E-04
226	RC1OR195SP	.00	4	4.5386E-13	7.2200E-03
227	ZO2MOD03	.00	5	4.3032E-13	1.0000E-04
228	EC1MOD12	.00	66	4.2799E-13	4.8000E-05

229	CCX-PMDEHO	.00	29	4.0001E-13	4.0300E-06
230	PRAAV10BLA	.00	31	3.4428E-13	1.0900E-03
231	PRBAV10BLA	.00	31	3.4428E-13	1.0900E-03
232	PMD0302ASA	.00	46	3.4162E-13	1.1600E-03
233	IDDMOD33	.00	45	3.3173E-13	5.1600E-04
234	RC1TL195UF	.00	3	3.2829E-13	5.2300E-03
235	PL10302ASA	.00	3	3.1919E-13	1.1600E-03
236	PL70302ASA	.00	3	3.1919E-13	1.1600E-03
237	IDAMOD06	.00	48	3.1330E-13	4.3200E-05
238	IL-LMOD32	.00	58	3.0864E-13	3.1700E-04
239	CCX-BC-SA	.00	5	2.8300E-13	8.4000E-06
240	IDAMOD02	.00	31	2.7167E-13	2.7000E-03
241	IDAMOD03	.00	31	2.7167E-13	2.7000E-03
242	CCX-PMAMOD4-SW	.00	32	2.5979E-13	1.1000E-05
243	PL10302BSA	.00	2	2.5402E-13	1.1600E-03
244	PL70302BSA	.00	2	2.5402E-13	1.1600E-03
245	PL1MOD51	.00	2	2.4403E-13	8.7400E-04
246	CCX-HE-AF	.00	3	2.3115E-13	1.2000E-06
247	PMD0302BSA	.00	39	2.3048E-13	1.1600E-03
248	PL1XB00ASA	.00	3	2.1649E-13	8.0000E-05
249	PL4XS00ASA	.00	3	2.1649E-13	8.0000E-05
250	PL7XB00ASA	.00	3	2.1649E-13	8.0000E-05
251	PRN-MAN01	.00	4	1.8641E-13	4.0800E-04
252	PLMMOD41	.00	2	1.7897E-13	6.3500E-04
253	EC2MOD22	.00	17	1.5954E-13	4.8000E-05
254	PRAAV10BTM	.00	9	1.5754E-13	5.0000E-04
255	PRBAV10BTM	.00	9	1.5754E-13	5.0000E-04
256	IDCFD007RQ	.00	18	1.5343E-13	1.2000E-05
257	IDCFD008RQ	.00	18	1.5343E-13	1.2000E-05
258	PMAMOD22X	.00	2	1.4211E-13	1.1600E-03
259	CCX-XMTR	.00	3	1.3822E-13	2.0100E-04
260	PMAMOD41	.00	34	1.3656E-13	6.3500E-04
261	IDABSDS1LF	.00	24	1.2790E-13	4.8000E-06
262	IDDMOD38	.00	31	1.1813E-13	3.1700E-04
263	CCX-TRNSM	.00	2	1.0192E-13	2.0100E-04
264	EC1MOD121	.00	4	1.0159E-13	1.6800E-05
265	EC1MOD13	.00	42	9.6145E-14	4.8000E-05
266	EC2MOD23	.00	2	9.6145E-14	4.8000E-05
267	CCX-PMAEH0X	.00	11	9.4591E-14	4.0300E-06
268	DG1-LOGIC	.00	1	9.0039E-14	5.0000E-03
269	PMDXR00ASA	.00	32	6.9944E-14	8.0000E-05
270	ZOX-BL-ER	.00	1	6.5947E-14	1.3600E-06
271	ED2MOD01	.00	3	6.5170E-14	5.0400E-04
272	ZOX-FL-GP	.00	1	6.2950E-14	1.3000E-06
273	PMDEHOA1SA	.00	28	6.1395E-14	8.0000E-05
274	IDCBSDD1LF	.00	12	5.3846E-14	4.8000E-06
275	IDCBSDK1LF	.00	12	5.3846E-14	4.8000E-06
276	IDCBSDS1LF	.00	12	5.3846E-14	4.8000E-06
277	IDAMOD07	.00	15	5.2292E-14	2.1900E-02
278	IDDMOD21	.00	6	4.9960E-14	1.9200E-04
279	PMDMOD42	.00	11	4.0523E-14	6.3500E-04
280	IDABSDD1TM	.00	3	2.4980E-14	3.0000E-04
281	IDABSDK1TM	.00	3	2.4980E-14	3.0000E-04
282	PRX-HR-ML	.00	4	2.3759E-14	1.2000E-07
283	ZANMOD01	.00	6	1.9984E-14	8.4000E-05
284	EC1BS001LF	.00	7	1.8319E-14	4.8000E-06
285	PMDEHOA2SA	.00	10	1.7431E-14	8.0000E-05
286	IDDMOD34	.00	10	1.2101E-14	4.3200E-05
287	PMAEH0A1SAX	.00	6	1.0325E-14	8.0000E-05
288	PMAMOD42	.00	4	9.6589E-15	6.3500E-04
289	IDDMOD35	.00	4	5.7732E-15	4.1900E-02
290	EC2MOD221	.00	3	1.3323E-15	1.6800E-05
291	IWX-XMTRLW	.00	2	1.2212E-15	9.2000E-09
292	IDDMOD22	.00	3	9.9920E-16	2.7000E-03
293	IDDMOD23	.00	3	9.9920E-16	2.7000E-03
294	PRCEP10BSA	.00	3	2.2204E-16	1.7100E-04
295	PRDEP10BSA	.00	3	2.2204E-16	1.7100E-04

SYSTEM UNAVAILABILITY (Q) = 7.058E-08
 NUMBER OF BASIC EVENTS = 295
 NUMBER OF CUTSETS = 6834

BASIC EVENT	IMPORTANCE (% INCREASE)	NUMBER OF CUTSETS	INCREASE IN SYSTEM UNAVAILABILITY	BASIC EVENT PROBABILITY
1 CCX-SPTW	7.961444E+06	26	5.6195E-01	1.2000E-06
2 IWX-FL-GF	1.079667E+06	168	7.6208E-04	1.2000E-05
3 IWX-MV-GO1	1.057835E+06	266	7.4666E-04	2.6000E-05
4 ADX-EV-SA	1.057684E+06	290	7.4656E-04	3.0000E-05
5 CCX-ORY-SPX	1.055829E+06	112	7.4525E-04	3.6300E-06
6 CCX-XMTRX	1.051485E+06	97	7.4218E-04	2.6300E-06
7 IEV-RCSBD	948041.	484	6.69178E-04	4.4400E-06
8 CCX-EP-SAM	228896.	218	3.6156E-04	8.6200E-06
9 IEV-CCWD	110158.	2122	7.7754E-05	6.0200E-04
10 IEV-RNSD	110106.	1015	7.7718E-05	8.1500E-05
11 IEV-LOCA24D	110051.	428	7.7679E-05	1.1300E-05
12 IEV-LOCA24ND	61832.6	121	4.3644E-05	1.6800E-05
13 IWX-CV-AO	31171.5	395	2.2002E-05	3.0000E-05
14 CCX-PY-PN	17568.0	237	1.2400E-05	4.7000E-05
15 ALL-IND-FAIL	10403.6	27	7.3433E-06	1.0000E-06
16 CCX-PMAMOD1-SW	5537.16	128	3.9084E-06	1.1000E-05
17 CCX-PMAMOD1X	5518.75	195	3.8954E-06	4.6300E-05
18 CCX-PMA03X	5499.37	130	3.8817E-06	1.3800E-05
19 CCX-EP-SAMX	5484.01	87	3.8709E-06	2.9400E-06
20 IWB-PLUG	5025.32	443	3.5471E-06	2.4000E-04
21 IEV-LOCAPRND	3946.65	59	2.7857E-06	1.5100E-05
22 IEV-LOSPD	3280.31	2450	2.3154E-06	4.4400E-03
23 CCX-INPUT-LOGIC	2632.46	29	1.8581E-06	1.0300E-04
24 CCX-ORY-SP	2381.19	18	1.6807E-06	2.7700E-04
25 CCX-XMTR195	2377.85	16	1.6784E-06	2.0100E-04
26 LPM-MAN05	2014.66	37	1.4220E-06	6.8300E-04
27 IWN-MAND0	985.152	189	6.9536E-07	1.1500E-03
28 CCX-IV-XR	718.885	132	5.0742E-07	2.4000E-05
29 IEV-RNSND	599.100	46	4.2287E-07	9.6100E-04
30 IEV-CCWND	597.050	69	4.2142E-07	3.7500E-03
31 RNX-PM-FS	507.769	50	3.5841E-07	7.7000E-04
32 RNX-KV-GO	507.744	44	3.5803E-07	6.1000E-04
33 CCX-PL4MOD1	496.011	17	3.5011E-07	1.4100E-04
34 CCX-PL403	494.712	14	3.4919E-07	9.6900E-05
35 RNX-CV-GO	492.266	12	3.4746E-07	5.1000E-05
36 RNX-PM-ER	483.120	10	3.4101E-07	1.6000E-05
37 CCX-PM-ER	482.774	10	3.4076E-07	1.4000E-05
38 SWX-PM-ER	482.774	10	3.4076E-07	1.4000E-05
39 CCX-PL4MOD1-SW	463.773	8	3.2735E-07	1.1000E-05
40 CCX-EP-SA	463.729	8	3.2732E-07	8.6200E-06
41 CCX-LS-FA	458.366	32	3.2353E-07	5.3700E-06
42 CCX-BY-PN1	458.089	17	3.2334E-07	5.7000E-05
43 IW1TL170UFX	431.933	33	3.0488E-07	6.8400E-05
44 IW2TL160UFX	431.933	33	3.0488E-07	6.8400E-05
45 ZOX-PD-ES	431.667	113	3.0469E-07	2.0000E-03
46 IW1OR170SPX	431.229	34	3.0438E-07	9.4600E-05
47 IW2OR160SPX	431.229	34	3.0438E-07	9.4600E-05
48 ECX-CB-GO	430.529	92	3.0389E-07	1.2000E-03
49 ECX-CB-GC	428.942	74	3.0277E-07	7.3000E-04
50 ZOX-DG-DR	425.533	57	3.0036E-07	4.4000E-04
51 ZOX-DG-DS	422.929	50	2.9852E-07	2.8000E-04
52 ZOX-PD-ER	413.730	32	2.9203E-07	1.3000E-04
53 ZOX-BL-ES	394.681	16	2.7858E-07	6.0000E-05
54 RN23MOD5S	339.003	917	2.3928E-07	2.2100E-03
55 ED1MOD03	320.131	131	2.2596E-07	2.2020E-03
56 RHN-MAN05	312.316	785	2.2045E-07	1.6000E-03
57 ED1MOD11	312.255	55	2.2040E-07	3.1700E-04
58 ED1MOD113	312.255	55	2.2040E-07	3.1700E-04
59 IDDBSDD1TM	304.915	370	2.1522E-07	3.0000E-04
60 IDDBSDK1TM	304.915	370	2.1522E-07	3.0000E-04
61 IDDBSDS1TM	304.915	370	2.1522E-07	3.0000E-04
62 PXX-AV-LA	290.101	57	2.0477E-07	6.1000E-05
63 RNDEP023SA	289.685	291	2.0447E-07	1.7100E-04
64 CCX-PMDMOD1	282.383	270	1.9932E-07	1.4100E-04
65 IWNTK001AF	280.959	5	1.9831E-07	2.4000E-06
66 PRX-HR-ML	280.501	4	1.9799E-07	1.2000E-07
67 CCX-HE-AF	272.898	3	1.9262E-07	1.2000E-06
68 IWA-PLUG	265.973	136	1.8773E-07	2.4000E-04
69 CCX-PMD030	265.824	184	1.8763E-07	9.6900E-05
70 IRWMOD05S	257.915	380	1.8205E-07	3.0000E-03
71 IDBBSDD1TM	252.749	125	1.7840E-07	3.0000E-04
72 IDBBSDK1TM	252.749	125	1.7840E-07	3.0000E-04

73	IDBBSDS1TM	252.749	125	1.7840E-07	3.0000E-04
74	IRAEPI21ASAX	243.079	42	3.7158E-07	5.8300E-05
75	IDBF013RQ	240.166	10	1.6952E-07	1.2000E-05
76	IDBF014RQ	240.166	10	1.6952E-07	1.2000E-05
77	IDBBSDD1LF	239.506	7	1.6905E-07	4.8000E-06
78	IDBBSDK1LF	239.506	7	1.6905E-07	4.8000E-06
79	IDBBSDS1LF	239.506	7	1.6905E-07	4.8000E-06
80	CCX-PMDMOD4	233.539	133	1.6484E-07	4.9800E-05
81	PL5MOD11	231.311	73	1.6327E-07	2.0900E-03
82	PL50301ASA	229.951	47	1.6231E-07	1.1600E-03
83	PL50301BSA	229.951	47	1.6231E-07	1.1600E-03
84	ADN-MAN01	228.977	58	1.6162E-07	4.9300E-04
85	ED1MOD01	226.422	23	1.5582E-07	5.0400E-04
86	ED1MOD07	225.113	17	1.5889E-07	3.0500E-04
87	ED1MOD13	224.858	17	1.5871E-07	3.1700E-04
88	CCX-PL1MOD1	221.969	9	1.5668E-07	4.4100E-04
89	CCX-PL7MOD1	21.969	9	1.5668E-07	1.4100E-04
90	EC5EPMB1SA	21.919	9	1.5664E-07	1.7100E-04
91	PL5X000ASA	221.013	7	1.5600E-07	8.0000E-05
92	CCX-PL103	220.912	7	1.5593E-07	9.6900E-05
93	CCX-PL703	220.912	7	1.5593E-07	9.6900E-05
94	CCX-IV-XR1	218.589	6	1.5429E-07	2.4000E-05
95	CCX-PMAMOD1	214.447	87	1.5137E-07	1.4100E-04
96	CCX-PL1MOD1-SW	202.330	4	1.4281E-07	1.1000E-05
97	CCX-PL7MOD1-SW	202.330	4	1.4281E-07	1.1000E-05
98	CCX-PMAM030	188.668	59	1.3317E-07	9.6900E-05
99	IDAMOD05	188.642	354	1.3315E-07	5.1600E-04
100	IWX-XMTRLW	188.065	2	1.3274E-07	9.2000E-09
101	IDAMOD04	182.887	340	1.2909E-07	3.1700E-04
102	ED1ABSDS1LF	179.769	3	1.2689E-07	4.8000E-06
103	IDABSDS1TM	175.449	255	1.2384E-07	3.0000E-04
104	CCX-PMAMOD2X	174.264	22	1.2300E-07	8.5800E-05
105	CCX INPUT-LOGICX	171.120	12	1.2078E-07	2.5900E-05
106	IDDFD019RQ	170.592	58	1.2041E-07	1.2000E-05
107	IDDFD020RQ	170.592	58	1.2041E-07	1.2000E-05
108	CCX-IN-LOGIC-SW	170.372	8	1.2026E-07	1.1000E-05
109	CCX-PMAMOD2-SW	170.372	8	1.2026E-07	1.1000E-05
110	CCY-PMDDMOD1-SW	170.229	56	1.2016E-07	1.1000E-05
111	CCX-PMDDMOD4-SW	170.229	56	1.2016E-07	1.1000E-05
112	PMAMOD11	163.156	296	1.1516E-07	2.0900E-03
113	PMA0301ASA	157.806	218	1.1139E-07	1.1600E-03
114	PMA0301BSA	157.806	218	1.1139E-07	1.1600E-03
115	IDDBSDS1LF	141.200	31	9.9665E-08	4.8000E-06
116	IDDBSDK1LF	141.200	31	9.9665E-08	4.8000E-06
117	IDDBSDS1LF	141.200	31	9.9665E-08	4.8000E-06
118	CCX-PMDEH0	140.624	29	9.9258E-08	4.0300E-06
119	ED3MOD07	113.390	26	8.0035E-08	3.0500E-04
120	MDAS	106.471	79	7.5152E-08	1.0000E-02
121	REC-MANDAS	103.528	36	7.3074E-08	1.1600E-02
122	PMAXS00ASA	98.4303	28	6.9476E-08	8.0000E-05
123	ZOX-BL-ER	68.6988	1	4.8491E-08	1.3600E-06
124	ZOX-PL-GP	68.6027	1	4.8423E-08	1.3000E-06
125	PMAXS00ASAX	55.1790	158	3.8948E-08	8.0000E-05
126	PMAMOD11X	52.2884	369	3.6907E-08	6.5300E-04
127	IWN-MAN00C	50.5432	23	3.5676E-08	5.0000E-02
128	PMA0301ASAX	50.4695	176	3.5624E-08	1.6500E-04
129	PMA0301BSAX	49.2743	157	3.4780E-08	1.6500E-04
130	CCX-BC-SA	47.7297	5	3.3690E-08	8.4000E-06
131	RHN-MAN04	47.0422	123	3.3204E-08	5.5000E-02
132	IEV-LOSPND	38.2951	40	2.7030E-08	1.7100E-02
133	IDABSDS1LF	37.7495	24	2.6645E-08	4.8000E-06
134	Z01MOD01	36.7058	524	2.5909E-08	2.0200E-02
135	EC1CB100VO	36.0271	380	2.5429E-08	1.2300E-02
136	CCX-PMAMOD4	35.9097	41	2.5347E-08	4.9800E-05
137	CCX-PMAMOD4-SW	33.4596	12	2.3617E-08	1.1000E-05
138	CCX-PMAEH0X	33.2533	11	2.3472E-08	4.0300E-06
139	Z01MOD04	29.4080	82	2.0757E-08	1.2500E-03
140	IDCBSDS1TM	23.3443	176	1.6477E-08	3.0000E-04
141	IDCBSDK1TM	23.3443	176	1.6477E-08	3.0000E-04
142	IDCBSDS1TM	23.3443	176	1.6477E-08	3.0000E-04
143	ZG2MOD01	22.5074	187	1.5887E-08	2.0200E-02
144	EC2CB200VO	22.4030	144	1.5813E-08	1.2300E-02
145	ED2MOD03	21.8941	68	1.5454E-08	2.7000E-03
146	IRAEPI21BSAX	21.7820	66	1.5375E-08	5.8300E-05
147	RHN-MAN05C	20.9545	27	1.4791E-08	1.5000E-01
148	ZG2MOD04	20.0297	44	1.4138E-08	1.2500E-03
149	CMX-VS-FA	19.5500	7	1.3799E-08	3.8400E-05
150	ED2MOD11	19.2711	20	1.3602E-08	3.1700E-04
151	RNBMOD07S	18.8062	146	1.3274E-08	1.5300E-02
152	EC1MOD01	18.5285	16	1.3078E-08	2.0200E-04
153	IDCFD007RQ	18.1144	18	1.2786E-08	1.2000E-05

154	IDCFD00BRQ	18.1144	18	1.2786E-08	1.2000E-05
155	RNAMOD06S	17.0102	90	1.2007E-08	1.5300E-02
156	IDCBSDD1LF	15.8928	12	1.1218E-08	4.8000E-06
157	IDCBSDK1LF	15.8928	12	1.1238E-08	4.8000E-06
158	IDCBSDS1LF	15.8928	12	1.1218E-08	4.8000E-06
159	CCX-AV-LA	14.4698	5	1.0213E-08	6.1000E-05
160	CNX-CV-GO	14.4484	4	1.0198E-08	5.1000E-05
161	EC2MOD01	14.1502	14	9.9878E-09	2.0200E-04
162	EC1REDG2GA	13.7424	57	9.7000E-09	4.3600E-03
163	SWAMOD07	13.6352	42	9.6243E-09	7.1200E-03
164	OTH-R1	13.3871	2292	9.4492E-09	4.2000E-01
165	ED3MOD03	13.3849	35	9.4476E-09	2.2020E-03
166	EC1BS001TM	13.1546	142	9.2851E-09	2.7000E-03
167	EC1BS012TM	13.1546	412	9.2851E-09	2.7000E-03
168	EC1BS121TM	13.1546	442	9.2851E-09	2.7000E-03
169	EC1MOD12	12.6318	66	8.9161E-09	4.8000E-05
170	EC1REDG1GA	12.4780	39	8.8075E-09	4.3600E-03
171	SWBMOD02	11.7533	150	8.2960E-09	2.4400E-02
172	CCHMOD01S	11.5046	91	8.1204E-09	1.0400E-02
173	RNAEPRNPSA	10.8576	9	7.6638E-09	1.7100E-04
174	RNBEPRNPSA	10.8576	9	7.6638E-09	1.7100E-04
175	PL4MOD11	10.6835	63	7.5409E-09	2.0900E-03
176	CCAMOD02	10.5359	40	7.4367E-09	7.1000E-03
177	ZOIMOD03	10.4226	8	7.3567E-09	1.0000E-04
178	IDAMOD06	10.2744	48	7.2521E-09	4.3200E-05
179	PL1MOD11	9.69467	36	6.8429E-09	2.0900E-03
180	PL7MOD11	9.69467	36	6.8429E-09	2.0900E-03
181	PL40301ASA	9.53225	29	6.7283E-09	1.1600E-03
182	SWBMOD09P	9.24056	31	6.5224E-09	1.8500E-03
183	PL40301BSA	9.21587	26	6.5050E-09	1.1600E-03
184	SW7EPSPBPASA	9.18106	7	6.4804E-09	1.7100E-04
185	ED3MOD01	9.13197	10	6.4457E-09	5.0400E-04
186	PL10301ASA	8.86969	25	6.2606E-09	1.1600E-03
187	PL70301ASA	8.86969	25	6.2606E-09	1.1600E-03
188	PL10301BSA	8.79019	24	6.2045E-09	1.1600E-03
189	PL70301BSA	8.79019	24	6.2045E-09	1.1600E-03
190	EC1MOD121	8.56656	24	6.0466E-09	1.6800E-05
191	SWAMOD09P	8.28448	22	5.8475E-09	1.8500E-03
192	PMAMOD12X	7.43500	123	5.2479E-09	6.17E-04
193	IDAMOD08	7.25112	96	5.1887E-09	3.17E-04
194	PNA0302ASAX	6.34967	59	4.4819E-09	1.6500E-04
195	CC1EPSPBPASA	6.34204	6	4.4765E-09	1.7100E-04
196	ZOIMOL03	6.09597	5	4.3028E-09	1.0000E-04
197	EC1BS001LF	5.40683	7	3.8164E-09	4.8000E-06
198	CC1EPSPBPBSA	5.29270	5	3.7358E-09	1.7100E-04
199	SW7EPSPBPBSA	5.29270	5	3.7358E-09	1.7100E-04
200	PMA0302BSAX	5.15446	40	3.6382E-09	1.6500E-04
201	SW7EPCTFAWA	4.80435	4	3.3911E-09	1.7100E-04
202	SW7EPCTFBSA	4.80435	4	3.3911E-09	1.7100E-04
203	EC2MOD22	4.70865	17	3.3237E-09	4.8000E-05
204	IWACV122AO	4.49334	126	3.1715E-09	8.7600E-03
205	IWACV123AO	4.49334	126	3.1716E-09	8.7600E-03
206	IWACV124AO	4.49334	126	3.1716E-09	8.7600E-03
207	IWACV125AO	4.49334	126	3.1716E-09	8.7600E-03
208	PL1XS00ASA	3.83365	3	2.7060E-09	8.0000E-05
209	PL4XS00ASA	3.83365	3	2.7060E-09	8.0000E-05
210	PL7XS00ASA	3.83365	3	2.7060E-09	8.0000E-05
211	SUC-R1S	3.57392	158	2.5226E-09	5.8000E-01
212	RHN-MANO3	3.14175	36	2.2176E-09	2.2600E-03
213	EC1MOD13	2.83764	2	2.0029E-09	4.8000E-05
214	EC2MOD23	2.83764	2	2.0029E-09	4.8000E-05
215	ED3HSDS1TM	2.30414	1	1.6264E-09	3.0000E-04
216	EC2BS002TM	2.07127	187	1.4620E-09	2.7000E-03
217	EC2BS022TM	2.07127	187	1.4620E-09	2.7000E-03
218	EC2BS221TM	2.07127	187	1.4620E-09	2.7000E-03
219	PMDMOD11	1.78020	206	1.2565E-09	2.0900E-03
220	PL4MOD12	1.76608	16	1.2466E-09	2.0900E-03
221	CCB-MAN01	1.45624	6	1.0279E-09	1.0700E-03
222	REC-MANDASC	1.42628	46	1.0067E-09	5.0600E-01
223	PMD0301ASA	1.41966	134	1.0021E-09	1.1600E-03
224	PMAMOD21X	1.39677	14	9.8590E-10	1.1600E-03
225	IDDMOD32	1.37895	58	9.7333E-10	3.1700E-04
226	PMD0301DSA	1.28409	117	9.0636E-10	1.1600E-03
227	PMDXS00ASA	1.23856	32	8.7423E-10	8.0000E-05
228	PMDEHOA1SA	1.08718	28	7.6738E-10	8.0000E-05
229	SWB-MANO2	1.05726	4	7.4626E-10	1.6000E-03
230	PL40302ASA	1.05195	5	7.4251E-10	1.1600E-03
231	PMDMOD41	1.03053	67	7.2739E-10	6.3500E-04
232	CCX-XMTR	.974065	3	6.8754E-10	2.0100E-04
233	IDDMOD33	.910351	45	6.4256E-10	5.1600E-04
234	ADX-MV-GO	.760162	4	5.3656E-10	1.1000E-03

235	Z01DG001TM	741683	95	5.2351E-10	4.6000E-02
236	PL40302BSA	735563	4	5.1519E-10	1.1600E-03
237	PL1MOD12	718268	7	5.0698E-10	2.0900E-03
238	PL7MOD12	718268	7	5.0698E-10	2.0900E-03
239	CCK-TRNSM	718227	2	5.0696E-10	2.0100E-04
240	ZON-MAN01	708737	7	5.0026E-10	2.6700E-03
241	Z02DG002TM	671832	42	4.7421E-10	4.6000E-02
242	PRN-MAN01	647017	4	4.5699E-10	4.0800E-04
243	IWBCV122AO	623223	184	4.3990E-10	8.7600E-03
244	IWBCV123AO	623223	184	4.3990E-10	8.7600E-03
245	IWBCV124AO	623223	184	4.3990E-10	8.7600E-03
246	IWBCV125AO	623223	184	4.3990E-10	8.7600E-03
247	PMDMOD12	611475	86	4.3160E-10	2.0900E-03
248	OTH-R2	558414	29	3.9415E-10	2.4000E-01
249	IDDMOD38	527773	31	3.7252E-10	3.1700E-04
250	FRAAV108LA	446996	11	3.1551E-10	1.0900E-03
251	PRBAV108LA	446996	11	3.1551E-10	1.0900E-03
252	FRAAV108TM	446167	9	3.1492E-10	5.0000E-04
253	PRBAV108TM	446167	9	3.1492E-10	5.0000E-04
254	PMD0302ASA	416742	46	2.9415E-10	1.1600E-03
255	PLMMOD41	399043	2	2.8166E-10	6.3500E-04
256	IDDMOD34	396850	10	2.8011E-10	4.3200E-05
257	PL1MOD51	395220	2	2.7895E-10	8.7400E-04
258	PL10302ASA	389384	3	2.7484E-10	1.1600E-03
259	PL70302ASA	389384	3	2.7484E-10	1.1600E-03
260	IDDMOD21	368579	6	2.6016E-10	1.9200E-04
261	ZANMOD01	337023	8	2.3788E-10	8.4000E-05
262	SWNTPOV1RI	336002	5	2.3716E-10	5.2300E-03
263	PL10302BSA	309882	2	2.1873E-10	1.1600E-03
264	PL70302BSA	309882	2	2.1873E-10	1.1600E-03
265	PMDEHOA2SA	308658	10	2.1786E-10	8.0000E-05
266	PMAMOD41	304479	34	2.1491E-10	6.3500E-04
267	PMD0302BSA	281169	29	1.9846E-10	1.1600E-03
268	DG1-LOGIC	272066	1	1.9204E-10	5.700E-03
269	CCNTF101RI	229047	5	1.6167E-10	5.2300E-03
270	ED2MOD01	1831C1	1	1.2924E-10	5.0400E-04
271	PMAEHCA1SAX	182835	6	1.2905E-10	8.0000E-05
272	PMAMOD22X	173360	2	1.2237E-10	1.1600E-03
273	SUC-R2S	154648	9	1.0916E-10	7.6000E-01
274	IDAMOD02	142167	31	1.0035E-10	2.7000E-03
275	IDAMOD03	142167	31	1.0035E-10	2.7000E-03
276	AD2MOD01	121602	21	8.5832E-11	5.5400E-02
277	AD2MOD02	121602	21	8.5832E-11	5.5400E-02
278	AD3MOD03	121602	21	8.5832E-11	5.5400E-02
279	AD3MOD04	121602	21	8.5832E-11	5.5400E-02
280	IDABSSD1TM	117932	3	8.3242E-11	3.0000E-04
281	IDABSSDK1TM	117932	3	8.3242E-11	3.0000E-04
282	EC2MOD221	112348	3	7.9300E-11	1.6800E-05
283	DAS	103412	4	7.2993E-11	1.0000E-02
284	PMDMOD42	9.035359E-02	11	6.3775E-11	6.3500E-04
285	RHN-MAN04-SUCC	8.857936E-02	399	6.2523E-11	9.4500E-01
286	RC1TL195UF	8.846562E-02	3	6.2443E-11	5.2300E-03
287	RC1OR195SP	8.841559E-02	4	6.2408E-11	7.2200E-03
288	DG1-LOGIC	2.538494E-02	1	1.7918E-11	5.0000E-03
289	PMAMOD42	2.153634E-02	4	1.5201E-11	6.3500E-04
290	IDAMOD07	3.308737E-03	15	2.3354E-12	2.1900E-02
291	PRCEP108SA	1.827339E-03	1	1.2983E-12	1.7100E-04
292	PRDEP108SA	1.839339E-03	1	1.2983E-12	1.7100E-04
293	IDDMOD22	5.228856E-04	3	3.6908E-13	8.7000E-03
294	IDDMOD23	5.228856E-04	3	3.6908E-13	8.7000E-03
295	IDDMOD35	3.652958E-04	4	2.5784E-13	2.1900E-02

TABLE 54B-11

CASE 2 LIST OF TOP 200 DOMINANT CUTSETS

Reduced Sum of Cutsets: 4.80E-07

NUMBER	CUTSET PROB	PERCENT	BASIC EVENT NAME		EVENT PROB.	IDENTIFIER	
1	6.96E-08	14.42	LOSS OF OFFSITE COMMON CAUSE	POWER INITIATING EVENT OCCURS FAILURE OF THE BATTERIES	WITH RCS DRAINED IDSA-DB-1A/1B	1.48E-03 4.70E-05	IEV-LOSPD CCX-BY-PN
2	4.44E-08	9.24	LOSS OF OFFSITE CCF OF THE ADS SQUIB VALVES TO OPERATE	POWER INITIATING EVENT OCCURS	WITH RCS DRAINED	1.48E-03 3.00E-05	IEV-LOSPD ADX-EV-SA
3	3.85E-08	8.01	LOSS OF OFFSITE CCF OF IRWST INJ SQUIB VALVES	POWER INITIATING EVENT OCCURS	WITH RCS DRAINED	1.48E-03 2.60E-05	IEV-LOSPD INX-MV-G01
4	3.55E-08	7.39	LOSS OF OFFSITE COMMON CAUSE	POWER INITIATING EVENT OCCURS FAILURE OF THE INVERTER	WITH RCS DRAINED	1.48E-03 2.40E-05	IEV-LOSPD CCX-IV-XR
5	2.83E-08	5.89	LOSS OF CCS/SWS COMMON CAUSE	WITH RCS DRAINED INITIATING EVENT OCCURS FAILURE OF THE BATTERIES	IDSA-DB-1A/1B	6.02E-04 4.70E-05	IEV-COND CCX-BY-PN
6	1.81E-08	3.77	LOSS OF CCS/SWS CCF OF THE ADS SQUIB VALVES TO OPERATE	WITH RCS DRAINED INITIATING EVENT OCCURS		6.02E-04 3.00E-05	IEV-COND ADX-EV-SA
7	1.78E-08	3.71	LOSS OF OFFSITE CCF OF STRAINERS IN IRWST TANK	POWER INITIATING EVENT OCCURS	WITH RCS DRAINED	1.48E-03 1.20E-05	IEV-LOSPD INX-FL-GP
8	1.57E-08	3.27	LOSS OF CCS/SWS CCF OF IRWST INJ SQUIB VALVES	WITH RCS DRAINED INITIATING EVENT OCCURS		6.02E-04 2.60E-05	IEV-COND INX-MV-G01
9	1.44E-08	3.00	LOSS OF CCS/SWS COMMON CAUSE	WITH RCS DRAINED INITIATING EVENT OCCURS FAILURE OF THE INVERTER		6.02E-04 2.40E-05	IEV-COND CCX-TV-XR
10	1.28E-08	2.66	LOSS OF OFFSITE CCF OF THE POWER INTERFACE OUTPUT BOARDS IN PMI	POWER INITIATING EVENT OCCURS	WITH RCS DRAINED	1.48E-03 8.62E-06	IEV-LOSPD CCX-EP-SAM
11	7.22E-09	1.50	LOSS OF CCS/SWS CCF OF STRAINERS IN IRWST TANK	WITH RCS DRAINED INITIATING EVENT OCCURS		6.02E-04 1.20E-05	IEV-COND INX-FL-GP
12	6.84E-09	1.42	LOSS OF OFFSITE FAILURE OF MECHANICAL	POWER INITIATING EVENT OCCURS PMS OUTPUT FAILURE CAUSES MOV 023 TO	WITH RCS DRAINED LOGIC I/Os FAIL-TO-OPEN	1.48E-03 2.09E-03 2.21E-03	IEV-LOSPD PMAMOD11 RN23MO05S
13	6.46E-09	1.34	LOSS OF OFFSITE FAILURE OF PMDMOD11	POWER INITIATING EVENT OCCURS PMS OUTIUT	WITH RCS DRAINED LOGIC I/Os	1.48E-03 2.09E-03 2.09E-03	IEV-LOSPD PMAMOD11 PMODMOD11
14	6.02E-09	1.25	LOSS OF OFFSITE	POWER INITIATING EVENT OCCURS	WITH RCS DRAINED	1.48E-03	IEV-LOSPD

TABLE 54B-II

CASE 2 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PROB	PERCENT	BASIC EVENT NAME	EVENT	PROB.	IDENTIFIER
			FAILURE OF PMS OUTPUT	LOGIC I/Os	4.07E-03	PMAMOD21
			INDICATION FAILURE	POWER INITIATING EVENT OCCURS	1.00E-03	ALL-IND-FAIL
15	5.37E-09	1.12	LOSS OF OFFSITE CCF OF ORIFICES	WITH RCS DRAINED	1.48E-03	TEV-LOSPO CCK-OYR-SPK
16	5.19E-09	1.08	LOSS .5 ^c CCS/GWS CCF OF THE POWER INTERFACE OUTPUT BOARDS IN PMS	INITIATING EVENT OCCURS	6.02E-04	TEV-CODC (v.1) EP-SAM
17	4.95E-09	1.03	LOSS OF OFFSITE FAILURE OF OPERATOR FAILS	POWER INITIATING EVENT OCCURS PMS OUTPUT NEED AND TO RECOGNIZE	1.48E-03	TEV-LOSPO PMAMOD11 RHN-MAN05
18	4.20E-09	.87	OVERDRAINING OF RHN-MAN04-SUCC INDICATION	RCS DURING DRAIN DOWN TO MID-LOOP FAILURE	2.09E-03	TEV-PCSD4-SUCC ALL-IND-FAIL
19	3.89E-09	.81	LOSS OF OFFSITE CCF OF PRESSURE TRANSMITTERS	POWER INITIATING EVENT OCCURS	1.44E-06	TEV-LOSPO CCK-ATRTRX
20	3.83E-09	.80	LOSS OF PNS WITH COMMON CAUSE	INITIATING EVENT OCCURS FAILURE OF THE BATTERIES	9.45E-01	TEV-RNSD CCK-BY-EPN
21	3.79E-09	.79	LOSS OF OFFSITE FAILURE UPON MECHANICAL	WITH RCS DRAINED DEMAND OF LOGIC GROUP PROCESSING FAILURE CAUSES NOV 023 TO	4.70E-05	TEV-LOSPO HSG23M0D5S
22	3.79E-09	.79	LOSS OF OFFSITE FAILURE UPON MECHANICAL	POWER INITIATING EVENT OCCURS DEMAND OF LOGIC GROUP PROCESSING NOV 023 TO	1.48E-03	TEV-LOSPO PMAM0301BSA RSG23M0D5S
23	3.59E-09	.75	LOSS OF OFFSITE FAILURE UPON PMMOD011	POWER INITIATING EVENT OCCURS DEMAND OF LOGIC GROUP PROCESSING	1.48E-03	TEV-LOSPO PMAM0301BSA PMMOD011
24	3.59E-09	.75	LOSS OF OFFSITE FAILURE OF PMS OUT-SLT	POWER INITIATING EVENT OCCURS LOGIC I/Os	1.48E-03	TEV-LOSPO PMAMOD21 PMD0301ASA
25	3.59E-09	.75	LOSS OF OFFSITE FAILURE OF PMD0301BSA	POWER INITIATING EVENT OCCURS LOGIC I/Os	1.48E-03	TEV-LOSPO PMAMOD11 PMD0301BSA
26	3.59E-09	.75	LOSS OF OFFSITE	POWER INITIATING EVENT OCCURS	1.48E-03	TEV-LOSPO
				WITH RCS DRAINED		

TABLE 54B-11
CASE 2 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PROB	PERCENT	BASIC EVENT NAME		EVENT PROB.	IDENTIFIER
			FAILURE UPON DEMAND OF LOGIC GROUP PROCESSING		1.16E-03	PMA0301ASA
			PMDMOD11		2.09E-03	PMDMOD11
27	3.09E-09	.64	LOSS OF OFFSITE FAILURE UPON DEMAND OF LOGIC GROUP PROCESSING	POWER INITIATING EVENT OCCURS WITH RCS DRAINED	1.48E-03	IEV-LOSPD
			INDICATION PMS OUTPUT LOGIC I/Os		2.09E-03	PMAMOD11
			FAILURE		1.00E-03	ALL-IND-FAIL
28	2.75E-09	.57	LOSS OF OFFSITE FAILURE UPON DEMAND OF LOGIC GROUP PROCESSING	POWER INITIATING EVENT OCCURS WITH RCS DRAINED	1.48E-03	IEV-LOSPD
			OPERATOR FAILS TO RECOGNIZE NEED AND TO OPEN RNS MOV V023		1.16E-03	PMA0301BSA
					1.60E-03	RHN-MAN05
29	2.75E-09	.57	LOSS OF OFFSITE FAILURE UPON DEMAND OF LOGIC GROUP PROCESSING	POWER INITIATING EVENT OCCURS WITH RCS DRAINED	1.48E-03	IEV-LOSPD
			OPERATOR FAILS TO RECOGNIZE NEED AND TO OPEN RNS MOV V023		1.16E-03	PMA0301ASA
					1.60E-03	RHN-MAN05
30	2.45E-09	.51	LOSS OF RNS WITH RCS DRAINED CCF OF THE ADS SQUIB VALVES	INITIATING EVENT OCCURS	8.15E-05	IEV-RNSD
				IN OPERATE	3.00E-05	ADX-EV-SA
31	2.19E-09	.46	LOSS CCS/SWS WITH RCS DRAINED CCF OF UNIFICES	INITIATING EVENT OCCURS	6.02E-04	IEV-CWCD
					3.63E-06	CCX-CWY-SPK
32	2.12E-09	.44	LOSS OF RNS WITH RCS DRAINED CCF OF IRWST INJ SQUIB VALVES	INITIATING EVENT OCCURS	8.15E-05	IEV-RnD
					2.60E-05	TWX-MV-G01
33	1.99E-09	.41	LOSS OF OFFSITE FAILURE UPON DEMAND OF LOGIC GROUP PROCESSING	POWER INITIATING EVENT OCCURS WITH RCS DRAINED	1.48E-03	IEV-LOSPD
			PMD0301ASA		1.16E-03	PMA0301ASA
					1.16E-03	PMD0301ASA
34	1.99E-09	.41	LOSS OF OFFSITE FAILURE UPON DEMAND OF LOGIC GROUP PROCESSING	POWER INITIATING EVENT OCCURS WITH RCS DRAINED	1.48E-03	IEV-LOCPD
			PMD0301BSA		1.16E-03	PMA0301ASA
					1.16E-03	PMD0301BSA
35	1.99E-09	.41	LOSS OF OFFSITE FAILURE UPON DEMAND OF LOGIC GROUP PROCESSING	POWER INITIATING EVENT OCCURS WITH RCS DRAINED	1.48E-03	IEV-LOSPD
			PMD0301ASA		1.16E-03	PMA0301BSA
					1.16E-03	PMD0301ASA
36	1.99E-09	.41	LOSS OF OFFSITE FAILURE UPON DEMAND OF LOGIC GROUP PROCESSING	POWER INITIATING EVENT OCCURS WITH RCS DRAINED	1.48E-03	IEV-LOSPD
			PMD0301BSA		1.16E-03	PMA0301BSA
					1.16E-03	PMD0301BSA
37	1.96E-09	.41	LOSS OF OFFSITE FAILURE OF PMD MOD41	POWER INITIATING EVENT OCCURS WITH RCS DRAINED	1.48E-03	IEV-LOSPD
			PMS OUTPUT LOGIC I/Os		2.09E-03	PMAMOD11
					6.35E-04	PMDMOD41

TABLE 54B-11
CASE 2 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PROB	PERCENT	BASIC EVENT NAME		EVENT PROB.	IDENTIFIER
38	1.96E-09	.41	LOSS OF RNS WITH RCS DRAINED COMMON CAUSE FAILURE OF THE INVESTIGATOR	INITIATING EVENT OCCURS	8.15E-05 2.40E-05	IEV-RNSD CCX-IV-XR
39	1.43E-09	.38	OVERDRAINING OF RCS DURING DRAIN DOWN TO NPP COOP OPERATOR FAILS TO ISOLATE RNS P1:1 - P2:2URE IWN-MAN00C COND. PROB. OF RHN-MAN05 (OP. FAILS TO OPEN RNS MOV V023)	INITIATING EVENT OCCURS	4.44E-05 5.50E-02 5.00E-02 1.50E-01	IEV-RCSOD RHN-MAN04 IWN-MAN00C RHN-MAN05C
40	1.78E-09	.37	LOSS OF OFFSITE SOFTWARE CCF	POWER INITIATING EVENT OCCURS WITH RCS DRAINED OF ALL CARDS	1.48E-03 1.20E-06	IEV-LOSPD CCX-SFTW
41	1.72E-09	.36	LOSS OF OFFSITE FAILURE UPON INDICATION	POWER INITIATING EVENT OCCURS WITH RCS DRAINED DEMAND OF LOGIC GROUP PROCESSING FAILURE	1.48E-03 1.16E-03 1.00E-03	IEV-LOSPD PMA0301ASA ALL-IND-FAIL
42	1.72E-09	.36	LOSS OF OFFSITE FAILURE UPON INDICATION	POWER INITIATING EVENT OCCURS WITH RCS DRAINED DEMAND OF LOGIC GROUP PROCESSING FAILURE	1.48E-03 1.16E-03 1.00E-03	IEV-LOSPD PMA0301BSA ALL-IND-FAIL
43	1.69E-09	.35	LOSS OF OFFSITE FAILURE OF INV., MECHANICAL	POWER INITIATING EVENT OCCURS WITH RCS DRAINED STATIC SWITCH AND ASSOC. FAILURE CAUSES MOV 023 TO FAIL-TO-OPEN	1.48E-03 5.16E-04 2.21E-03	IEV-LOSPD IDAMOD05 RN23MOD5S
44	1.60E-09	.33	LOSS OF OFFSITE FAILURE OF INV., PMDMOD11	POWER INITIATING EVENT OCCURS WITH RCS DRAINED PMS OUTPUT LOGIC I/Os FAILURE OF INV., STATIC SWITCH AND ASSOC.	1.48E-03 2.09E-03 5.16E-04	IEV-LOSPD PMAMOD11 IDDMOD33
45	1.60E-09	.33	LOSS OF OFFSITE FAILURE OF INV., PMDMOD11	POWER INITIATING EVENT OCCURS WITH RCS DRAINED STATIC SWITCH AND ASSOC.	1.48E-03 5.16E-04 2.09E-03	IEV-LOSPD IDAMOD05 PMDMOD11
46	1.58E-09	.33	LOSS OF CCS/SWS CCF OF PRESSURE	WITH RCS DRAINED INITIATING EVENT OCCURS TRANSMITTERS	6.02E-04 2.63E-06	IEV-CCWD CCX-XMTRX
47	1.22E-09	.25	LOSS OF OFFSITE FAILURE OF INV., OPERATOR FAILS	POWER INITIATING EVENT OCCURS WITH RCS DRAINED STATIC SWITCH AND ASSOC. NEED AND TO OPEN RNS MOV V023 TO RECOGNIZE	1.48E-03 5.16E-04 1.60E-03	IEV-LOSPD IDAMOD05 RHN-MAN05
48	1.09E-09	.23	LOSS OF OFFSITE FAILURE UPON PMDMOD41	POWER INITIATING EVENT OCCURS WITH RCS DRAINED DEMAND OF LOGIC GROUP PROCESSING	1.48E-03 1.16E-03 6.15E-04	IEV-LOSPD PMA0301BSA PMDMOD41
49	1.09E-09	.23	LOSS OF OFFSITE FAILURE UPON	POWER INITIATING EVENT OCCURS WITH RCS DRAINED DEMAND OF LOGIC GROUP PROCESSING	1.48E-03 1.16E-03	IEV-LOSPD PMA0301ASA

TABLE 54B-11
CASE 2 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET	PROB.	PERCENT	BASIC EVENT NAME		EVE ^{***}	PROB.	IDENTIFIER
				PMDMOD41			6.35E-04	PMDMOD41
50	1.07E-09	.22		LOSS OF OFFSITE MECHANICAL IRWST DISCHARGE	POWER INITIATING EVENT OCCURS FAILURE CAUSES MOV 121A TO LINE "B" STRAINER	WITH RCS DRAINED FAIL-TO-OPEN PLUGGED	1.48E-03 3.00E-03 2.40E-04	IEV-LOSPD IRWMOD05S IWB-PLUG
51	1.04E-09	.22		LOSS OF OFFSITE FAILURE OF OPERATOR FAILS COND. PROB. OF	POWER INITIATING EVENT OCCURS PMS OUTPUT LOGIC I/Os TO OPEN TWO IRWST MCVs RHN-MAN05 (OP.) FAILS TO OPEN	WITH RCS DRAINED RNS MOV VC23)	1.48E-03 4.07E-03 1.15E-03 1.50E-01	IEV-LOSPD PMAMOD21 IWN-MAN00 RHN-MAN05C
52	1.04E-09	.22		LOSS OF OFFSITE LOSS OF DIST. MECHANICAL	POWER INITIATING EVENT OCCURS PANEL OR BREAKER A07 SPURIOUSLY FAILURE CAUSES MOV 023 TO	WITH RCS DRAINED OPENS FAIL-TO-OPEN	1.48E-03 3.17E-04 2.21E-03	IEV-LOSPD IDAMOD04 RN23MOD5S
53	9.81E-10	.20		LOSS OF OFFSITE BUS UNAVAILABLE MECHANICAL	POWER INITIATING EVENT OCCURS DUE TO TEST OR CORRECTIVE FAILURE CAUSES MOV 023 TO	WITH RCS DRAINED MAINTENANCE FAIL-TO-OPEN	1.48E-03 3.00E-04 2.21E-03	IEV-LOSPD IDABSDS1TM RN23MOD5S
54	9.81E-10	.20		LOSS OF OFFSITE LOSS OF DIST. PMDMOD11	POWER INITIATING EVENT OCCURS PANEL OR BREAKER A07 SPURIOUSLY	WITH RCS DRAINED OPENS	1.48E-03 3.17E-04 2.09E-03	IEV-LOSPD IDAMOD04 PMDMOD11
55	9.81E-10	.20		LOSS OF OFFSITE FAILURE OF LOSS OF DIST.	POWER INITIATING EVENT OCCURS PMS OUTPUT LOGIC I/Os PANEL OR BREAKER A28 SPURIOUSLY	WITH RCS DRAINED OPENS	1.48E-03 2.09E-03 3.17E-04	IEV-LOSPD PMAMOD11 IDDMOD32
56	9.78E-10	.20		LOSS OF RNS WITH CCF OF STRAINERS	RCS DRAINED IN IRWST TANK	INITIATING EVENT OCCURS	8.15E-05 1.20E-05	IEV-RNSD IWX-FL-GP
57	9.28E-10	.19		LOSS OF OFFSITE BUS UNAVAILABLE FMDMOD11	POWER INITIATING EVENT OCCURS DUE TO TEST OR CORRECTIVE	WITH RCS DRAINED MAINTENANCE	1.48E-03 3.00E-04 2.09E-03	IEV-LOSPD IDABSDS1TM PMDMOD11
58	9.28E-10	.19		LOSS OF OFFSITE FAILURE OF BUS UNAVAILABLE	POWER INITIATING EVENT OCCURS PMS OUTPUT LOGIC I/Os DUE TO TEST OR CORRECTIVE	WITH RCS DRAINED MAINTENANCE	1.48E-03 2.09E-03 3.00E-04	IEV-LOSPD PMAMOD11 IDOBSDS1TM
59	9.28E-10	.19		LOSS OF OFFSITE FAILURE OF BUS UNAVAILABLE	POWER INITIATING EVENT OCCURS PMS OUTPUT LOGIC I/Os DUE TO TEST OR CORRECTIVE	WITH RCS DRAINED MAINTENANCE	1.48E-03 2.09E-03 3.00E-04	IEV-LOSPD PMAMOD11 IDOBSSDD1TM
60	9.28E-10	.19		LOSS OF OFFSITE FAILURE OF	POWER INITIATING EVENT OCCURS PMS OUTPUT LOGIC I/Os	WITH RCS DRAINED	1.48E-03 2.09E-03	IEV-LOSPD PMAMOD11

TABLE 54B-11
CASE 2 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PROB	PERCENT	BASIC EVENT NAME				EVENT PROB.	IDENTIFIER	
			BUS UNAVAILABLE	DUE TO TEST OR	CORRECTIVE	MAINTENANCE			
61	8.86E-10	.18	LOSS OF OFFSITE FAILURE OF INV., PMD0301BSA	POWER INITIATING STATIC SWITCH	EVENT OCCURS AND ASSOC.	WITH RCS DRAINED BREAKERS	1.48E-03 5.16E-04 1.16E-03	IEV-LOSPD IDAMOD05 PMD0301BSA	
62	8.86E-10	.18	LOSS OF OFFSITE FAILURE UPON FAILURE OF INV.,	DEMAND OF LOGIC STATIC SWITCH	GROUP PROCESSING AND ASSOC.	WITH RCS DRAINED BREAKERS	1.48E-03 1.16E-03 5.16E-04	IEV-LOSPD PMA0301ASA IDDMOD33	
63	8.86E-10	.18	LOSS OF OFFSITE FAILURE UPON FAILURE OF INV.,	DEMAND OF LOGIC STATIC SWITCH	GROUP PROCESSING AND ASSOC.	WITH RCS DRAINED BREAKERS	1.48E-03 1.16E-03 5.16E-04	IEV-LOSPD PMA0301BSA IDDMOD33	
64	8.86E-10	.18	LOSS OF OFFSITE FAILURE OF INV., PMD0301ASA	POWER INITIATING STATIC SWITCH	EVENT OCCURS AND ASSOC.	WITH RCS DRAINED BREAKERS	1.48E-03 5.16E-04 1.16E-03	IEV-LOSPD IDAMOD05 PMD0301ASA	
65	8.69E-10	.18	LOSS OF CCS/SWS FAILURE OF MECHANICAL	WITH RCS DRAINED PMS OUTPUT FAILURE CAUSES	INITIATING EVENT OCCURS LOGIC I/Os MOV 023 TO FAIL-TO-OPEN		6.02E-04 6.53E-04 2.21E-03	IEV-CCWD PMAMOD11X RN23MOD5S	
66	8.22E-10	.17	LOSS OF CCS/SWS FAILURE OF PMDMOD11	WITH RCS DRAINED PMS OUTPUT	INITIATING EVENT OCCURS LOGIC I/Os		6.02E-04 6.53E-04 2.09E-03	IEV-CCWD PMAMOD11X PMDDMOD11	
67	7.90E-10	.16	LOCA/RNS-V024 COMMON CAUSE	OPENS INITIATING FAILURE OF THE	EVENT OCCURS BATTERIES	WITH RCS FILLED IDSA-DB-1A/1B	1.68E-05 4.70E-05	IEV-LOCA24ND CCX-BY-PN	
68	7.64E-10	.16	LOSS OF OFFSITE INDICATION	POWER INITIATING FAILURE OF INV.,	EVENT OCCURS STATIC SWITCH	WITH RCS DRAINED BREAKERS	1.48E-03 5.16E-04 1.00E-03	IEV-LOSPD IDAMOD05 ALL-IND-FAIL	
69	7.51E-10	.16	LOSS OF OFFSITE LOSS OF DIST.	POWER INITIATING OPERATOR FAILS	EVENT OCCURS PANEL OR BREAKER A07 SPURIOUSLY	WITH RCS DRAINED OPENS	1.48E-03 3.17E-04 1.60E-03	IEV-LOSPD IDAMOD04 RHN-MAN05	
70	7.42E-10	.15	LOSS OF OFFSITE IRWST DISCHARGE	POWER INITIATING FAILURE OF	PMS OUTPUT LINE "B"	EVENT OCCURS STRAINER	WITH RCS DRAINED PLUGGED	1.48E-03 2.09E-03 2.40E-04	IEV-LOSPD PMAMOD11 IRW-PLUG
71	7.24E-10	.15	OVERDRAINING OF RHN-MAN04-SUCC	RCS DURING DRAIN DOWN TO MID-LOOP	TO OPEN TWO	INITIATING EVENT IRWST MOVs	4.44E-06 9.45E-01 1.15E-03	IEV-RCSOD RHN-MAN04-SUCC RHN-MAN00	

TABLE 54B-11
CASE 2 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PROB.	PERCENT	BASIC EVENT NAME		EVENT PROB.	IDENTIFIER	
			COND. PROB. OF	RHN-MAN05 (OP. FAILS TO OPEN RNS MOV V023)	1.50E-01	RHN-MAN05C	
72	7.22E-10	.15	LOSS OF CCS/SWS SOFTWARE CCF	WITH RCS DRAINED INITIATING EVENT OCCURS OF ALL CARDS	6.02E-04 1.20E-06	IEV-CCWD CCX-SFTW	
73	7.10E-10	.15	LOSS OF OFFSITE BUS UNAVAILABLE OPERATOR FAILS	POWER INITIATING EVENT OCCURS DUE TO TEST OR CORRECTIVE MAINTENANCE NEED AND TO OPEN RNS MOV V023	1.48E-03 3.00E-04 1.60E-03	IEV-LOSPD IDABSDS1TM RHN-MAN05	
74	7.03E-10	.15	LOSS OF RNS WITH CCF OF THE POWER INTERFACE	RCs DRAINED INITIATING EVENT OCCURS OUTPUT BOARDS IN PMS	8.15E-05 8.62E-06	IEV-RNSD CCX-EP-SAM	
75	6.98E-10	.15	LOSS OF CCS/SWS PMAMOD21X INDICATION	WITH RCS DRAINED INITIATING EVENT OCCURS FAILURE	6.02E-04 1.16E-03 1.00E-03	IEV-CCWD PMAMOD21X ALL-IND-FAIL	
76	6.86E-10	.14	LOSS OF CCS/SWS MECHANICAL	WITH RCS DRAINED INITIATING EVENT OCCURS FAILURE OF INV., STATIC SWITCH AND ASSOC. BREAKERS FAILURE CAUSES MOV 023 TO FAIL-TO-OPEN	6.02E-04 5.16E-04 2.21E-03	IEV-CCWD IDAMOD05 RN23MOD55	
77	6.49E-10	.14	LOSS OF CCS/SWS PMDMOD11	WITH RCS DRAINED INITIATING EVENT OCCURS FAILURE OF INV., STATIC SWITCH AND ASSOC. BREAKERS	6.02E-04 5.16E-04 2.09E-03	IEV-CCWD IDAMOD05 PMDMOD11	
78	6.29E-10	.13	LOSS OF CCS/SWS OPERATOR FAILS	WITH RCS DRAINED INITIATING EVENT OCCURS FAILURE OF PMS OUTPUT LOGIC I/Os TO RECOGNIZE NEED AND TO OPEN RNS MOV V023	6.02E-04 6.53E-04 1.60E-03	IEV-CCWD PMAMOD11X RHN-MAN05	
79	5.44E-10	.11	LOSS OF OFFSITE LOSS OF DIST. PMD0301BSA	POWER INITIATING EVENT OCCURS PANEL OR BREAKER A07 SPURIOUSLY	WITH RCS DRAINED OPENS	1.48E-03 3.17E-04 1.16E-03	IEV-LOSPD IDAMOD04 PMD0301BSA
80	5.44E-10	.11	LOSS OF OFFSITE LOSS OF DIST. PMD0301ASA	POWER INITIATING EVENT OCCURS PANEL OR BREAKER A07 SPURIOUSLY	WITH RCS DRAINED OPENS	1.48E-03 3.17E-04 1.16E-03	IEV-LOSPD IDAMOD04 PMD0301ASA
81	5.44E-10	.11	LOSS OF OFFSITE FAILURE UPON LOSS OF DIST.	POWER INITIATING EVENT OCCURS DEMAND OF LOGIC GROUP PROCESSING	WITH RCS DRAINED	1.48E-03 1.16E-03 3.17E-04	IEV-LOSPD PMA0301BSA IDDMOD32
82	5.44E-10	.11	LOSS OF OFFSITE FAILURE UPON LOSS OF DIST.	DEMAND OF LOGIC GROUP PROCESSING	WITH RCS DRAINED	1.48E-03 1.16E-03 3.17E-04	IEV-LOSPD PMA0301ASA IDDMOD32
			PANEL OR BREAKER A28 SPURIOUSLY	OPENS			

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CASE 2 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PROB	PERCENT	BASIC EVENT NAME			EVENT PROB.	IDENTIFIER
83	5.31E-10	.11	LOCA/RNS-V024 COMMON CAUSE	OPENS INITIATING EVENT OCCURS FAILURE OF THE BATTERIES	WITH RCS DRAINED IDSA-DB-1A/1B	1.13E-05 4.70E-05	IEV-LOCA24D CCX-BY-PN
84	5.29E-10	.11	LOSS OF OFFSITE FAILURE OF FAILURE CT [*]	POWER INITIATING EVENT OCCURS PMS OUTPUT LOGIC I/Os OUTPUT DRIVER	WITH RCS DRAINED	1.48E-03 2.09E-03 1.71E-04	IEV-LOSPD PMAMOD11 RNDEP023SA
85	5.15E-10	.11	LOSS OF OFFSITE FAILURE UPON BUS UNAVAILABLE	POWER INITIATING EVENT OCCURS DEMAND OF LOGIC GROUP PROCESSING DUE TO TEST OR CORRECTIVE	WITH RCS DRAINED MAINTENANCE	1.48E-03 1.16E-03 3.00E-04	IEV-LOSPD PMA0301BSA IDDBSDS1TM
86	5.15E-10	.11	LOSS OF OFFSITE FAILURE UPON BUS UNAVAILABLE	POWER INITIATING EVENT OCCURS DEMAND OF LOGIC GROUP PROCESSING DUE TO TEST OR CORRECTIVE	WITH RCS DRAINED MAINTENANCE	1.48E-03 1.16E-03 3.00E-04	IEV-LOSPD PMA0301BSA IDDBSDD1TM
87	5.15E-10	.11	LOSS OF OFFSITE FAILURE UPON BUS UNAVAILABLE	POWER INITIATING EVENT OCCURS DEMAND OF LOGIC GROUP PROCESSING DUE TO TEST OR CORRECTIVE	WITH RCS DRAINED MAINTENANCE	1.48E-03 1.16E-03 3.00E-04	IEV-LOSPD PMA0301BSA IDDBSDK1TM
88	5.15E-10	.11	LOSS OF OFFSITE FAILURE UPON BUS UNAVAILABLE	POWER INITIATING EVENT OCCURS DEMAND OF LOGIC GROUP PROCESSING DUE TO TEST OR CORRECTIVE	WITH RCS DRAINED MAINTENANCE	1.48E-03 1.16E-03 3.00E-04	IEV-LOSPD PMA0301ASA IDDBSDK1TM
89	5.15E-10	.11	LOSS OF OFFSITE FAILURE UPON BUS UNAVAILABLE	POWER INITIATING EVENT OCCURS DEMAND OF LOGIC GROUP PROCESSING DUE TO TEST OR CORRECTIVE	WITH RCS DRAINED MAINTENANCE	1.48E-03 1.16E-03 3.00E-04	IEV-LOSPD PMA0301ASA IDDBSDD1TM
90	5.15E-10	.11	LOSS OF OFFSITE FAILURE UPON BUS UNAVAILABLE	POWER INITIATING EVENT OCCURS DEMAND OF LOGIC GROUP PROCESSING DUE TO TEST OR CORRECTIVE	WITH RCS DRAINED MAINTENANCE	1.48E-03 1.16E-03 3.00E-04	IEV-LOSPD PMA0301ASA IDDBSDS1TM
91	5.15E-10	.11	LOSS OF OFFSITE BUS UNAVAILABLE PMD0301BSA	POWER INITIATING EVENT OCCURS DUE TO TEST OR CORRECTIVE	WITH RCS DRAINED MAINTENANCE	1.48E-03 3.00E-04 1.16E-03	IEV-LOSPD IDABSDS1TM PMD0301BSA
92	5.15E-10	.11	LOSS OF OFFSITE BUS UNAVAILABLE PMD0301ASA	POWER INITIATING EVENT OCCURS DUE TO TEST OR CORRECTIVE	WITH RCS DRAINED MAINTENANCE	1.48E-03 3.00E-04 1.16E-03	IEV-LOSPD IDABSDS1TM PMD0301ASA
93	5.04E-10	.10	LOCA/RNS-V024 CCF OF GRAVITY	OPENS INITIATING EVENT OCCURS INJECTION CHECK VALVES TO OPEN	WITH RCS FILLED	1.68E-05 3.00E-05	IEV-LOCA24ND IWX-CV-AO
94	4.97E-10	.10	LOSS OF CCS/SWS FAILURE OF INV.,	WITH RCS DRAINED STATIC SWITCH AND ASSOC.	INITIATING EVENT OCCURS BREAKERS	6.02E-04 5.16E-04	IEV-CCWD IDAMOD05

TABLE 54B-11
CASE 2 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PROB	PERCENT	BASIC EVENT NAME			EVENT PROB.	IDENTIFIER
			OPERATOR FAILS	TO RECOGNIZE	NEED AND TO OPEN RNS MOV V023	1.60E-03	RHN-MAN05
95	4.85E-10	.10	LOSS OF OFFSITE FAILURE OF INV. PMODMOD41	POWER INITIATING EVENT OCCURS STATIC SWITCH AND ASSOC.	WITH RCS DRAINED BREAKERS	1.48E-03 5.16E-04 6.35E-04	IEV-LOSPD IDAMOD05 PMODMOD41
96	4.69E-10	.10	LOSS OF OFFSITE LOSS OF DIST. INDICATION	POWER INITIATING EVENT OCCURS PANEL OR BREAKER A07 SPURIOUSLY FAILURE	WITH RCS DRAINED OPENS	1.48E-03 3.17E-04 1.00E-03	IEV-LOSPD IDAMOD04 ALL-IND-FAIL
97	4.56E-10	.09	LOSS OF CCS/SWS FAILURE OF PMD0301ASA	WITH RCS DRAINED PMS OUTPUT	INITIATING EVENT OCCURS LOGIC I/Os	6.02E-04 6.53E-04 1.16E-03	IEV-CCWD PMAMOD1IX PMD0301ASA
98	4.56E-10	.09	LOSS OF CCS/SWS FAILURE OF PMD0301BSA	WITH RCS DRAINED PMS OUTPUT	INITIATING EVENT OCCURS LOGIC I/Os	6.02E-04 6.53E-04 1.16E-03	IEV-CCWD PMAMOD1IX PMD0301BSA
99	4.44E-10	.09	LOSS OF OFFSITE BUS UNAVAILABLE INDICATION	POWER INITIATING EVENT OCCURS DUE TO TEST OR FAILURE	WITH RCS DRAINED MAINTENANCE	1.48E-03 3.00E-04 1.00E-03	IEV-LOSPD IDABSDS1TM ALL-IND-FAIL
100	4.33E-10	.09	LOSS OF CCS/SWS MECHANICAL IRWST DISCHARGE	WITH RCS DRAINED FAILURE CAUSES LINE "B"	INITIATING EVENT OCCURS MOV 121A TO STRAINER	6.02E-04 3.00E-03 2.40E-04	IEV-CCWD IRWMOD05S IWB-PLUG
101	4.22E-10	.09	LOSS OF CCS/SWS LOSS OF DIST. MECHANICAL	WITH RCS DRAINED FAILURE CAUSES	INITIATING EVENT OCCURS PANEL OR BREAKER A07 SPURIOUSLY MOV 023 TO	6.02E-04 3.17E-04 2.21E-03	IEV-CCWD IDAMOD04 RN23MOD5S
102	4.12E-10	.09	LOSS OF OFFSITE FAILURE UPON IRWST DISCHARGE	POWER INITIATING EVENT OCCURS DEMAND OF LOGIC LINE "B"	WITH RCS DRAINED GROUP PROCESSING STRAINER	1.48E-03 1.16E-03 2.40E-04	IEV-LOSPD PMA0301ASA IWB-PLUG
103	4.12E-10	.09	LOSS OF OFFSITE FAILURE UPON IRWST DISCHARGE	POWER INITIATING EVENT OCCURS DEMAND OF LOGIC LINE "B"	WITH RCS DRAINED GROUP PROCESSING STRAINER	1.48E-03 1.16E-03 2.40E-04	IEV-LOSPD PMA0301BSA IWB-PLUG
104	4.03E-10	.08	LOCA/RNS-V024 COMMON CAUSE	OPENS INITIATING EVENT OCCURS FAILURE OF THE INVERTER	WITH RCS FILLED	1.68E-05 2.40E-05	IEV-LOCA24ND CCX-IV-XR
105	3.99E-10	.08	LOSS OF CCS/SWS BUS UNAVAILABLE MECHANICAL	WITH RCS DRAINED DUE TO TEST OR FAILURE CAUSES	INITIATING EVENT OCCURS MOV 023 TO	6.02E-04 3.00E-04 2.21E-03	IEV-CCWD IDABSDS1TM RN23MOD5F

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CASE 2 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PROB	PERCENT	BASIC EVENT NAME		EVENT PROB.	IDENTIFIER
106	3.99E-10	.08	LOSS OF CCS/SWS LOSS OF DIST. PMDMOD11	WITH RCS DRAINED INITIATING EVENT OCCURS PANEL OR BREAKER A07 SPURIOUSLY OPENS	6.02E-04 3.17E-04 2.09E-03	IEV-CCWD IDAMOD04 PMDMOD11
107	3.94E-10	.08	LOSS OF OFFSITE FAILURE OF INV., FAILURE OF INV.,	POWER INITIATING EVENT OCCURS STATIC SWITCH AND ASSOC. STATIC SWITCH AND ASSOC.	1.48E-03 5.16E-04 5.16E-04	IEV-LOSPD IDAMOD05 IDDMOD33
108	3.93E-10	.08	LOSS OF CCS/SWS FAILURE OF INDICATION	WITH RCS DRAINED INITIATING EVENT OCCURS PMS OUTPUT LOGIC I/Os FAILURE	6.02E-04 6.53E-04 1.00E-03	IEV-CCWD PMAMOD11K ALL-IND-FAIL
109	3.77E-10	.08	LOSS OF CCS/SWS BUS UNAVAILABLE PMDMOD11	WITH RCS DRAINED INITIATING EVENT OCCURS DUE TO TEST OR CORRECTIVE MAINTENANCE	6.02E-04 3.00E-04 2.09E-03	IEV-CCWD IDABSDSITM PMDMOD11
110	3.60E-10	.07	LOSS OF CCS/SWS FAILURE OF INV., PMD0301BSA	WITH RCS DRAINED INITIATING EVENT OCCURS STATIC SWITCH AND ASSOC. BREAKERS	6.02E-04 5.16E-04 1.16E-03	IEV-CCWD IDAMOD05 PMD0301BSA
111	3.60E-10	.07	LOSS OF CCS/SWS FAILURE OF INV., PMD0301ASA	WITH RCS DRAINED INITIATING EVENT OCCURS STATIC SWITCH AND ASSOC. BREAKERS	6.02E-04 5.16E-04 1.16E-03	IEV-CCWD IDAMOD05 PMD0301ASA
112	3.39E-10	.07	LOCA/RNS-V024	OPENS INITIATING EVENT OCCURS CCF OF THE ADS SQUIB VALVES TO OPERATE	1.13E-05 3.00E-05	IEV-LOCA24D ADX-EV-SA
113	3.11E-10	.06	LOSS OF CCS/SWS FAILURE OF INV., INDICATION	WITH RCS DRAINED INITIATING EVENT OCCURS STATIC SWITCH AND ASSOC. BREAKERS	6.02E-04 5.16E-04 1.00E-03	IEV-CCWD IDAMOD05 ALL-IND-FAIL
114	3.05E-10	.06	LOSS OF CCS/SWS LOSS OF DIST. OPERATOR FAILS	WITH RCS DRAINED INITIATING EVENT OCCURS PANEL OR BREAKER A07 SPURIOUSLY OPENS TO RECOGNIZE NEED AND TO OPEN RNS MOV V023	6.02E-04 3.17E-04 1.60E-03	IEV-CCWD IDAMOD04 RHN-MAN05
115	2.98E-10	.06	LOSS OF OFFSITE LOSS OF DIST. PMDMOD41	POWER INITIATING EVENT OCCURS PANEL OR BREAKER A07 SPURIOUSLY OPENS	1.48E-03 3.17E-04 6.35E-04	IEV-LOSPD IDAMOD04 PMDMOD41
116	2.96E-10	.06	LOSS OF RNS WITH RCS DRAINED CCF OF ORIFICES	INITIATING EVENT OCCURS	8.15E-05 3.63E-05	IEV-RNSD CCX-ORY-SPX
117	2.94E-10	.06	LOCA/RNS-V024	OPENS INITIATING EVENT OCCURS CCF OF IRWST INJ SQUIB VALVES	1.13E-05 2.60E-05	IEV-LOCA24D IWX-MV-G01

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CASE 2 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PROB	PERCENT	BASIC EVENT NAME			EVENT PROB.	IDENTIFIER
118	2.94E-10	.06	LOSS OF OFFSITE FAILURE UPON FAILURE OF	POWER INITIATING EVENT OCCURS DEMAND OF LOGIC GROUP PROCESSING	WITH RCS DRAINED	1.48E-03 1.16E-03 1.71E-04	IEV-LOSPD PMA0301ASA RNDEP023SA
119	2.94E-10	.06	LOSS OF OFFSITE FAILURE UPON FAILURE OF	POWER INITIATING EVENT OCCURS DEMAND OF LOGIC GROUP PROCESSING	WITH RCS DRAINED	1.48E-03 1.16E-03 1.71E-04	IEV-LOSPD PMA0301BSA RNDEP023SA
120	2.89E-10	.06	LOSS OF CCS/SWS BUS UNAVAILABLE OPERATOR FAILS	WITH RCS DRAINED INITIATING EVENT OCCURS DUE TO TEST OR CORRECTIVE MAINTENANCE	TO RECOGNIZE NEED AND TO OPEN RNS MOV V023	6.02E-04 3.00E-04 1.60E-03	IEV-CCWD IDABSDS1TM RHN-MAN05
121	2.82E-10	.06	LOSS OF OFFSITE BUS UNAVAILABLE PMDMOD41	POWER INITIATING EVENT OCCURS DUE TO TEST OR CORRECTIVE	MAINTENANCE	1.48E-03 3.00E-04 6.35E-04	IEV-LOSPD IDABSDS1TM PMDMOD41
122	2.71E-10	.06	LOCA/RNS-V024 COMMON CAUSE	OPENS INITIATING EVENT OCCURS FAILURE OF THE INVERTER	WITH RCS DRAINED	1.13E-05 2.40E-05	IEV-LOCA24D CCX-IV-XR
123	2.62E-10	.05	LOSS OF OFFSITE FAILURE OF MECHANICAL	POWER INITIATING EVENT OCCURS MIMIC BUS SELECTOR BOARD	WITH RCS DRAINED	1.48E-03 8.00E-05 2.21E-03	IEV-LOSPD PMAXS00ASA RN23MOD5S
124	2.50E-10	.05	LOSS OF CCS/SWS FAILURE OF PMDMOD41	WITH RCS DRAINED INITIATING EVENT OCCURS PMS OUTPUT LOGIC I/Os		6.02E-04 6.53E-04 6.35E-04	IEV-CCWD PMAMOD11X PMDMOD41
125	2.47E-10	.05	LOSS OF OFFSITE FAILURE OF PMDMOD11	POWER INITIATING EVENT OCCURS MIMIC BUS SELECTOR BOARD	WITH RCS DRAINED	1.48E-03 8.00E-05 2.09E-03	IEV-LOSPD PMAXS00ASA PMDMOD11
126	2.47E-10	.05	LOSS OF OFFSITE FAILURE OF PMDXS00ASA	POWER INITIATING EVENT OCCURS PMS OUTPUT LOGIC I/Os	WITH RCS DRAINED	1.48E-03 2.09E-03 8.00E-05	IEV-LOSPD PMAMOD11 PMDXS00ASA
127	2.44E-10	.05	OVERDRAINING OF OPERATOR FAILS INDICATION	RCS DURING DRAIN DOWN TO MID-LOOP TO ISOLATE RNS PIPE RUPTURE	INITIATING EVENT FAILURE	4.44E-06 5.50E-02 1.00E-03	IEV-RCSOD RHN-MAN04 ALL-IND-FAIL
128	2.42E-10	.05	LOSS OF OFFSITE FAILURE OF INV.. LOSS OF DIST.	POWER INITIATING EVENT OCCURS STATIC SWITCH AND ASSOC. PANEL OR BREAKER A28 SPURIOUSLY	WITH RCS DRAINED BREAKERS OPENS	1.48E-03 5.16E-04 3.17E-04	IEV-LOSPD IDAMOD05 IDEMOD32
129	2.42E-10	.05	LOSS OF OFFSITE	POWER INITIATING EVENT OCCURS	WITH RCS DRAINED	1.48E-03	IEV-LOSPD

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CASE 2 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PROB.	PERCENT	BASIC EVENT NAME		EVENT PROB.	IDENTIFIER	
			LOSS OF DIST. FAILURE OF INV.,	PANEL OR BREAKER A07 SPURIOUSLY STATIC SWITCH AND ASSOC.	OPENS BREAKERS	3.17E-04 5.16E-04	IDAMOD04 IDDMOD33
130	2.29E-10	.05	LOSS OF OFFSITE FAILURE OF INV., BUS UNAVAILABLE	POWER INITIATING DUE TO TEST OR STATIC SWITCH AND ASSOC.	EVENT OCCURS CORRECTIVE MAINTENANCE	1.48E-03 3.00E-04 5.16E-04	IEV-LOSPD IDARSDS1TM IDDMOD33
131	2.29E-10	.05	LOSS OF OFFSITE FAILURE OF INV., BUS UNAVAILABLE	POWER INITIATING STATIC SWITCH AND ASSOC. DUE TO TEST OR	EVENT OCCURS CORRECTIVE MAINTENANCE	1.48E-03 5.16E-04 3.00E-04	IEV-LOSPD IDAMOD05 IDDBSDK1TM
132	2.29E-10	.05	LOSS OF OFFSITE FAILURE OF INV., BUS UNAVAILABLE	POWER INITIATING STATIC SWITCH AND ASSOC. DUE TO TEST OR	EVENT OCCURS CORRECTIVE MAINTENANCE	1.48E-03 5.16E-04 3.00E-04	IEV-LOSPD IDAMOD05 IDDBSDS1TM
133	2.29E-10	.05	LOSS OF OFFSITE FAILURE OF INV., BUS UNAVAILABLE	POWER INITIATING STATIC SWITCH AND ASSOC. DUE TO TEST OR	EVENT OCCURS CORRECTIVE MAINTENANCE	1.48E-03 5.16E-04 3.00E-04	IEV-LOSPD IDAMOD05 IDDBSDD1TM
134	2.21E-10	.05	LOSS OF CCS/SWS LOSS OF DIST. PMD0301ASA	WITH RCS DRAINED PANEL OR BREAKER A07 SPURIOUSLY	INITIATING EVENT OCCURS OPENS	6.02E-04 3.17E-04 1.16E-03	IEV-CCWD IDAMOD04 PMD0301ASA
135	2.21E-10	.05	LOSS OF CCS/SWS LOSS OF DIST. PMD0301BSA	WITH RCS DRAINED PANEL OR BREAKER A07 SPURIOUSLY	INITIATING EVENT OCCURS OPENS	6.02E-04 3.17E-04 1.16E-03	IEV-CCWD IDAMOD04 PMD0301BSA
136	2.20E-10	.05	LOSS OF CCS/SWS FAILURE UPON MECHANICAL	WITH RCS DRAINED DEMAND OF LOGIC FAILURE CAUSES	INITIATING EVENT OCCURS GROUP PROCESSING MOV 023 TO FAIL-TO-OPEN	6.02E-04 1.65E-04 2.21E-03	IEV-CCWD PMA0301ASAX RN23MOD5S
137	2.20E-10	.05	LOSS OF CCS/SWS FAILURE UPON MECHANICAL	WITH RCS DRAINED DEMAND OF LOGIC FAILURE CAUSES	INITIATING EVENT OCCURS GROUP PROCESSING MOV 023 TO FAIL-TO-OPEN	6.02E-04 1.65E-04 2.21E-03	IEV-CCWD PMA0301BSAX RN23MOD5S
138	2.14E-10	.04	LOSS OF RNS WITH CCF OF PRESSURE	RCS DRAINED TRANSMITTERS	INITIATING EVENT OCCURS	8.15E-05 2.63E-06	IEV-RNSD CCX-XMTRX
139	2.09E-10	.04	LOSS OF CCS/SWS BUS UNAVAILABLE PMD0301ASA	WITH RCS DRAINED DUE TO TEST OR	INITIATING EVENT OCCURS CORRECTIVE MAINTENANCE	6.02E-04 3.00E-04 1.16E-03	IEV-CCWD IDABSDS1TM PMD0301ASA
140	2.09E-10	.04	LOSS OF CCS/SWS BUS UNAVAILABLE	WITH RCS DRAINED DUE TO TEST OR	INITIATING EVENT OCCURS CORRECTIVE MAINTENANCE	6.02E-04 3.00E-04	IEV-CCWD IDABSDS1TM

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CASE 2 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PROB	PERCENT	BASIC EVENT NAME		EVENT PROB.	IDENTIFIER	
			PMD0301BSA		1.16E-03	PMD0301BSA	
141	2.08E-10	.04	LOSS OF CCS/SWS FAILURE UPON PMDMOD11	WITH RCS DRAINED INITIATING EVENT OCCURS DEMAND OF LOGIC GROUP PROCESSING	6.02E-04 1.65E-04 2.09E-03	IEV-CCWD PMA0301BSAX PMDDMOD11	
142	2.08E-10	.04	LOSS OF CCS/SWS FAILURE UPON PMDMOD11	WITH RCS DRAINED INITIATING EVENT OCCURS DEMAND OF LOGIC GROUP PROCESSING	6.02E-04 1.65E-04 2.09E-03	IEV-CCWD PMA0301ASAX PMDDMOD11	
143	2.03E-10	.04	LOSS OF CCS/SWS FAILURE OF PMS OUTPUT FAILURE OF INV.,	WITH RCS DRAINED INITIATING EVENT OCCURS LOGIC I/Os STATIC SWITCH AND ASSOC.	6.02E-04 6.53E-04 5.16E-04	IEV-CCWD PMAMOD11X IDDMOD33	
144	2.02E-10	.04	LOCA/RNS-V024 CCF OF STRAINERS	OPENS INITIATING EVENT OCCURS IN IRWST TANK	WITH RCS FILLED	1.68E-05 1.20E-05	IEV-LOCA24ND IWX-FL-GP
145	1.97E-10	.04	LOSS OF CCS/SWS FAILURE OF INV., PMDMOD41	WITH RCS DRAINED INITIATING EVENT OCCURS STATIC SWITCH AND ASSOC.	BREAKERS	6.02E-04 5.16E-04 6.35E-04	IEV-CCWD IDAMOD05 PMDDMOD41
146	1.97E-10	.04	OVERDRAINING OF RHN-MAN04-SUCC COMMON CAUSE	RCS DURING DRAIN DOWN TO MID-LOOP FAILURE OF THE	INITIATING EVENT BATTERIES	4.44E-06 9.45E-01 4.70E-05	IEV-RCSOD RHN-MAN04-SUCC CCX-BY-PN
147	1.91E-10	.04	LOSS OF CCS/SWS LOSS OF DIST. INDICATION	WITH RCS DRAINED INITIATING EVENT OCCURS PANEL OR BREAKER A07 SPURIOUSLY OPENS FAILURE		6.02E-04 3.17E-04 1.00E-03	IEV-CCWD IDAMOD04 ALL-IND-FAIL
148	1.89E-10	.04	LOSS OF OFFSITE FAILURE OF OPERATOR FAILS	POWER INITIATING EVENT OCCURS MIMIC BUS TO RECOGNIZE	WITH RCS DRAINED SELECTOR BOARD NEED AND TO OPEN RNS MOV V023	1.48E-03 8.00E-05 1.60E-03	IEV-LOSPD PMAXS00ASA RHN-MAN05
149	1.83E-10	.04	LOSS OF OFFSITE FAILURE OF INV., IRWST DISCHARGE	POWER INITIATING EVENT OCCURS STATIC SWITCH LINE "B"	WITH RCS DRAINED AND ASSOC. STRAINER	5.16E-04 2.40E-04	IEV-LOSPD IDAMOD05 IWB-PLUG
150	1.81E-10	.04	LOSS OF CCS/SWS BUS UNAVAILABLE INDICATION	WITH RCS DRAINED INITIATING EVENT OCCURS DUE TO TEST OR CORRECTIVE FAILURE	MAINTENANCE	6.02E-04 3.00E-04 1.00E-03	IEV-CCWD IDABSDSITM ALL-IND-FAIL
151	1.60E-10	.03	LOSS OF CCS/SWS FAILURE OF INV., FAILURE OF INV.,	WITH RCS DRAINED INITIATING EVENT OCCURS STATIC SWITCH AND ASSOC. STATIC SWITCH AND ASSOC.	BREAKERS BREAKERS	6.02E-04 5.16E-04 5.16E-04	IEV-CCWD IDAMOD05 IDDMOD33

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CASE 2 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PROB	PERCENT	BASIC EVENT NAME		EVENT PROB.	IDENTIFIER
152	1.59E-10	.03	LOSS OF CCS/SWS FAILURE UPON OPERATOR FAILS	WITH RCS DRAINED INITIATING EVENT OCCURS DEMAND OF LOGIC GROUP PROCESSING TO RECOGNIZE NEED AND TO OPEN RNS MOV V023	6.02E-04 1.65E-04 1.60E-03	IEV-CCWD PMA0301ASAX RHN-MAN05
153	1.59E-10	.03	LOSS OF CCS/SWS FAILURE UPON OPERATOR FAILS	WITH RCS DRAINED INITIATING EVENT OCCURS DEMAND OF LOGIC GROUP PROCESSING TO RECOGNIZE NEED AND TO OPEN RNS MOV V023	6.02E-04 1.65E-04 1.60E-03	IEV-CCWD PMA0301BSAX RHN-MAN05
154	1.52E-10	.03	LOSS OF OFFSITE COMMON MODE INDICATION	POWER INITIATING EVENT OCCURS WITH RCS DRAINED FAILURE OF INPUT LOGIC GROUPS FAILURE	1.48E-03 1.03E-04 1.00E-03	IEV-LOSPD CCX-INPUT-LOGIC ALL-IND-FAIL
155	1.49E-10	.03	LOSS OF OFFSITE LOSS OF DIST. LOSS OF DIST.	POWER INITIATING EVENT OCCURS WITH RCS DRAINED PANEL OR BREAKER A07 SPURIOUSLY OPENS PANEL OR BREAKER A28 SPURIOUSLY OPENS	1.48E-03 3.17E-04 3.17E-04	IEV-LOSPD IDAMOD04 IDDMOD32
156	1.45E-10	.03	LOCA/RNS-V024 CCF OF THE POWER	OPENS INITIATING EVENT OCCURS WITH RCS FILLED INTERFACE OUTPUT BOARDS IN PMS	1.68E-05 8.62E-06	IEV-LOCA24ND CCX-EP-SAM
157	1.41E-10	.03	LOSS OF OFFSITE BUS UNAVAILABLE LOSS OF DIST.	POWER INITIATING EVENT OCCURS WITH RCS DRAINED DUE TO TEST OR CORRECTIVE MAINTENANCE PANEL OR BREAKER A28 SPURIOUSLY OPENS	1.48E-03 3.00E-04 3.17E-04	IEV-LOSPD IDABSDS1TM IDDMOD32
158	1.41E-10	.03	LOSS OF OFFSITE LOSS OF DIST. BUS UNAVAILABLE	POWER INITIATING EVENT OCCURS WITH RCS DRAINED PANEL OR BREAKER A07 SPURIOUSLY OPENS DUE TO TEST OR CORRECTIVE MAINTENANCE	1.48E-03 3.17E-04 3.00E-04	IEV-LOSPD IDAMOD04 IDDBBSDK1TM
159	1.41E-10	.03	LOSS OF OFFSITE LOSS OF DIST. BUS UNAVAILABLE	POWER INITIATING EVENT OCCURS WITH RCS DRAINED PANEL OR BREAKER A07 SPURIOUSLY OPENS DUE TO TEST OR CORRECTIVE MAINTENANCE	1.48E-03 3.17E-04 3.00E-04	IEV-LOSPD IDAMOD04 IDDBBSDS1TM
160	1.41E-10	.03	LOSS OF OFFSITE LOSS OF DIST. BUS UNAVAILABLE	POWER INITIATING EVENT OCCURS WITH RCS DRAINED PANEL OR BREAKER A07 SPURIOUSLY OPENS DUE TO TEST OR CORRECTIVE MAINTENANCE	1.48E-03 3.17E-04 3.00E-04	IEV-LOSPD IDAMOD04 IDDBBSDD1TM
161	1.40E-10	.03	LOSS OF OFFSITE ORIFICE FAILURE INDICATION	POWER INITIATING EVENT OCCURS WITH RCS DRAINED DUE TO PLUGGING FAILURE	1.48E-03 9.46E-05 1.00E-03	IEV-LOSPD IW10R170SPX ALL-IND-FAIL
162	1.40E-10	.03	LOSS OF OFFSITE ORIFICE FAILURE INDICATION	POWER INITIATING EVENT OCCURS WITH RCS DRAINED DUE TO PLUGGING FAILURE	1.48E-03 9.46E-05 1.00E-03	IEV-LOSPD IW20R160SPX ALL-IND-FAIL
163	1.37E-10	.03	LOSS OF OFFSITE	POWER INITIATING EVENT OCCURS WITH RCS DRAINED	1.48E-03	IEV-LOSPD

TABLE 54B-11
CASE 2 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PROB.	PERCENT	BASIC EVENT NAME	EVENT PROB.	IDENTIFIER
			FAILURE UPON DEMAND OF LOGIC GROUP PROCESSING PMDXS00ASA	1.16E-03 8.00E-05	PMA0301BSA PMDS00ASA
164	1.37E-10	.03	LOSS OF OFFSITE FAILURE UPON DEMAND OF LOGIC GROUP PROCESSING PMDXS00ASA	1.48E-03 1.16E-03 8.00E-05	IEV-LOSPD PMA0301ASA PMDS00ASA
165	1.37E-10	.03	LOSS OF OFFSITE FAILURE OF MIMIC BUS SELECTOR BOARD PMD0301BSA	1.48E-03 8.00E-05 1.16E-03	IEV-LOSPD PMA0301ASA PMDS00ASA
166	1.37E-10	.03	LOSS OF OFFSITE FAILURE OF MIMIC BUS SELECTOR BOARD PMD0301ASA	1.48E-03 8.00E-05 1.16E-03	IEV-LOSPD PMA0301ASA PMDS00ASA
167	1.36E-10	.03	LOCA/RNS-V024 CCF OF STRAINERS IN IRWST TANK OPENS INITIATING EVENT OCCURS	WITH RCS DRAINED 1.13E-05 1.20E-05	IEV-LOCA24D IWX-FL-GP
168	1.33E-10	.03	LOSS OF OFFSITE BUS UNAVAILABLE DUE TO TEST OR CORRECTIVE BUS UNAVAILABLE DUE TO TEST OR CORRECTIVE	WITH RCS DRAINED 1.48E-03 3.00E-04 3.00E-04	IEV-LOSPD IDABSDS1TM IDDBSDK1TM
169	1.33E-10	.03	LOSS OF OFFSITE BUS UNAVAILABLE DUE TO TEST OR CORRECTIVE BUS UNAVAILABLE DUE TO TEST OR CORRECTIVE	WITH RCS DRAINED 1.48E-03 3.00E-04 3.00E-04	IEV-LOSPD IDABSDS1TM IDDBSDS1TM
170	1.33E-10	.03	LOSS OF OFFSITE BUS UNAVAILABLE DUE TO TEST OR CORRECTIVE BUS UNAVAILABLE DUE TO TEST OR CORRECTIVE	WITH RCS DRAINED 1.48E-03 3.00E-04 3.00E-04	IEV-LOSPD IDABSDS1TM IDDBSDD1TM
171	1.31E-10	.03	LOSS OF OFFSITE FAILURE OF INV., STATIC SWITCH AND ASSOC. FAILURE OF OUTPUT DRIVER	WITH RCS DRAINED 1.48E-03 5.16E-04 1.71E-04	IEV-LOSPD IDAMOD05 RNDEP023SA
172	1.26E-10	.03	OVERDRAINING OF RHN-MAN04-SUCC CCF OF THE ADS SQUIB VALVES TO OPERATE	RCS DURING DRAIN DOWN TO MID-LOOP INITIATING EVENT 4.44E-06 9.45E-01 3.00E-05	IEV-RCS0D RHN-MAN04-SUCC ADX-EV-SA
173	1.25E-10	.03	LOSS OF CCS/SWS FAILURE OF PMS OUTPUT LOSS OF DIST.	WITH RCS DRAINED INITIATING EVENT OCCURS LOGIC I/Os PANEL OR BREAKER A28 SPURIOUSLY OPENS 6.02E-04 6.53E-04 3.17E-04	IEV-CCWD PMAMOD11X IDMOD32
174	1.21E-10	.03	LOSS OF CCS/SWS LOSS OF DIST.	WITH RCS DRAINED INITIATING EVENT OCCURS PANEL OR BREAKER A07 SPURIOUSLY OPENS 6.02E-04 3.17E-04	IEV-CCWD IDAMOD04

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CASE 2 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PROB	PERCENT	BASIC EVENT NAME		EVENT PROB.	IDENTIFIER
			PMDMOD41		6.35E-04	PMDMOD41
175	1.20E-10	.02	LOSS OF CCS/SWS PMAMOD21X OPERATOR FAILS COND. PROB. OF	WITH RCS DRAINED INITIATING EVENT OCCURS TO OPEN TWO RHN-MAN05 (OP. FAILS TO OPEN RNS MOV V023)	6.02E-04 1.16E-03 1.15E-03 1.50E-01	IEV-CCWD PMAMOD21X IWN-MAN00 RHN-MAN05C
176	1.18E-10	.02	LOSS OF OFFSITE FAILURE OF INDICATION	POWER INITIATING EVENT OCCURS MIMIC BUS FAILURE	1.48E-03 8.00E-05 1.00E-03	IEV-LOSPD PMAXS00ASA ALL-IND-FAIL
177	1.18E-10	.02	LOSS OF CCS/SWS FAILURE OF BUS UNAVAILABLE	WITH RCS DRAINED INITIATING EVENT OCCURS PMS OUTPUT DUE TO TEST OR	1.02E-04 6.53E-04 3.00E-04	IEV-CCWD PMAMOD11X IDDBSDSD1TM
178	1.18E-10	.02	LOSS OF CCS/SWS FAILURE OF BUS UNAVAILABLE	LOGIC I/Os CORRECTIVE MAINTENANCE	6.02E-04 6.53E-04 3.00E-04	IEV-CCWD PMAMOD11X IDDBSDSD1TM
179	1.18E-10	.02	LOSS OF CCS/SWS FAILURE OF BUS UNAVAILABLE	WITH RCS DRAINED INITIATING EVENT OCCURS PMS OUTPUT DUE TO TEST OR	6.02E-04 6.53E-04 3.00E-04	IEV-CCWD PMAMOD11X IDDBSDSD1TM
180	1.18E-10	.02	LOSS OF RNS WITH FAILURE OF MECHANICAL	INITIATING EVENT OCCURS LOGIC I/Os MOV 023 TO FAIL-TO-OPEN	8.15E-05 6.53E-04 2.21E-03	IEV-RNSD PMAMOD11X RN23MOD5S
181	1.15E-10	.02	LOSS OF CCS/SWS FAILURE UPON PMD0301ASA	WITH RCS DRAINED INITIATING EVENT OCCURS DEMAND OF LOGIC GROUP PROCESSING	6.02E-04 1.65E-04 1.16E-03	IEV-CCWD PMA0301BSAX PMD0301ASA
182	1.15E-10	.02	LOSS OF CCS/SWS FAILURE UPON PMD0301BSA	INITIATING EVENT OCCURS DEMAND OF LOGIC GROUP PROCESSING	6.02E-04 1.65E-04 1.16E-03	IEV-CCWD PMA0301BSAX PMD0301BSA
183	1.15E-10	.02	LOSS OF CCS/SWS FAILURE UPON PMD0301ASA	WITH RCS DRAINED INITIATING EVENT OCCURS DEMAND OF LOGIC GROUP PROCESSING	6.02E-04 1.65E-04 1.16E-03	IEV-CCWD PMA0301ASAX PMD0301ASA
184	1.15E-10	.02	LOSS OF CCS/SWS FAILURE UPON PMD0301BSA	INITIATING EVENT OCCURS DEMAND OF LOGIC GROUP PROCESSING	6.02E-04 1.65E-04 1.16E-03	IEV-CCWD PMA0301ASAX PMD0301BSA
185	1.15E-10	.02	LOSS OF CCS/SWS	WITH RCS DRAINED INITIATING EVENT OCCURS	6.02E-04	IEV-CCWD

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CASE 2 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PROB	PERCENT	BASIC EVENT NAME		EVENT PROB.	IDENTIFIER	
			BUS UNAVAILABLE DUE TO TEST OR PMDMOD41	CORRECTIVE MAINTENANCE	3.00E-04 6.35E-04	IDABSDSITM PMDMOD41	
186	1.13E-10	.02	LOSS OF OFFSITE LOSS OF DIST. IRWST DISCHARGE	POWER INITIATING EVENT OCCURS PANEL OR BREAKER A07 SPURIOUSLY LINE "B"	WITH RCS DRAINED OPENS STRAINER PLUGGED	1.48E-03 3.17E-04 2.40E-04	IEV-LOSPD IDAMOD04 IWBL-PLUG
187	1.11E-10	.02	LOSS OF RNS WITH FAILURE OF PMDMOD11	RCS DRAINED PMS OUTPUT	INITIATING EVENT OCCURS LO/LIC I/Os	8.15E-05 6.53E-04 2.09E-03	IEV-RNSD PMAMOD11X PMDDMOD11
188	1.09E-10	.02	OVERDRAINING OF RHN-MAN04-SUCC CCF OF IRWST INJ SQUIB VALVES	RCS DURING DRAIN DOWN TO MID-LOOP	INITIATING EVENT	4.44E-06 9.45E-01 2.60E-05	IEV-RCSOD RHN-MAN04 SUCC IWX-MV-G01
189	1.07E-10	.02	LOSS OF OFFSITE BUS UNAVAILABLE IRWST DISCHARGE	POWER INITIATING EVENT OCCURS DUE TO TEST OR CORRECTIVE LINE "B"	WITH RCS DRAINED MAINTENANCE PLUGGED	1.48E-03 3.00E-04 2.40E-04	IEV-LOSPD IDABSDSITM IWBL-PLUG
190	1.07E-10	.02	LOSS OF OFFSITE IRWST DISCHARGE BUS UNAVAILABLE	POWER INITIATING EVENT OCCURS LINE "B"	WITH RCS DRAINED PLUGGED	1.48E-03 2.40E-04 3.00E-04	IEV-LOSPD IWBL-PLUG IDBBSDSITM
191	1.07E-10	.02	LOSS OF OFFSITE IRWST DISCHARGE BUS UNAVAILABLE	POWER INITIATING EVENT OCCURS LINE "B"	WITH RCS DRAINED PLUGGED	1.48E-03 2.40E-04 3.00E-04	IEV-LOSPD IWBL-PLUG IDBBSDDITM
192	1.07E-10	.02	LOSS OF OFFSITE IRWST DISCHARGE BUS UNAVAILABLE	POWER INITIATING EVENT OCCURS LINE "B"	WITH RCS DRAINED PLUGGED	1.48E-03 2.40E-04 3.00E-04	IEV-LOSPD IWBL-PLUG IDBBSDKITM
193	1.06E-10	.02	LOSS OF CCS/SWS FAILURE OF MECHANICAL	WITH RCS DRAINED FAILURE OF LINE "B"	INITIATING EVENT OCCURS SELECTOR BOARD	6.02E-04 8.00E-05 2.21E-03	IEV-CCWD PMAXS00ASAX RN23MOD55
194	1.01E-10	.02	LOSS OF OFFSITE LEVEL INDICATION	POWER INITIATING EVENT OCCURS TRANSMITTER FAILURE	WITH RCS DRAINED	1.48E-03 6.84E-05 1.00E-03	IEV-LOSPD IWTL160UFX ALL-IND-FAIL
195	1.01E-10	.02	LOSS OF OFFSITE LEVEL INDICATION	POWER INITIATING EVENT OCCURS TRANSMITTER FAILURE	WITH RCS DRAINED	1.48E-03 6.84E-05 1.00E-03	IEV-LOSPD IWTL170UFX ALL-IND-FAIL
196	1.01E-10	.02	OVERDRAINING OF	RCS DURING DRAIN DOWN TO MID-LOOP	INITIATING EVENT	4.44E-06	IEV-RCSOD

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TABLE 54B-11

CASE 2 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PROB	PERCENT	BASIC EVENT NAME		EVENT PROB.	IDENTIFIER
			RHN-MAN04-SUCC COMMON CAUSE	FAILURE OF THE INVERTER	9.45E-01 2.40E-05	RHN-MAN04-SUCC CCX-IV-XR
197	1.01E-10	.02	LOSS OF CCS/SWS FAILURE OF PMLMOD11	WITH RCS DRAINED INITIATING EVENT OCCURS MIMIC BUS SELECTOR BOARD	6.02E-04 8.09E-05 2.09E-03	IEV-CCWD PMAXS00ASAX PMDMOD11
198	9.93E-11	.02	LOSS OF CCS/SWS FAILURE UPON INDICATION	WITH RCS DRAINED INITIATING EVENT OCCURS DEMAND OF LOGIC GROUP PROCESSING FAILURE	6.02E-04 1.65E-04 1.00E-03	IEV-CCWD PMA0301ASAX ALL-IND-FAIL
199	9.93E-11	.02	LOSS OF CCS/SWS FAILURE UPON INDICATION	WITH RCS DRAINED INITIATING EVENT OCCURS DEMAND OF LOGIC GROUP PROCESSING FAILURE	6.02E-04 1.65E-04 1.00E-03	IEV-CCWD PMA0301BSAX ALL-IND-FAIL
200	9.85E-11	.02	LOSS OF CCS/SWS FAILURE OF INV. LOSS OF DIST.	WITH RCS DRAINED INITIATING EVENT OCCURS STATIC SWITCH AND ASSOC. BREAKERS PANEL OR BREAKER A28 SPURIOUSLY OPENS	6.02E-04 5.16E-04 3.17E-04	IEV-CCWD IDAMOD05 IDDMOD32

Table 54B-12

BASIC EVENT IMPORTANCE - CASE 2

SYSTEM UNAVAILABILITY (Q) = 4.806E-07
 NUMBER OF BASIC EVENTS = 156
 NUMBER OF CUTSETS = 6982

BASIC EVENT	IMPORTANCE (%DECREASE)	NUMBER OF CUTSETS	DECREASE IN SYSTEM UNAVAILABILITY	BASIC EVENT PROBABILITY
1 IEV-LOSPD	71.02	768	3.4131E-07	1.4800E-03
2 IEV-CCWD	23.25	1723	1.1174E-07	6.0200E-04
3 CCX-RY-PN	21.50	33	1.0334E-07	4.7000E-05
4 ADX-EV-SA	13.62	357	6.5440E-08	3.0000E-05
5 IWX-MV-G01	11.80	6	5.6729E-08	2.6000E-05
6 CCX-IV-XR	10.96	31	5.2681E-08	2.4000E-05
7 PMAMOD11	7.80	32	3.7505E-08	2.0900E-03
8 IWX-FL-GP	5.50	30	2.6409E-08	1.2000E-05
9 ALL-IND-FAIL	4.62	485	2.2208E-08	1.0000E-03
10 RN23MOD5S	4.60	560	2.2100E-08	2.2100E-03
11 PMDMOD11	4.35	560	2.0901E-08	2.0900E-03
12 PMA0301ASA	4.33	29	2.0817E-08	1.1600E-03
13 PMA0301BSA	4.33	29	2.0817E-08	1.1600E-03
14 CCX-EP-SAM	3.95	29	1.8988E-08	8.6200E-06
15 RHN-MAN05	3.32	465	1.5961E-08	1.6000E-03
16 IEV-RNSD	3.15	1020	1.5132E-08	8.1500E-05
17 IDAMOD05	2.84	126	1.3635E-08	5.1600E-04
18 PMD0301ASA	2.41	475	1.1596E-08	1.1600E-03
19 PMD0301BSA	2.41	475	1.1596E-08	1.1600E-03
20 IDAMOD04	1.74	123	8.3789E-09	3.1700E-04
21 IEV-RCSD	1.67	581	8.0065E-09	4.4400E-06
22 IDABSDS1TM	1.65	123	7.9242E-09	3.0000E-04
23 CCX-ORY-SPX	1.65	6	7.9131E-09	3.6300E-06
24 PMAMOD21	1.49	79	7.1742E-09	4.0700E-03
25 PMDMOD41	1.32	396	6.3453E-09	6.3500E-04
26 RHN-MAN04-SUCC	1.20	368	5.7646E-09	9.4500E-01
27 CCX-XMTRX	1.19	6	5.7253E-09	2.6300E-06
28 PMAMOD11X	1.15	100	5.5352E-09	6.5300E-04
29 IDDMOD33	1.07	379	5.1635E-09	5.1600E-04
30 IW8-PLUG	1.00	231	4.7847E-09	2.4000E-04
31 RHN-MAN05C	.81	28	3.8885E-09	1.5000E-01
32 IDDMOD32	.66	321	3.1706E-09	3.1700E-04
33 IDDBSDS1TM	.62	322	2.9997E-09	3.0000E-04
34 IDDBSDD1TM	.62	313	2.9996E-09	3.0000E-04
35 IDDBSDK1TM	.62	313	2.9996E-09	3.0000E-04
36 CCX-SFTW	.55	24	2.6409E-09	1.2000E-06
37 RHN-MAN04	.49	335	2.3454E-09	5.5000E-02
38 IWN-MAN00	.46	366	2.1893E-09	1.1500E-03
39 IEV-LOCA24D	.44	465	2.0966E-09	1.1300E-05
40 IEV-LOCA24ND	.44	178	2.0950E-09	1.6800E-05
41 IWN-MAN00C	.40	20	1.9464E-09	5.0000E-02
42 RNDEP023SA	.36	281	1.7109E-09	1.7100E-04
43 IRWMOD05S	.35	756	1.6747E-09	3.0000E-03
44 PMAXS00ASA	.30	25	1.4338E-09	8.0000E-05
45 PMA0301ASAX	.29	97	1.3986E-09	1.6500E-04
46 PMA0301BSAX	.29	97	1.3986E-09	1.6500E-04
47 IWX-CV-AO	.28	149	1.3468E-09	3.0000E-05
48 PMAMOD21X	.20	141	9.5942E-10	1.1600E-03
49 PMDXS00ASA	.17	189	7.9851E-10	8.0000E-05
50 PMAXS00ASAX	.14	97	6.7789E-10	8.0000E-05
51 ADN-MAN01	.10	61	4.7514E-10	4.9300E-04
52 CCX-INPUT-LOGIC	.08	78	3.7004E-10	1.0300E-04
53 IW1OR170SPX	.07	132	3.4896E-10	9.4600E-05
54 IW2OR160SPX	.07	132	3.4896E-10	9.4600E-05
55 IWITL170UFX	.05	124	2.5213E-10	6.8400E-05
56 IW2TL160UFX	.05	124	2.5213E-10	6.8400E-05
57 IDAMOD02	.04	99	1.9251E-10	2.7000E-03
58 IDAMOD03	.04	99	1.9251E-10	2.7000E-03
59 IDDBSDS1TM	.03	410	1.6752E-10	3.0000E-04
60 IDDBSDD1TM	.03	411	1.6735E-10	3.0000E-04
61 IDDBSDK1TM	.03	411	1.6735E-10	3.0000E-04
62 IWA-PLUG	.03	409	1.3592E-10	2.4000E-04
63 IDABSDS1LF	.03	98	1.2676E-10	4.8000E-06
64 IDDFD019RQ	.02	99	1.1991E-10	1.2000E-05
65 IDDFD020RQ	.02	99	1.1991E-10	1.2000E-05
66 IEV-LOCAPRND	.02	133	1.0356E-10	1.5100E-05

67	PXX-AV-LA	.02	218	9.7794E-11	6.1000E-05
68	IWACV122AO	.02	524	8.6846E-11	8.7600E-03
69	IWACV123AO	.02	524	8.6846E-11	8.7600E-03
70	IWACV124AO	.02	524	8.6846E-11	8.7600E-03
71	IWACV125AO	.02	524	8.6846E-11	8.7600E-03
72	PMAMOD41	.02	342	8.6000E-11	6.3500E-04
73	IDDMOD22	.02	76	7.2753E-11	2.7000E-03
74	IDDMOD23	.02	76	7.2763E-11	2.7000E-03
75	IEV-LOSPND	.01	185	6.6901E-11	8.1300E-03
76	IDDBSDD1LF	.01	68	4.7908E-11	4.8000E-06
77	IDDBSDK1LF	.01	68	4.7908E-11	4.8000E-06
78	IDDBSDS1LF	.01	68	4.7908E-11	4.8000E-06
79	CCX-IN-LOGIC-SW	.01	80	4.0856E-11	1.1000E-05
80	IDCBSDS1TM	.01	532	3.5232E-11	3.0000E-04
81	IDCBSDD1TM	.01	529	3.5198E-11	3.0000E-04
82	IDCBSDK1TM	.01	529	3.5198E-11	3.0000E-04
83	IRAEPI21ASAX	.01	218	3.2327E-11	5.8300E-05
84	IEV-CCWND	.01	125	3.0895E-11	3.7500E-03
85	CCX-EP-SAMX	.01	73	2.4896E-11	2.9400E-06
86	CCX-INPUT-LOGICK	.00	47	2.1375E-11	2.5900E-05
87	IWBCV122AO	.00	704	1.9302E-11	8.7600E-03
88	IWBCV123AO	.00	704	1.9302E-11	8.7600E-03
89	IWBCV124AO	.00	704	1.9302E-11	8.7600E-03
90	IWBCV125AO	.00	704	1.9302E-11	8.7600E-03
91	IEV-RNSND	.00	84	7.9011E-12	9.6100E-04
92	IRAEPI21BSAX	.00	304	6.7177E-12	5.8300E-05
93	IDBFD013RQ	.00	92	6.5755E-12	1.2000E-05
94	IDBFD014RQ	.00	92	6.5755E-12	1.2000E-05
95	PMAEHOA1SA	.00	93	5.9349E-12	8.0000E-05
96	CCX-LS-FA	.00	67	5.6773E-12	5.3700E-06
97	ADN-MAN01C	.00	6	5.3839E-12	5.0000E-02
98	AD3MOD03	.00	79	5.2154E-12	5.5400E-02
99	AD3MOD04	.00	79	5.2154E-12	5.5400E-02
100	AD2MOD01	.00	76	5.2064E-12	5.5400E-02
101	AD2MOD02	.00	75	5.2062E-12	5.5400E-02
102	PMAEHOA1SAX	.00	105	4.8270E-12	8.0000E-05
103	IDBMOD10	.00	63	3.9737E-12	2.7000E-03
104	IDBMOD11	.00	63	3.9737E-12	2.7000E-03
105	IWNTK001AF	.00	58	3.8181E-12	2.4000E-06
106	LPM-MAN05	.00	33	3.3402E-12	6.8300E-04
107	PRAAV108LA	.00	66	2.7486E-12	1.0900E-03
108	PRBAV108LA	.00	66	2.7486E-12	1.0900E-03
109	IDDBSDS1LF	.00	44	2.5945E-12	4.8000E-06
110	IDDBBSDS1LF	.00	43	2.5920E-12	4.8000E-06
111	IDBBSDD1LF	.00	43	2.5920E-12	4.8000E-06
112	CCX-AV-LA	.00	16	2.4406E-12	6.1000E-05
113	CMX-CV-GO	.00	15	2.0431E-12	5.1000E-05
114	CMX-VS-FA	.00	19	1.6807E-12	3.8400E-05
115	IDCFD007RQ	.00	141	1.2889E-12	1.2000E-05
116	IDCPD008RQ	.00	141	1.2889E-12	1.2000E-05
117	PMAMOD31	.00	58	1.2558E-12	5.0200E-03
118	PRAAV108TM	.00	42	1.2552E-12	5.0000E-04
119	PRBAV108TM	.00	42	1.2552E-12	5.0000E-04
120	PMBMOD32	.00	49	1.1652E-12	5.0200E-03
121	PPCM MOD33	.00	49	1.1652E-12	5.0200E-03
122	PMBMOD11	.00	11	1.1545E-12	2.0900E-03
123	PMDMOD34	.00	34	1.0091E-12	5.0200E-03
124	IDCMOD16	.00	102	7.4885E-13	2.7000E-03
125	IDCMOD17	.00	102	7.4885E-13	2.7000E-03
126	PMB0301ASA	.00	8	6.4249E-13	1.1600E-03
127	PMB0301BSA	.00	8	6.4249E-13	1.1600E-03
128	ADX-MV-GO	.00	8	6.0862E-13	1.1000E-03
129	IDCBSDD1LF	.00	80	4.7107E-13	4.8000E-06
130	IDCBSDK1LF	.00	80	4.7107E-13	4.8000E-06
131	IDCBSDS1LF	.00	80	4.7107E-13	4.8000E-06
132	IDBMOD25	.00	15	3.5538E-13	5.1600E-04
133	IDBMOD24	.00	8	2.1072E-13	3.1700E-04
134	PRX-HR-ML	.00	15	1.8774E-13	1.2000E-07
135	CCX-KMTR	.00	4	1.4200E-13	2.0100E-04
136	IDCMOD29	.00	9	7.0055E-14	5.1600E-04
137	PMBX800ASA	.00	4	4.4076E-14	8.0000E-05
138	IDCMOD28	.00	3	3.5305E-14	3.1700E-04
139	IDABSDD1TM	.00	9	2.6978E-14	3.0000E-04
140	IDABSDK1TM	.00	9	2.6978E-14	3.0000E-04
141	CMA-PLUG	.00	3	1.9318E-14	7.2700E-04
142	CMB-PLUG	.00	3	1.9318E-14	7.2700E-04
143	ADAEP002ASA	.00	6	1.4988E-14	1.7100E-04
144	ADAEP003ASA	.00	6	1.4988E-14	1.7100E-04
145	ADAEP012ASA	.00	6	1.4988E-14	1.7100E-04
146	ADAEP013ASA	.00	6	1.4988E-14	1.7100E-04
147	ADBEPO02BSA	.00	6	1.4988E-14	1.7100E-04

148	ADBEPO03BSA	.00	6	1.4988E-14	1.7100E-04
149	ADBEPO12BSA	.00	6	1.4988E-14	1.7100E-04
150	ADBEPO13BSA	.00	6	1.4988E-14	1.7100E-04
151	IWX-XMTRLW	.00	6	1.0436E-14	9.2000E-09
152	PMBMOD21	.00	4	5.7732E-15	4.0700E-03
153	CMX-TK-AF	.00	2	3.3307E-15	1.2000E-07
154	PMBMOD41	.00	1	1.3323E-15	6.3500E-04
155	IDAFD003RQ	.00	3	9.9920E-16	1.2000E-05
156	IDAFD004RQ	.00	3	9.9920E-16	1.2000E-05

SYSTEM UNAVAILABILITY (Q) = 4.806E-07
 NUMBER OF BASIC EVENTS = 156
 NUMBER OF CUTSETS = 6982

BASIC EVENT	IMPORTANCE (%INCREASE)	NUMBER OF CUTSETS	INCREASE IN SYSTEM UNAVAILABILITY	BASIC EVENT PROBABILITY
1 CCX-EP-SAI	458350.	29	2.2028E-03	8.6200E-06
2 CCX-SPTW	457931.	24	2.2008E-03	1.2000E-06
3 IWX-FL-GP	457927.	30	2.2008E-03	1.2000E-05
4 CCX-BY-PN	457176.	33	2.1986E-03	4.7000E-05
5 CCX-JV-XR	456728.	31	2.1950E-03	2.4000E-05
6 IWX-MV-GO1	453992.	6	2.1818E-03	2.6000E-05
7 ADX-EV-SA	453871.	357	2.1813E-03	3.0000E-05
8 CCX-ORY-SPX	453589.	6	2.1799E-03	3.6300E-06
9 CCX-XMTRX	452970.	6	2.1769E-03	2.6300E-06
10 IEV-RCSOD	375218.	581	1.8033E-03	4.4400E-06
11 IEV-LOSPD	47914.3	2488	2.3027E-04	1.4800E-03
12 IEV-RNSD	38629.8	1020	1.8565E-04	8.1500E-05
13 IEV-LOCA24D	38607.1	465	1.8554E-04	1.1300E-05
14 IEV-CCWD	38600.3	1723	1.8551E-04	6.0200E-04
15 IEV-LOCA24ND	25946.9	178	1.2470E-04	1.6800E-05
16 IWX-CV-AO	9341.02	149	4.4892E-05	3.0000E-05
17 IDAMOD04	5498.14	123	2.6424E-05	3.1700E-04
18 IDAMOD05	5495.58	126	2.6411E-05	5.1600E-04
19 IDABSDS1LF	5495.11	98	2.6409E-05	4.8000E-06
20 IDABSDS1TM	5494.50	123	2.6406E-05	3.0000E-04
21 ALL-IND-FAIL	4616.35	485	2.2186E-05	1.0000E-03
22 IWB-PLUG	4147.29	231	1.9931E-05	2.4000E-04
23 PMA0301ASA	3729.77	29	1.7925E-05	1.1600E-03
24 PMA0301BSA	3729.77	29	1.7925E-05	1.1600E-03
25 PMAXS00ASA	3729.02	25	1.7921E-05	8.0000E-05
26 PMAMOD11	3726.16	32	1.7908E-05	2.0900E-03
27 RNDEP023SA	2081.55	281	1.0004E-05	1.7100E-04
28 IDDMOD33	2081.10	379	1.0002E-05	5.1600E-04
29 IDDMOD32	2080.52	321	9.99e8E-06	3.1700E-04
30 IDDBSDS1TM	2079.93	322	9.9959E-06	3.0000E-04
31 IDDBSDD1TM	2079.86	313	9.9956E-06	3.0000E-04
32 IDDBSDK1TM	2079.86	313	9.9956E-06	3.0000E-04
33 IDDFD019RQ	2079.16	99	9.9923E-06	1.2000E-05
34 IDDFD020RQ	2079.16	99	9.9922E-06	1.2000E-05
35 PMDMOD41	2077.90	396	9.9862E-06	6.3500E-04
36 PMD0301ASA	2077.57	475	9.9846E-06	1.1600E-03
37 PMD0301BSA	2077.57	475	9.9846E-06	1.1600E-03
38 PMDXS00ASA	2076.99	189	9.9818E-06	8.0000E-05
39 IDDBSDD1LF	2076.77	68	9.9808E-06	4.8000E-06
40 IDDBSDK1LF	2076.77	68	9.9808E-06	4.8000E-06
41 IDDBSDS1LF	2076.77	68	9.9808E-06	4.8000E-06
42 PMDMOD11	2076.57	560	9.9798E-06	2.0900E-03
43 RN23MOD5S	2076.14	560	9.9777E-06	2.2100E-03
44 RHN-MAN05	2072.43	465	9.9599E-06	1.6000E-03
45 PMA0301ASAX	1763.42	97	8.4749E-06	1.6500E-04
46 PMA0301BSAX	1763.42	97	8.4749E-06	1.6500E-04
47 PMAXS00ASAX	1763.03	97	8.4729E-06	8.0000E-05
48 PMAMOD11K	1762.62	100	8.4710E-06	6.5300E-04
49 CCX-EP-SAMX	1761.97	73	8.4679E-06	2.9400E-06
50 IEV-LOCAPRND	1427.06	133	6.8583E-06	1.5100E-05
51 CCX-IN-LOGIC-SW	772.834	80	3.7142E-06	1.1000E-05
52 IW1OR170SPX	767.488	132	3.6885E-06	9.4600E-05
53 IW2OR160SPX	767.488	132	3.6885E-06	9.4600E-05
54 IW1TL170UFX	766.937	124	3.6858E-06	6.8400E-05
55 IW2TL160UFX	766.937	124	3.6858E-06	6.8400E-05
56 CCX-INPUT-LOGIC	747.474	78	3.5923E-06	1.0300E-04
57 IWN-MAN00	395.672	366	1.9016E-06	1.1500E-03
58 PMAMOD21	365.290	79	1.7555E-06	4.0700E-03
59 PXX-AV-LA	333.566	218	1.6031E-06	6.1000E-05
60 IWNTK001AF	331.020	58	1.5909E-06	2.4000E-06
61 PRX-HR-ML	325.535	15	1.5645E-06	1.2000E-07
62 IWX-XMTRLW	236.034	6	1.1344E-06	9.2000E-09
63 CCX-LS-PA	219.985	67	1.0572E-06	5.3700E-06
64 ADN-MAN01	200.441	61	9.6330E-07	4.9300E-04
65 PMAMOD21K	171.898	141	8.2613E-07	1.1600E-03
66 CCX-INPUT-LOGICX	171.726	47	8.2530E-07	2.5900E-05
67 IWA-PLUG	117.811	409	5.6619E-07	2.4000E-04
68 IDDBSDS1TM	116.158	410	5.5824E-07	3.0000E-04
69 IDDBSDD1TM	116.038	411	5.5767E-07	3.0000E-04
70 IDDBSDK1TM	116.038	411	5.5767E-07	3.0000E-04
71 IRWMOD05S	115.810	756	5.5657E-07	3.0000E-03

72	IRAEPI21IAS/X	115.372	218	5.5447E-07	5.8300E-05
73	IDBFD013RQ	114.017	92	5.4795E-07	1.2000E-05
74	IDBFD014RQ	114.017	92	5.4755E-07	1.2000E-05
75	IDBBSDS1LF	112.469	44	5.4051E-07	4.8000E-06
76	IDBBSDD1LF	112.363	43	5.4001E-07	4.8000E-06
77	IDBBSDK1LF	112.363	43	5.4001E-07	4.8000E-06
78	PMANOD41	28.1626	342	1.3535E-07	6.3500E-04
79	IDCBSDS1TM	24.4293	532	1.1740E-07	3.0000E-04
80	IDCBSDD1TM	24.4060	529	1.1729E-07	3.0000E-04
81	IDCBSDK1TM	24.4060	529	1.1729E-07	3.0000E-04
82	IRAEPI21BSAX	23.9747	304	1.1522E-07	5.8300E-05
83	IDCFD007RQ	22.3482	141	1.0740E-07	1.2000E-05
84	IDCFD008RQ	22.3482	141	1.0740E-07	1.2000E-05
85	IDCBSDD1LF	20.4204	80	9.8139E-08	4.8000E-06
86	IDCBSDK1LF	20.4204	80	9.8139E-08	4.8000E-06
87	IDCBSDS1LF	20.4204	80	9.8139E-08	4.8000E-06
88	PMAEH01SA	15.4353	77	7.4181E-08	8.0000E-05
89	IDAMOD02	14.7958	99	7.1107E-08	2.7000E-03
90	IDAMOD03	14.7958	99	7.1107E-08	2.7000E-03
91	PMAEHOA1SAX	12.5539	105	6.0333E-08	8.0000E-05
92	CMX-VS-FA	9.10658	19	4.3765E-08	3.8400E-05
93	RHN-MAN04	8.38500	335	4.0298E-08	5.5000E-02
94	CMX-CV-GO	8.33549	15	4.0060E-08	5.1000E-05
95	CCX-AV-LA	8.32464	16	4.0007E-08	6.1000E-05
96	IWN-MAN00C	7.69485	20	3.6981E-08	5.0000E-02
97	CMX-TK-AP	5.77530	2	2.7756E-08	1.2000E-07
98	IDDMOD22	5.59241	76	2.6877E-08	2.7000E-03
99	IDDMOD23	5.59241	76	2.6877E-08	2.7000E-03
100	RHN-MAN05C	4.58492	28	2.2035E-08	1.5000E-01
101	IWACV122AO	2.04478	524	9.8270E-09	8.7600E-03
102	IWACV123AO	2.04478	524	9.8270E-09	8.7600E-03
103	IWACV124AO	2.04478	524	9.8270E-09	8.7600E-03
104	IWACV125AO	2.04478	524	9.8270E-09	8.7600E-03
105	IEV-RNSND	1.70912	84	8.2139E-09	9.6100E-04
106	IEV-CCWND	1.70784	125	8.2077E-09	3.7500E-03
107	IEV-LOSPND	1.69834	185	8.1620E-09	8.1300E-03
108	LPM-MAN05	1.0171	33	4.8872E-09	6.8300E-04
109	PRAAV108LA	524.22	66	2.5189E-09	1.0900E-03
110	PRBAV108LA	524.122	66	2.5189E-09	1.0900E-03
111	PRAAV108TM	522.103	42	2.5092E-09	5.0000E-04
112	PRBAV108TM	522.1	42	2.5092E-09	5.0000E-04
113	IWBCV122AO	4544.9	704	2.1841E-09	8.7600E-03
114	IWBCV123AO	4544.69	704	2.1841E-09	8.7600E-03
115	IWBCV124AO	4544.69	704	2.1841E-09	8.7600E-03
116	IWBCV125AO	4544.69	704	2.1841E-09	8.7600E-03
117	IDBMOD10	305410	63	1.4678E-09	2.7000E-03
118	IDBMOD11	305410	63	1.4678E-09	2.7000E-03
119	CCX-XMTR	146968	4	7.0631E-10	2.0100E-04
120	IDBMOD25	143234	15	6.8837E-10	5.1600E-04
121	IDBMOD24	138272	8	6.6452E-10	3.1700E-04
122	PMB0301ASA	115113	8	5.5322E-10	1.1600E-03
123	PMB0301BSA	115113	8	5.5322E-10	1.1600E-03
124	ADX-MV-GO	115001	8	5.5269E-10	1.1000E-03
125	PMBMOD11	114702	11	5.5125E-10	2.0900E-03
126	PMBXS00ASA	114631	4	5.5090E-10	8.0000E-05
127	RHN-MAN04-SUCC	6.981131E-02	368	3.3551E-10	9.4500E-01
128	IDCMOD16	5.755443E-02	102	2.7660E-10	2.7000E-03
129	IDCMOD17	5.755443E-02	102	2.7660E-10	2.7000E-03
130	PMANOD31	5.179007E-02	58	2.4890E-10	5.0200E-03
131	PMBMOD32	4.805382E-02	49	2.3094E-10	5.0200E-03
132	PMCMOD33	4.805382E-02	49	2.3094E-10	5.0200E-03
133	PMDMOD34	4.161612E-02	34	2.0000E-10	5.0200E-03
134	IDCMOD29	2.823517E-02	9	1.3570E-10	5.1600E-04
135	IDCMOD28	2.316674E-02	3	1.1134E-10	3.1700E-04
136	ADN-MAN01C	2.128514E-02	6	1.0229E-10	5.0000E-02
137	IDABSDD1TM	1.870637E-02	9	8.9901E-11	3.0000E-04
138	IDABSDK1TM	1.870637E-02	9	8.9901E-11	3.0000E-04
139	AD3MOD03	1.850329E-02	79	8.8925E-11	5.5400E-02
140	AD3MOD04	1.850329E-02	79	8.8925E-11	5.5400E-02
141	AD2MOD01	1.841139E-02	76	8.8772E-11	5.5400E-02
142	AD2MOD02	1.841060E-02	75	8.8768E-11	5.5400E-02
143	ADAEP002ASA	1.823449E-02	6	8.7634E-11	1.7100E-04
144	ADAEP003ASA	1.8234468E-02	6	8.7634E-11	1.7100E-04
145	ADAEP012ASA	1.8234468E-02	6	8.7634E-11	1.7100E-04
146	ADAEP013ASA	1.8234468E-02	6	8.7634E-11	1.7100E-04
147	ADBEPO02BSA	1.8234468E-02	6	8.7634E-11	1.7100E-04
148	ADBEPO03BSA	1.8234468E-02	6	8.7634E-11	1.7100E-04
149	ADBEPO12BSA	1.8234468E-02	6	8.7634E-11	1.7100E-04
150	ADBEPO13BSA	1.8234468E-02	6	8.7634E-11	1.7100E-04
151	IDAFD003RQ	1.732570E-02	3	8.3266E-11	1.2000E-05
152	IDAFD004RQ	1.732570E-02	3	8.3266E-11	1.2000E-05

153	CMA-PLUG	5.525019E-03	3	2.6553E-11	7.2700E-04
154	CMB-PLUG	5.525019E-03	3	2.6553E-11	7.2700E-04
155	PMBMOD41	4.362811E-04	1	2.0967E-12	6.3500E-04
156	PMBMOD21	2.939494E-04	4	1.4127E-12	4.0700E-03

Table 54B-13

CASE 3 LIST OF TOP 200 DOMINANT CUTSETS

Reduced Sum of Cutsets: 1.1460E-06

NUMBER	CUTSET PROB	PERCENT	BASIC EVENT NAME	INITIATING EVENT OCCURS	EVENT PRB.	IDENTIFIER
1	1.81E-07	15.79	LOSS OF CCS/SWS WITH RCS DRAINED CHECK VALVE 122A CHECK VALVE 124A BUS UNAVAILABLE DUE TO TEST OR	INITIATING EVENT OCCURS FAILS TO OPEN FAILS TO OPEN CORRECTIVE MAINTENANCE	6.02E-04 1.00E+00 1.00E+00 3.00E-04	IEV-CCWD IWACV122AO IWACV124AO IDCBSDS1TM
2	1.81E-07	15.79	LOSS OF CCS/SWS WITH RCS DRAINED CHECK VALVE 122A CHECK VALVE 124A BUS UNAVAILABLE DUE TO TEST OR	INITIATING EVENT OCCURS FAILS TO OPEN FAILS TO OPEN CORRECTIVE MAINTENANCE	6.02E-04 1.00E+00 1.00E+00 3.00E-04	IEV-CCWD IWACV122AO IWACV124AO IDCBSDK1TM
3	1.81E-07	15.79	LOSS OF CCS/SWS WITH RCS DRAINED CHECK VALVE 122A CHECK VALVE 124A BUS UNAVAILABLE DUE TO TEST OR	INITIATING EVENT OCCURS FAILS TO OPEN FAILS TO OPEN CORRECTIVE MAINTENANCE	6.02E-04 1.00E+00 1.00E+00 3.00E-04	IEV-CCWD IWACV122AO IWACV124AO IDCBSDD1TM
4	1.44E-07	12.57	LOSS OF CCS/SWS WITH RCS DRAINED CHECK VALVE 122A CHECK VALVE 124A IRWST DISCHARGE LINE "B" STRAINER PLUGGED	INITIATING EVENT OCCURS FAILS TO OPEN FAILS TO OPEN FAILS TO OPEN	6.02E-04 1.00E+00 1.00E+00 2.40E-04	IEV-CCWD IWACV122AO IWACV124AO INB-PLUG
5	3.51E-08	3.06	LOSS OF CCS/SWS WITH RCS DRAINED CHECK VALVE 122A CHECK VALVE 124A FAILURE OF POWER INTERFACE OUTPUT BOARD	INITIATING EVENT OCCURS FAILS TO OPEN FAILS TO OPEN	6.02E-04 1.00E+00 1.00E+00 5.83E-05	IEV-CCWD IWACV122AO IWACV124AO IRAEPI21BSAX
6	2.79E-08	2.43	LOSS OF CCS/SWS WITH RCS DRAINED CCF OF ACTUATION LOGIC GROUPS	INITIATING EVENT OCCURS	6.02E-04 4.63E-05	IEV-CCWD CCX-PMMAMOD1X
7	2.45E-08	2.14	LOSS OF RNS WITH RCS DRAINED CHECK VALVE 122A CHECK VALVE 124A BUS UNAVAILABLE DUE TO TEST OR	INITIATING EVENT OCCURS FAILS TO OPEN FAILS TO OPEN CORRECTIVE MAINTENANCE	8.15E-05 1.00E+00 1.00E+00 3.00E-04	IEV-RNSD IWACV122AO IWACV124AO IDCBSDK1TM
8	2.45E-08	2.14	LOSS OF RNS WITH RCS DRAINED CHECK VALVE 122A CHECK VALVE 124A BUS UNAVAILABLE DUE TO TEST OR	INITIATING EVENT OCCURS FAILS TO OPEN FAILS TO OPEN CORRECTIVE MAINTENANCE	8.15E-05 1.00E+00 1.00E+00 3.00E-04	IEV-RNSD IWACV122AO IWACV124AO IDCBSDS1TM
9	2.45E-08	2.14	LOSS OF RNS WITH RCS DRAINED CHECK VALVE 122A CHECK VALVE 124A BUS UNAVAILABLE DUE TO TEST OR	INITIATING EVENT OCCURS FAILS TO OPEN FAILS TO OPEN CORRECTIVE MAINTENANCE	8.15E-05 1.00E+00 1.00E+00 3.00E-04	IEV-RNSD IWACV122AO IWACV124AO IDCBSDD1TM
10	2.29E-08	2.00	LOSS OF CCS/SWS WITH RCS DRAINED CCF OF IRWST INJ SQUIB VALVES	INITIATING EVENT OCCURS	6.02E-04 3.80E-05	IEV-CCWD IWX-MV-G01
11	2.29E-08	2.00	LOSS OF CCS/SWS WITH RCS DRAINED CCF OF ADS SQUIB VALVES TO OPERATE	INITIATING EVENT OCCURS	6.02E-04 3.80E-05	IEV-CCWD ADX-EV-SA
12	1.96E-08	1.71	LOSS OF RNS WITH RCS DRAINED CHECK VALVE 122A CHECK VALVE 124A	INITIATING EVENT OCCURS FAILS TO OPEN FAILS TO OPEN	8.15E-05 1.00E+00 1.00E+00	IEV-RNSD IWACV122AO IWACV124AO

Table 54B-13

CASE 3 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PROB	PERCENT	BASIC EVENT NAME	EVENT PROB.	IDENTIFIER
			IRWST DISCHARGE LINE "B" STRAINER PLUGGED	2.40E-04	IWB-PLUG
13	1.87E-08	1.63	LOSS OF CCS/SWS CCF OF GRAVITY WITH RCS DRAINED INITIATING EVENT OCCURS CCF OF GRAVITY INJECTION CHECK VALVES TO OPEN	6.02E-04 3.10E-05	IEV-CCWD IWN-CV-AO
14	1.22E-08	1.06	OVERDRAINING OF OPERATOR FAILS RCS DURING DRAIN DOWN TO MID-LOOP INITIATING EVENT IWN-MAN00C TO ISOLATE RNC PIPE RUPTURE	4.44E-06 5.50E-02 5.00E-02	IEV-RCSOD RHN-MAN04 IWN-MAN00C
15	8.58E-09	.75	LOSS OF OFFSITE FAILURE TO POWER INITIATING EVENT OCCURS WITH RCS DRAINED BATTERY RECOVER AC POWER IN 1 HOUR DB1 UNAVAILABLE FAILURE OF PMS OUTPUT LOGIC I/Os	4.44E-03 4.20E-01 2.20E-03 2.09E-03	IEV-LOSPD OTH-R1 EDIMOD03 PMAMOD11
	8.31E-09	.73	LOSS OF CCS/SWS CCF OF LOGIC WITH RCS DRAINED INITIATING EVENT OCCURS GROUP PROCESSING	6.07E-04 1.38E-05	IEV-CCWD CCX-PMA030X
17	7.79E-09	.68	LOSS OF OFFSITE FAILURE TO POWER INITIATING EVENT OCCURS WITH RCS DRAINED CCF TO START RECOVER AC POWER IN 1 HOUR OF ENGINE-DRIVEN FUEL PUMPS FAILURE OF PMS OUTPUT LOGIC I/Os	4.44E-03 4.20E-01 2.00E-03 2.09E-03	IEV-LOSPD OTH-R1 ZOX-PD-ES PMAMOD11
18	7.22E-09	.63	LOSS OF CCS/SWS CCF OF STRAINERS WITH RCS DRAINED INITIATING EVENT OCCURS IN IRWST TANK	6.02E-04 1.20E-05	IEV-CCWD IWN-FL-LP
19	6.62E-09	.58	LOSS OF CCS/SWS SOFTWARE CCF OF WITH RCS DRAINED INITIATING EVENT OCCURS OUTPUT LOGIC I/Os	6.02E-04 1.10E-05	IEV-CCWD CCX-PMAMOD1-SW
20	4.83E-09	.42	OVERDRAINING OF RCS DURING DRAIN DOWN TO MID-LOOP INITIATING EVENT RHN-MAN04-SUCC TO OPEN TWO IRWST MOVs	4.44E-06 9.45E-01 1.15E-03	IEV-RCSOD RHN-MAN04-SUCC IWN-MAN00
21	4.76E-09	.42	LOSS OF OFFSITE FAILURE TO POWER INITIATING EVENT OCCURS WITH RCS DRAINED BATTERY RECOVER AC POWER IN 1 HOUR DB1 UNAVAILABLE FAILURE UPON DEMAND OF LOGIC GROUP PROCESSING	4.44E-03 4.20E-01 2.20E-03 1.16E-03	IEV-LOSPD OTH-R1 EDIMOD03 PMA0301ASA
22	4.76E-09	.42	LOSS OF OFFSITE FAILURE TO POWER INITIATING EVENT OCCURS WITH RCS DRAINED BATTERY RECOVER AC POWER IN 1 HOUR DB1 UNAVAILABLE FAILURE UPON DEMAND OF LOGIC GROUP PROCESSING	4.44E-03 4.20E-01 2.20E-03 1.16E-03	IEV-LOSPD OTH-R1 EDIMOD03 PMA0301BSA
23	4.58E-09	.41	LOSS OF OFFSITE FAILURE TO POWER INITIATING EVENT OCCURS WITH RCS DRAINED COMMON CAUSE RECOVER AC POWER IN 1 HOUR FAILURE 4KV BREAKERS TO OPEN FAILURE OF PMS OUTPUT LOGIC I/Os	4.44E-03 4.20E-01 1.20E-03 2.09E-03	IEV-LOSPD OTH-R1 ECX-CB-GO PMAMOD11
24	4.33E-09	.38	LOSS OF OFFSITE FAILURE TO POWER INITIATING EVENT OCCURS WITH RCS DRAINED CCF TO START RECOVER AC POWER IN 1 HOUR FAILURE UPON OF ENGINE-DRIVEN FUEL PUMPS DEMAND OF LOGIC GROUP PROCESSING	4.44E-03 4.20E-01 2.00E-03 1.16E-03	IEV-LOSPD OTH-R1 ZOX-PD-ES PMA0301BSA
25	4.33E-09	.38	LOSS OF OFFSITE FAILURE TO POWER INITIATING EVENT OCCURS WITH RCS DRAINED RECOVER AC POWER IN 1 HOUR	4.44E-03 4.20E-01	IEV-LOSPD OTH-R1

Table 54B-13

CASE 3 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PROB.	PERCENT	BASIC EVENT NAME			EVENT PROB.	IDENTIFIER
			CCF TO START FAILURE UPON	OF ENGINE-DRIVEN FUEL PUMPS DEMAND OF LOGIC GROUP PROCESSING		2.00E-03 1.16E-03	Z0X-PD-ES PMAC0301ASA
26	4.03E-09	.35	LOCA/RNS-V024 CHECK VALVE CHECK VALVE IRWST DISCHARGE	OPENS INITIATING EVENT OCCURS 122A FAILS TO OPEN 124A FAILS TO OPEN LINE "B" STRAINER PLUGGED	WITH RCS FILLED	1.68E-05 1.00E+00 1.00E+00 2.40E-04	IEV-LOCA24ND IWACV122AO IWACV124AO IWB-PLUG
27	3.77E-09	.33	LOSS OF RNS WITH RCS DRAINED CCF OF ACTUATION LOGIC GROUPS		INITIATING EVENT OCCURS	8.15E-05 4.63E-05	IEV-RNSD CCX-PMAMOD1X
28	3.10E-09	.27	LOSS OF RNS WITH RCS DRAINED CCF OF ADS SQUIB VALVES TO OPERATE		INITIATING EVENT OCCURS	8.15E-05 3.80E-05	IEV-RNSD ADX-EV-SA
29	3.10E-09	.27	LOSS OF RNS WITH RCS DRAINED CCF OF IRWST INJ SQUIB VALVES		INITIATING EVENT OCCURS	8.15E-05 3.80E-05	IEV-RNSD IWX-MV-GO1
30	3.09E-09	.27	LOSS OF OFFSITE OFFSITE SOFTWARE CCF	POWER INITIATING EVENT OCCURS AC POWER RECOVERED IN OF ALL CARDS	WITH RCS DRAINED 1 HOUR	4.44E-03 5.80E-01 1.20E-05	IEV-LOSPD SUC-RIS CCX-SFTW
31	2.85E-09	.25	LOSS OF OFFSITE FAILURE TO COMMON CAUSE FAILURE OF	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR 4KV BREAKER TO CLOSE PMS OUTPUT LOGIC I/Os	WITH RCS DRAINED	4.44E-03 4.20E-01 7.30E-04 2.09E-03	IEV-LOSPD OTH-R1 ECX-CB-GC PMAMOD11
32	2.71E-09	.24	LOCA/RNS-V024 CHECK VALVE CHECK VALVE IRWST DISCHARGE	OFZNS INITIATING EVENT OCCURS 122A FAILS TO OPEN 124A FAILS TO OPEN LINE "B" STRAINER PLUGGED	WITH RCS DRAINED	1.13E-05 1.00E+00 1.00E+00 2.40E-04	IEV-LOCA24D IWACV122AO IWACV124AO IWB-PLUG
33	2.60E-09	.23	LOSS OF OFFSITE FAILURE TO COMMON CAUSE FAILURE UPON	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR FAILURE 4KV BREAKERS TO OPEN DEMAND OF LOGIC GROUP PROCESSING	WITH RCS DRAINED	4.44E-03 4.20E-01 1.20E-03 1.16E-03	IEV-LOSPD OTH-R1 ECX-CB-GO PMAC0301BSA
34	2.60E-09	.23	LOSS OF OFFSITE FAILURE TO COMMON CAUSE FAILURE UPON	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR FAILURE 4KV BREAKERS TO OPEN DEMAND OF LOGIC GROUP PROCESSING	WITH RCS DRAINED	4.44E-03 4.20E-01 1.20E-03 1.16E-03	IEV-LOSPD OTH-R1 ECX-CB-GO PMAC0301ASA
35	2.57E-09	.22	LOSS OF RNS WITH RCS DRAINED CCF OF GRAVITY	INJECTION CHCK VALVES TO OPEN	INITIATING EVENT OCCURS	7.15E-05 3.10E-05	IEV-RNSD IWX-CV-AO
36	2.14E-09	.20	LOSS OF OFFSITE FAILURE TO SOFTWARE CCF	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR OF ALL CARDS	WITH RCS DRAINED	4.44E-03 4.20E-01 1.20E-05	IEV-LOSPD OTH-R1 CCX-SFTW
37	2.19E-09	.19	LOSS OF CCS/SWS CCF OF ORIFICES	WITH RCS DRAINED INITIATING EVENT OCCURS		6.02E-04 3.63E-06	IEV-CCWD CCX-ORY-SPX
38	2.12E-09	.18	LOSS OF OFFSITE FAILURE TO BATTERY	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR DB1 UNAVAILABLE	WITH RCS DRAINED	4.44E-03 4.20E-01 2.20E-03	IEV-LOSPD OTH-R1 ED1MOD03

Table 54B-13

CASE 3 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PROB.	PERCENT	BASIC EVENT NAME			EVENT PROB.	IDENTIFIER
			FAILURE OF INV., STATIC SWITCH AND ASSOC.		BREAKERS	5.16E-04	IDAMOD05
39	1.92E-09	.17	LOSS OF OFFSITE FAILURE TO RECOVER AC POWER IN 1 HOUR CCF TO START OF ENGINE-DRIVEN FUEL PUMPS FAILURE OF INV., STATIC SWITCH AND ASSOC.		WITH RCS DRAINED	4.44E-03 4.20E-01 2.00E-03 5.16E-04	IEV-LOSPD OTH-R1 Z0X-PD-ES IDAMOD05
40	1.92E-09	.17	LOSS OF OFFSITE FAILURE TO PUMP MP 01B SEGMENT HARDWARE FAILURE OR D/G FAILS TO START & RUN OR FAILURE OF PMS OUTPUT		POWER INITIATING EVENT OCCURS DIVERTED FLOW	4.44E-03 4.20E-01 2.44E-02 2.02E-02 2.09E-03	IEV-LOSPD OTH-R1 SWBMOD02 Z01MOD01 PMAMOD11
41	1.84E-09	.16	LOSS OF CCS/SWS CHECK VALVE 122A CHECK VALVE 124A CHECK VALVE 122B CHECK VALVE 124B	WITH RCS DRAINED INITIATING EVENT OCCURS FAILS TO OPEN FAILS TO OPEN FAILS TO OPEN FAILS TO OPEN		6.02E-04 1.00E+00 1.00E+00 1.75E-03 1.75E-03	IEV-COWD IWACV122A0 IWACV124A0 IWBCV122A0 IWBCV124A0
42	1.77E-09	.15	LOSS OF CCS/SWS CCF OF THE POWER INTERFACE OUTPUT BOARDS IN PMS	WITH RCS DRAINED INITIATING EVENT OCCURS		6.02E-04 2.94E-06	IEV-COWD CCX-EP-SAMX
43	1.71E-09	.15	LOSS OF OFFSITE FAILURE TO COMMON CAUSE FAILURE OF PMS OUTPUT	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR STANDBY DG TO RUN	WITH RCS DRAINED	4.44E-03 4.20E-01 4.40E-04 2.09E-03	IEV-LOSPD OTH-R1 Z0X-DG-DR PMAMOD11
44	1.59E-09	.14	LOSS OF OFFSITE FAILURE TO D/G FAILS TO START & RUN OR D/G FAILS TO START & RUN OR FAILURE OF PMS OUTPUT	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR BKR 102 FAILS TO CLOSE BKR 202 FAILS TO CLOSE	WITH RCS DRAINED	4.44E-03 4.20E-01 2.02E-02 2.02E-02 2.09E-03	IEV-LOSPD OTH-R1 Z01MOD01 Z02MOD01 PMAMOD11
45	1.58E-09	.14	LOSS OF CCS/SWS CCF OF PRESSURE TRANSMITTERS	WITH RCS DRAINED INITIATING EVENT OCCURS		6.02E-04 2.63E-06	IEV-COWD CCX-XMTRX
46	1.58E-09	.14	LOSS OF OFFSITE FAILURE TO COMMON CAUSE FAILURE UPON	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR 4KV BREAKER TO CLOSE	WITH RCS DRAINED	4.44E-03 4.20E-01 7.30E-04 1.16E-03	IEV-LOSPD OTH-R1 ECX-CB-GC PMA0301BSA
47	1.58E-09	.14	LOSS OF OFFSITE FAILURE TO COMMON CAUSE FAILURE UPON	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR 4KV BREAKER TO CLOSE	WITH RCS DRAINED	4.44E-03 4.20E-01 7.30E-04 1.16E-03	IEV-LOSPD OTH-R1 ECX-CB-GC PMA0301ASA
48	1.30E-09	.11	LOSS OF OFFSITE FAILURE TO BATTERY LOSS OF DIST.	POWER INITIATING EVENT OCCURS REC /ER AC POWER IN 1 HOUR DB1 UNAVAILABLE PANEL OR BREAKER A07 SPURIOUSLY	WITH RCS DRAINED	4.44E-03 4.20E-01 2.20E-03 3.17E-04	IEV-LOSPD OTH-R1 ED1MOD03 IDAMOD04
49	1.24E-09	.11	LOSS OF OFFSITE FAILURE TO FIXED	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR COMPONENTS FAILURE	WITH RCS DRAINED	4.44E-03 4.20E-01 3.17E-04	IEV-LOSPD OTH-R1 FD1MOD11

Table 54B-13

CASE 3 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PROB	PERCENT	BASIC EVENT NAME		EVENT PROB.	IDENTIFIER
			FAILURE OF	PMS OUTPUT	LOGIC I/Os	2.09E-03
50	1.24E-09	.11	LOSS OF OFFSITE FAILURE TO FIXED	POWER INITIATING RECOVER AC POWER IN 1 HOUR COMPONENTS	EVENT OCCURS FAILURE	4.44E-03 4.20E-01 3.17E-04
			FAILURE OF	PMS OUTPUT	LOGIC I/Os	2.09E-03
51	1.23E-09	.11	LOSS OF OFFSITE FAILURE TO BATTERY	POWER INITIATING RECOVER AC POWER IN 1 HOUR DB1	EVENT OCCURS UNAVAILABLE	4.44E-03 4.20E-01 2.20E-03
			BUS UNAVAILABLE	DUE TO TEST OR	CORRECTIVE	3.00E-04
					MAINTENANCE	
52	1.20E-09	.10	LOSS OF OFFSITE FAILURE TO PUMP 01B FAILS & D/G FAILS TO FAILURE OF	POWER INITIATING RECOVER AC POWER IN 1 HOUR ST CK V007B & C B FTC & RE FTC & CB ECS221 SPO START & RUN OR BKR 102 FAILS TO CLOSE	EVENT OCCURS	4.44E-03 4.20E-01 1.53E-02 2.02E-02 2.09E-03
			PMS OUTPUT		LOGIC I/Os	
53	1.18E-09	.10	LOSS OF OFFSITE FAILURE TO CCF TO START LOTS OF DIST.	POWER INITIATING RECOVER AC POWER IN 1 HOUR OF ENGINE-DRIVEN FUEL PUMPS	EVENT OCCURS	4.44E-03 4.20E-01 2.00E-03 3.17E-04
			PANEL OR BREAKER A07 SPURIOUSLY		OPENS	
54	1.15E-09	.10	LOSS OF OFFSITE FAILURE TO PUMP MP 01B BREAKER 100 FAILURE OF	POWER INITIATING RECOVER AC POWER IN 1 HOUR SEGMENT HARDWARE FAILURE OR FAILS TO OPEN	EVENT OCCURS	4.44E-03 4.20E-01 2.44E-02 1.23E-02 2.09E-03
			PMS OUTPUT		LOGIC I/Os	
55	1.15E-09	.10	LOSS OF OFFSITE FAILURE TO COMMON CAUSE FAILURE FAILURE OF INV.,	POWER INITIATING RECOVER AC POWER IN 1 HOUR 4KV BREAKERS TO OPEN	EVENT OCCURS	4.44E-03 4.20E-01 1.20E-03 5.16E-04
			STATIC SWITCH AND ASSOC.		BREAKERS	
56	1.12E-09	.10	LOSS OF RNS WITH CCF OF LOGIC	RCS DRAINED GROUP PROCESSING	INITIATING EVENT OCCURS	8.15E-05 1.38E-05
						IEV-RNSD CCX-PMAG30X
57	1.12E-09	.10	LOSS OF OFFSITE FAILURE TO CCF TO START BUS UNAVAILABLE	POWER INITIATING RECOVER AC POWER IN 1 HOUR OF ENGINE-DRIVEN FUEL PUMPS	EVENT OCCURS	4.44E-03 4.20E-01 2.00E-03
			DUE TO TEST OR	CORRECTIVE	MAINTENANCE	3.00E-04
58	1.09E-09	.10	LOSS OF OFFSITE FAILURE TO COMMON CAUSE FAILURE FAILURE OF	POWER INITIATING RECOVER AC POWER IN 1 HOUR STANDBY DG TO	EVENT OCCURS	4.44E-03 4.20E-01 2.80E-04
			PMS OUTPUT	START		2.09E-03
59	1.07E-09	.09	LOSS OF OFFSITE FAILURE TO PUMP MP 01B D/G FAILS TO FAILURE UPON	POWER INITIATING RECOVER AC POWER IN 1 HOUR SEGMENT HARDWARE FAILURE OR START & RUN OR BKR 102 FAILS TO CLOSE	EVENT OCCURS	4.44E-03 4.20E-01 2.44E-02 2.02E-02
			Demand of LOGIC GROUP PROCESSING			1.16E-03
60	1.07E-09	.09	LOSS OF OFFSITE	POWER INITIATING	EVENT OCCURS	4.44E-03
					WITH RCS DRAINED	
						IEV-LOSPD

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CASE 3 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PROB.	PERCENT	BASIC EVENT NAME			EVENT PROB.	IDENTIFIER
			FAILURE TO PUMP MP 01B D/G FAILS TO FAILURE UPON	RECOVER AC POWER IN 1 HOUR SEGMENT HARDWARE FAILURE OR START & RUN OR DEMAND OF LOGIC	DIVERTED FLOW BKR 102 FAILS TO CLOSE GROUP PROCESSING	4.20E-01 2.44E-02 2.02E-02 1.16E-03	OTH-R1 SWBMOD02 ZO1MOD01 PMA0301ASA
61	1.06E-09	.09	LOSS OF CCS/SWS FAILURE OF BUS UNAVAILABLE	WITH RCS DRAINED PMS OUTPUT DUE TO	INITIATING EVENT OCCURS LOGIC I/Os UNSCHEDULED	6.02E-04 6.53E-04 2.70E-03	IEV-CCWD PMAMOD11X EC1BS121TM
62	1.06E-09	.09	LOSS OF CCS/SWS FAILURE OF UNAVAILABILITY	WITH RCS DRAINED PMS OUTPUT OF BUS ECS ES 1	INITIATING EVENT OCCURS LOGIC I/Os DUE TO UNSCHEDUL MAINTENANCE	6.02E-04 6.53E-04 2.70E-03	IEV-CCWD PMAMOD11X EC1BS001TM
63	1.06E-09	.09	LOSS OF CCS/SWS FAILURE OF BUS UNAVAILABLE	WITH RCS DRAINED PMS OUTPUT DUE TO	INITIATING EVENT OCCURS LOGIC I/Os UNSCHEDULED	6.02E-04 6.53E-04 2.70E-03	IEV-CCWD PMAMOD11X EC1BS012TM
64	1.21E-09	.09	OVERDRAINING OF RHN-MAN04-SUCC CHECK VALVE CHECK VALVE IRWST DISCHARGE	RCS DURING DRAIN DOWN TO MID-LOOP 122A 124A LINE "B"	INITIATING EVENT OCCURS FAILS TO OPE· FAILS TO OPEN STRAINER	4.44E-06 9.25E-01 1.00E+00 2.40E-04	IEV-RCSOD RHN-MAN04-SUCC IWACV122AO IWACV124AO IW-B-PLUG
65	9.86E-10	.09	LOSS OF OFFSITE FAILURE TO BATTERY CHECK VALVE CHECK VALVE IRWST DISCHARGE	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR DB1 122A 124A LINE "B"	WITH RCS DRAINED UNAVAILABLE FAILS TO OPEN FAILS TO OPEN STRAINER	4.44E-03 4.20E-01 2.20E-03 1.00E+00 1.00E+00 2.40E-04	IEV-LOSPD OTH-R1 EDIMOD03 IWACV122AO IWACV124AO IW-B-PLUG
66	9.78E-10	.09	LOSS OF RNS WITH CCF OF STRAINERS IN IRWST TANK	RCS DRAINED	INITIATING EVENT OCCURS	8.15E-05 1.20E-05	IEV-RNSD IWX-FL-GP
67	9.68E-10	.08	LOSS OF OFFSITE FAILURE TO D/G FAILS TO BREAKER 200 FAILURE OF	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR START & RUN OR FAILS TO OPEN PMS OUTPUT	WITH RCS DRAINED BKR 102 FAILS TO CLOSE [#5,3]	4.44E-03 4.20E-01 2.02E-02 1.23E-02 2.09E-03	IEV-LOSPD OTH-R1 ZO1MOD01 EC2CB200VO PMAMOD11
68	9.68E-10	.08	LOSS OF OFFSITE FAILURE TO BREAKER 100 D/G FAILS TO FAILURE OF	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR FAILS TO OPEN START & RUN OR PMS OUTPUT	WITH RCS DRAINED [#3,5] BKR 202 FAILS TO CLOSE LOGIC I/Os	4.44E-03 4.20E-01 1.23E-02 2.02E-02 2.09E-03	IEV-LOSPD OTH-R1 EC1CB100VO ZO2MOD01 PMAMOD11
69	9.52E-10	.08	LOSS OF OFFSITE FAILURE TO COMMON CAUSE FAILURE UPON	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR FAILURE STANDBY DG TO DEMAND OF LOGIC	WITH RCS DRAINED RUN RUN	4.44E-03 4.20E-01 4.40E-04 1.16E-03	IEV-LOSPD OTH-R1 ZOX-DG-DR PMA0301BSA
70	9.52E-10	.08	LOSS OF OFFSITE FAILURE TO COMMON CAUSE FAILURE UPON	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR FAILURE STANDBY DG TO DEMAND OF LOGIC	WITH RCS DRAINED RUN GROUP PROCESSING	4.44E-03 4.20E-01 4.40E-04 1.16E-03	IEV-LOSPD OTH-R1 ZOX-DG-DR PMA0301ASA

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CASE 3 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PROB.	PERCENT	BASIC EVENT NAME	INITIATING EVENT OCCURS	EVENT PROB.	IDENTIFIER
71	8.97E-10	.08	LOSS OF PMS WITH RCS DRAINED SOFTWARE CCF OF OUTPUT LOGIC	I/O8	8.15E-05 1.10E-05	IEV-PMSD CCX-PMS001-SW
72	8.83E-10	.08	LOSS OF OFFSITE FAILURE TO RECOVER AC POWER IN 1 HOUR D/G FAILS TO START & RUN OR BKR 102 FAILS TO CLOSE D/G FAILS TO START & RUN OR BKR 202 FAILS TO CLOSE FAILURE UPON DEMAND OF LOGIC GROUP PROCESSING	POWER INITIATING EVENT OCCURS WITH RCS DRAINED	4.44E-03 4.20E-01 2.02E-02 2.02E-02 1.16E-03	IEV-LOSPD OTH-R1 Z01MOD01 Z02MOD01 PMA0301BSA
73	8.83E-10	.08	LOSS OF OFFSITE FAILURE TO RECOVER AC POWER IN 1 HOUR D/G FAILS TO START & RUN OR BKR 102 FAILS TO CLOSE D/G FAILS TO START & RUN OR BKR 202 FAILS TO CLOSE FAILURE UPON DEMAND OF LOGIC GROUP PROCESSING	POWER INITIATING EVENT OCCURS WITH RCS DRAINED	4.44E-03 4.20E-01 2.02E-02 2.02E-02 1.16E-03	IEV-LOSPD OTH-R1 Z01MCJ01 Z02MC001 PMA0301ASA
74	8.39E-10	.07	LOSS OF CCS/SMS FAILURE OF INV. BUS UNAVAILABLE	WITH RCS DRAINED INITIATING EVENT OCCURS STATIC SWITCH AND ASSOC. BREAKERS DUE TO UNSCHEDULED MAINTENANCE	6.02E-04 5.16E-04 2.70E-03	IEV-CMD IDAM0005 SC1BS121TM
75	8.39E-10	.07	LOSS OF CCS/SMS FAILURE OF INV. UNAVAILABILITY	WITH RCS DRAINED INITIATING EVENT OCCURS STATIC SWITCH AND ASSOC. BREAKERS OF BUS RCS ES 1 DUE TO UNCHECKED MAINTENANCE	6.02E-04 5.16E-04 2.70E-03	IEV-CMD IDAM0005 SC1BS0011M
76	8.39E-10	.07	LOSS OF CCS/SMS FAILURE OF INV. BUS UNAVAILABLE	WITH RCS DRAINED INITIATING EVENT OCCURS STATIC SWITCH AND ASSOC. BREAKERS DUE TO UNSCHEDULED MAINTENANCE	6.02E-04 5.16E-04 2.70E-03	IEV-CMD IDAM0005 SC1BS012TM
77	8.19E-10	.07	LOSS OF OFFSITE FAILURE TO PUMP SUBLOOP B D/G FAILS TO FAILURE OF PMS OUTPUT	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR HARDWARE FAILURE OR DIVERTED FLOW START & RUN OR BKR 102 FAILS TO CLOSE LOGIC I/O8	4.14E-03 4.20E-01 1.04E-02 2.02E-02 2.09E-03	IEV-LOSPD OTH-R1 CCBM001S Z01MOD01 PMA0011
78	7.33E-10	.06	LOSS OF OFFSITE FAILURE TO PUMP GIB FAILS & BREAKER 100 FAILURE OF PMS OUTPUT	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR ST CK V3007B & C B FTC & RE FTC & CB BCS221 SPO FAILS TO OPEN LOGIC I/O8	4.44E-03 4.20E-01 1.53E-02 1.23E-02 2.09E-03	IEV-LOSPD OTH-R1 RNBMO00TS SC1CB100V0 PMA0011
79	7.22E-10	.06	LOSS OF CCS/SMS SOFTWARE CCF	WITH RCS DRAINED INITIATING EVENT OCCURS OF ALL CARDS	6.02E-04 1.20E-06	IEV-CMD CCX-SFTM
80	7.09E-10	.06	LOSS OF OFFSITE FAILURE TO COMMON CAUSE LOSS OF DIST.	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR FAILURE 4KV BREAKERS TO OPEN PANEL OR BREAKER A07 SPURIOUSLY OPENS	4.44E-03 4.20E-01 1.20E-03 3.17E-04	IEV-LOSPD OTH-R1 CCX-CB-G0 IDAM0004
81	7.02E-10	.06	LOSS OF OFFSITE FAILURE TO COMMON CAUSE FAILURE OF INV.	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR FAILURE 4KV BREAKER TO CLOSE STATIC SWITCH AND ASSOC.	4.44E-03 4.20E-01 7.30E-04 5.16E-04	IEV-LOSPD OTH-R1 CCX-CB-GC IDAM0005
82	6.86E-10	.06	LOSS OF OFFSITE FAILURE TO	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR	4.44E-03 4.20E-01	IEV-LOSPD OTH-R1

Table 54B-13

CASE 3 LIST OF TOP 200 DOMINANT CUTSETS

NUM	CUTSET PROB	PERCENT	BASIC EVENT NAME	EVENT PROB.	IDENTIFIER
			FIXED FAILURE UPON	COMPONENTS DEMAND OF LOGIC	FAILURE GROUP PROCESSING
					3.17E-04 1.16E-03
83	6.86E-10	.06	LOSS OF OFFSITE FAILURE TO FIXED FAILURE UPON	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR COMPONENTS DEMAND OF LOGIC	WITH RCS DRAINED 4.44E-03 4.20E-01 3.17E-04 1.16E-03
					IEV-LOSPD OTH-R1 ED1M00113 PMA0301ASA
84	6.86E-10	.06	LOSS OF OFFSITE FAILURE TO FIXED FAILURE UPON	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR COMPONENTS DEMAND OF LOGIC	WITH RCS DRAINED 4.44E-03 4.20E-01 3.17E-04 1.16E-03
					IEV-LOSPD OTH-R1 ED1M00113 PMA0301ASA
85	6.86E-10	.06	LOSS OF OFFSITE FAILURE TO FIXED FAILURE UPON	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR COMPONENTS DEMAND OF LOGIC	WITH RCS DRAINED 4.44E-03 4.20E-01 3.17E-04 1.16E-03
					IEV-LOSPD OTH-R1 ED1M00113 PMA0301ASA
86	6.71E-10	.06	LOSS OF OFFSITE FAILURE TO COMMUN CAUSE BUS UNAVAILABLE	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR FAILURE DUE TO TEST OR CORRECTIVE	WITH RCS DRAINED 4.44E-03 4.20E-01 1.20E-03 3.00E-04
					IEV-LOSPD OTH-R1 ECX-CB-GO IDABSD17R
87	6.69E-10	.06	LOSS OF OFFSITE FAILURE TO PUMP 01B FAILS & D/G FAILS TO	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR ST CK V007B & C B FTC & RE FTC & CB RCS221 SPO START & RUN OR BKR 102 FAILS TO CLOSE FAILURE UPON	WITH RCS DRAINED 4.44E-03 4.20E-01 1.53E-02 2.02E-02 1.16E-03
					IEV-LOSPD OTH-R1 RNBM0007S Z01M001 PMA0301ASA
88	6.69E-10	.06	LOSS OF OFFSITE FAILURE TO PUMP 01B FAILS & D/G FAILS TO	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR ST CK V007B & C B FTC & RE FTC & CB RCS221 SPO START & RUN OR BKR 102 ILS TO CLOSE FAILURE UPON	WITH RCS DRAINED 4.44E-03 4.20E-01 1.53E-02 2.02E-02 1.16E-03
					IEV-LOSPD OTH-R1 RNBM0007S Z01M001 PMA0301ASA
89	6.49E-10	.06	LOSS OF OFFSITE FAILURE TO PUMP MP 01B BREAKER 100	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR SEGMENT HARDWARE FAILURE OR FAILS TO OPEN	WITH RCS DRAINED 4.44E-03 4.20E-01 2.44E-02 1.23E-02 1.16E-03
					IEV-LOSPD OTH-R1 SWBM0002 EC1CB100W0 PMA0301ASA
90	6.49E-10	.06	LOSS OF OFFSITE FAILURE TO PUMP MP 01B BREAKER 100	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR SEGMENT HARDWARE FAILURE OR FAILS TO OPEN	WITH RCS DRAINED 4.44E-03 4.20E-01 2.44E-02 1.23E-02 1.16E-03
					IEV-LOSPD OTH-R1 SWBM0002 EC1CB100W0 PMA0301ASA
91	6.11E-10	.05	LOSS OF CCS/SWS CHECK VALVE CHECK VALVE CHECK VALVE CHECK VALVE	WITH RCS DRAINED INITIATING EVENT OCCURS 122A FAILS TO OPEN 124A FAILS TO OPEN 123B FAILS TO OPEN 124B FAILS TO OPEN	6.02E-04 1.00E+00 1.00E+00 5.80E-04 1.75E-03
					IEV-COMD IWACV122AO IWACV124AO IWBCV123AO IWBCV124AO
92	6.11E-10	.05	LOSS OF CCS/SWS	WITH RCS DRAINED INITIATING EVENT OCCURS	6.02E-04
					IEV-COMD

Table S4B-13

CASE 3 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PROB.	PERCENT	BASIC EVENT NAME		EVENT PROB.	IDENTIFIER
			CHECK VALVE 122A	FAILS TO OPEN	1.00E+00	IWNCV122AO
			CHECK VALVE 124A	FAILS TO OPEN	1.00E+00	IWNCV124AO
			CHECK VALVE 122B	FAILS TO OPEN	1.75E-03	IWNCV122AO
			CHECK VALVE 125B	FAILS TO OPEN	5.80E-04	IWNCV125AO
93	6.06E-10	.05	LOSS OF OFFSITE FAILURE TO COMMON CAUSE FAILURE UPON	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR FAILURE STANDBY DG TO START DEMAND OF LOGIC GROUP PROCESSING	WITH RCS DRAINED 4.44E-03 4.20E-01 2.70E-04 1.16E-03	IEV-LOSPD OTR-R1 Z0X-DG-DS PMA0301ASA
94	6.06E-10	.05	LOSS OF OFFSITE FAILURE TO COMMON CAUSE FAILURE UPON	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR FAILURE STANDBY DG TO START DEMAND OF LOGIC GROUP PROCESSING	WITH RCS DRAINED 4.44E-03 4.20E-01 2.80E-04 1.16E-03	IEV-LOSPD OTR-R1 Z0X-DG-DS PMA0301BSA
95	5.90E-10	.05	LOSS OF OFFSITE FAILURE TO BREAKER 100 BREAKER 200 FAILURE OF	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR FAILS TO OPEN FAILS TO OPEN PMS OUTPUT	WITH RCS DRAINED 4.44E-03 4.20E-01 1.23E-02 1.23E-02 2.09E-03	IEV-LOSPD OTR-R1 EC1CB100VO EC2CB200VO PMA0011
96	5.79E-10	.05	LOSS OF OFFSITE FAILURE TO BATTERY CCF OF OUTPUT	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR DB1 UNAVAILABLE LOGIC I/O BOARDS	WITH RCS DRAINED 4.44E-03 4.20E-01 2.20E-03 1.41E-04	IEV-LOSPD OTR-R1 EDIM0003 CCX-PMA001
97	5.50E-10	.05	LOSS OF OFFSITE FAILURE TO CCF OF OUTPUT	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR PLG OUTPUT LOGIC I/Os	WITH RCS DRAINED 4.44E-03 4.20E-01 2.09E-03 1.41E-04	IEV-LOSPD OTR-R1 PLSM0011 CCX-PMA001
98	5.37E-10	.05	LOSS OF OFFSITE FAILURE TO BREAKER 100 D/G FAILS TO FAILURE UPON	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR FAILS TO OPEN START & RUN OR BKR 202 FAILS TO CLOSE DEMAND OF LOGIC GROUP PROCESSING	WITH RCS DRAINED 4.44E-03 4.20E-01 1.23E-02 2.02E-02 1.16E-03	IEV-LOSPD OTR-R1 EC1CB100VO Z02M0001 PMA0301ASA
99	5.37E-10	.05	LOSS OF OFFSITE FAILURE TO D/G FAILS TO BREAKER 200 FAILURE UPON	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR START & RUN OR BKR 102 FAILS TO CLOSE FAILS TO OPEN DEMAND OF LOGIC GROUP PROCESSING	WITH RCS DRAINED 4.44E-03 4.20E-01 2.02E-02 1.23E-02 1.16E-03	IEV-LOSPD OTR-R1 Z01M0001 EC2CB200VO PMA0301ASA
100	5.37E-10	.05	LOSS OF OFFSITE FAILURE TO D/G FAILS TO BREAKER 200 FAILURE UPON	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR START & RUN OR BKR 102 FAILS TO CLOSE FAILS TO OPEN DEMAND OF LOGIC GROUP PROCESSING	WITH RCS DRAINED 4.44E-03 4.20E-01 2.02E-02 1.23E-02 1.16E-03	IEV-LOSPD OTR-R1 Z01M0001 EC2CB200VO PMA0301BSA
101	5.37E-10	.05	LOSS OF OFFSITE FAILURE TO BREAKER 100 D/G FAILS TO FAILURE UPON	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR FAILS TO OPEN START & RUN OR BKR 202 FAILS TO CLOSE DEMAND OF LOGIC GROUP PROCESSING	WITH RCS DRAINED 4.44E-03 4.20E-01 1.23E-02 2.02E-02 1.16E-03	IEV-LOSPD OTR-R1 EC1CB100VO Z02M0001 PMA0301BSA

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CASE 3 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PROB	PERCENT	BASIC EVENT NAME	EVENT PROB.	IDENTIFIER
102	5.26E-10	.05	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS FAILURE TO RECOVER AC POWER IN 1 HOUR OF ENGINE-DRIVEN FUEL PUMPS CCF TO START CCF OF OUTPUT	4.44E-03 4.20E-01 2.00E-03 1.41E-04	TEV-LOSPO OTR-R1 203-9D-05 CCM-PHENOM1
103	5.23E-10	.05	LOSS/RNS-V024 CCF OF ACTUATION LOGIC GROUPS	1.15E-05	TEV-LOC24D CCM-PHENOM1X
104	5.21E-10	.05	LOSS/RNS-V024 CCF OF GRAVITY	4.63E-05	TEV-LOC24D TBR-CU-A0
105	5.15E-10	.04	LOSS OF CCS/SMS LOSS OF DIST. UNAVAILABILITY	1.68E-05 3.10E-05 6.02E-04 3.17E-04 2.70E-03	TEV-CODED TBR-M004 BC1BS0127W
106	5.15E-10	.04	LOSS OF CCS/SMS LOSS OF DIST. BUS UNAVAILABLE	6.02E-04 3.17E-04 2.70E-03	TEV-CODED TBR-M004 BC1BS1217W
107	5.15E-10	.04	LOSS OF CCS/SMS LOSS OF DIST. BUS UNAVAILABLE	6.02E-04 3.17E-04 2.70E-03	TEV-CODED TBR-M004 BC1BS0127W
108	5.07E-10	.04	LOSS OF OFFSITE FAILURE TO RUN OF CCF TO TEST OR FAILURE OF PMS OUTPUT	4.44E-03 4.20E-01 3.09E-04 2.09E-03	TEV-LOSPO OTR-R1 203-9D-05 PHM00211
109	4.99E-10	.04	LOSS OF OFFSITE FAILURE TO RECOVER AC POWER IN 1 HOUR PUMP SUBLOOP B BREAKER 100 FAILS TO OPEN PMS OUTPUT	4.44E-03 4.20E-01 1.04E-02 1.23E-02 2.09E-03	TEV-LOSPO OTR-R1 203-9D-05 BC1BS1217W PHM00211
110	4.88E-10	.04	LOSS OF CCS/SMS BUS UNAVAILABLE	6.02E-04 3.09E-04 2.70E-03	TEV-CODED TBR-M004 BC1BS1217W
111	4.88E-10	.04	LOSS OF CCS/SMS BUS UNAVAILABLE	6.02E-04 3.09E-04 2.70E-03	TEV-CODED TBR-M004 BC1BS1217W
112	4.88E-10	.04	LOSS OF CCS/SMS BUS UNAVAILABLE UNAVAILABILITY	6.02E-04 3.09E-04 2.70E-03	TEV-CODED TBR-M004 BC1BS1217W
113	4.74E-10	.04	LOSS OF OFFSITE FAILURE TO PUMP MP 01B D/G PAIRS TO FAILURE OF INV -	4.44E-03 4.20E-01 2.44E-02 2.02E-02 5.16E-04	TEV-LOSPO OTR-R1 203-9D-02 203-M0011 TBR-M005
114	4.54E-10	.04	LOSS OF OFFSITE FAILURE TO RECOVER AC POWER IN 1 HOUR	4.44E-03 4.20E-01	TEV-LOSPO OTR-R1

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CASE 3 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PROB.	PERCENT	BASIC EVENT NAME		EVENT PROB.	IDENTIFIER
			PUMP SUBLOOP B D/G FAILS TO FAILURE UPON	HARDWARE FAILURE OR DIVERTED FLOW START & RUN CR BKR 102 FAILS TO CLOSE DEMAND OF LOGIC GROUP PROCESSING	1.04E-02 2.02E-02 1.16E-03	CCBMOD01S Z01MOD01 PMA0301ASA
115	4.54E-10	.04	LOSS OF OFFSITE FAILURE TO PUMP SUBLOOP B D/G FAILS TO FAILURE UPON	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR HARDWARE FAILURE OR DIVERTED FLOW START & RUN OR BKR 102 FAILS TO CLOSE DEMAND OF LOGIC GROUP PROCESSING	4.44E-03 4.20E-01 1.04E-02 2.02E-02 1.16E-03	IEV-LOSPD OTR-R1 CCBMOD01S Z01MOD01 PMA0301ASA
116	4.32E-10	.04	LOSS OF OFFSITE FAILURE TO COMMON CAUSE LOSS OF DIST.	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR 4KV BREAKER TO CLOSE PANEL OR BREAKER A07 SPURIOUSLY OPENS	4.44E-03 4.20E-01 7.30E-04 3.17E-04	IEV-LOSPD OTR-R1 BCX-CB-GC IDAMOD04
117	4.29E-10	.04	LOCA/RNS-V024 CCF OF ADS SQUIB VALVES TO OPERATE	OPENS INITIATING EVENT OCCURS WITH RCS DRAINED	1.13E-05 3.80E-05	IEV-LOCA24D ADX-BV-SA
118	4.29E-10	.04	LOCA/RNS-V024 CCF OF IRWST INV SQUIB VALVES	OPENS INITIATING EVENT OCCURS WITH RCS DRAINED	1.13E-05 3.80E-05	IEV-LOCA24D INX-MV-G01
119	4.23E-10	.04	LOSS OF OFFSITE FAILURE TO COMMON CAUSE FAILURE OF INV.,	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR FAILURE STANDBY DG TO RUN STATIC SWITCH AND ASSOC. BREAKERS	4.44E-03 4.20E-01 4.40E-04 5.16E-04	IEV-LOSPD OTR-R1 Z0X-DG-DR IDAMOD05
120	4.08E-10	.04	LOSS OF OFFSITE FAILURE TO COMMON CAUSE BUS UNAVAILABLE	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR FAILURE 4KV BREAKER TO CLOSE DUE TO TEST OR CORRECTIVE MAINTENANCE	4.44E-03 4.20E-01 7.30E-04 3.00E-04	IEV-LOSPD OTR-R1 BCX-CB-GC IDABSDS17W
121	4.07E-10	.04	LOSS OF OFFSITE FAILURE TO PUMP 01B FAILS & BREAKER 100	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR ST CK V007B & C B PTC & RE PTC & CB RCS221 SPO FAILS TO OPEN [#3,5] FAILURE UPON DEMAND OF LOGIC GROUP PROCESSING	4.44E-03 4.20E-01 1.53E-02 1.23E-02 1.16E-03	IEV-LOSPD OTR-R1 RNEMOD07S BC1CB100V0 PMA0301ASA
122	4.07E-10	.04	LOSS OF OFFSITE FAILURE TO PUMP 01B FAILS & BREAKER 100	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR ST CK V007B & C B PTC & RE PTC & CB RCS221 SPO FAILS TO OPEN [#3,5] FAILURE UPON DEMAND OF LOGIC GROUP PROCESSING	4.44E-03 4.20E-01 1.53E-02 1.23E-02 1.16E-03	IEV-LOSPD OTR-R1 RNEMOD07S BC1CB100V0 PMA0301ASA
123	3.91E-10	.03	LOSS OF OFFSITE FAILURE TO BATTERY CCF OF LOGIC	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR DB1 UNAVAILABLE GROUP PROCESSING	4.44E-03 4.20E-01 2.20E-03 9.69E-05	IEV-LOSPD OTR-R1 EDIMOD03 CCX-PMA030
124	3.93E-10	.03	LOSS OF OFFSITE FAILURE TO D/G FAILS TO D/G FAILS TO FAILURE OF INV.,	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR START & RUN OR BKR 102 FAILS TO CLOSE START & RUN OR BKR 202 FAILS TO CLOSE STATIC SWITCH AND ASSOC. BREAKERS	4.44E-03 4.20E-01 2.02E-02 2.02E-02 5.16E-04	IEV-LOSPD OTR-R1 Z01MOD01 Z02MOD01 IDAMOD05

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CASE 3 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PROB	PERCENT	BASIC EVENT NAME		EVENT PROB	IDENTIFIER	
125	3.78E-10	.03	LOSS OF OFFSITE FAILURE TO FAILURE OF CCF OF LOGIC	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR PLS OUTPUT LOGIC I/Os GROUP PROCESSING	WITH RCS DRAINED 4.44E-03 4.20E-01 2.09E-03 9.69E-05	IEV-LOSPD OTH-R1 PLSMOD11 CCX-PMA030	
126	3.75E-10	.03	LOSS OF CCS/SWS FAILURE OF CCF OF THE POWER	WITH RCS FILLED MANUAL DAS INTERFACE OUTPUT BOARDS IN PMS	INITIATING EVENT OCCURS ACTUATION	3.75E-03 1.16E-02 8.62E-06	IEV-COMND RIV-MANDAS CCX-EP-SAM
127	3.75E-10	.03	LOSS OF OFFSITE FAILURE TO FAILURE OF STANDBY DG	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR PLS OUTPUT LOGIC I/Os PMS OUTPUT LOGIC I/Os UNAVAILABLE DUE TO TEST AND	WITH RCS DRAINED 4.44E-03 4.20E-01 2.09E-03 2.09E-03 4.60E-02	IEV-LOSPD OTH-R1 PLSMOD11 PMAMOD11 Z01DG001TM	
128	3.61E-10	.03	LOSS OF OFFSITE FAILURE TO CCF TO START CCF OF LOGIC	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR OF ENGINE-DRIVEN FUEL PUMPS GROUP PROCESSING	WITH RCS DRAINED 4.44E-03 4.20E-01 2.00E-03 9.69E-05	IEV-LOSPD OTH-R1 Z0X-PD-ES CCX-PMA030	
129	3.59E-10	.03	LOSS OF CCS/SWS COND. PROB. OF CCF OF ORIFICES OPERATOR FAILS	WITH RCS FILLED REC-MANDAS (FAILURE OF MANUAL DAS ACT.)	INITIATING EVENT OCCURS TO RECOGNIZE THE NEED FOR RCS DEPRESSURIZATION	3.75E-03 5.06E-01 2.77E-04 6.83E-04	IEV-COMND REC-MANDASC CCX-ORT-SP LPM-MAN05
130	3.50E-10	.03	LOCA/PNS-V024 CCF OF GRAVITY	OPENS INITIATING EVENT OCCURS INJECTION CHECK	WITH RCS DRAINED VALVES TO OPEN	1.13E-05 3.10E-07	IEV-LOCA24D DNX-CV-A0
131	3.43E-10	.03	LOSS OF OFFSITE FAILURE TO D/G FAILS TO START & RUN OR FAILURE OF UNDERVOLTAGE RELAY	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR BKR 102 FAILS TO CLOSE UNDERVOLTAGE RELAY PMS OUTPUT LOGIC I/Os	WITH RCS DRAINED 4.44E-03 4.20E-01 2.02E-02 6.36E-01 7.09E-01	IEV-LOSPD OTH-R1 Z01M0001 Z01REDG2GA PMAMOD11	
132	3.29E-10	.03	LOSS OF OFFSITE FAILURE TO BATTERY FAILURE OF	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR DRI UNAVAILABLE MIMIC BUS SELECTOR BOARD	WITH RCS DRAINED 4.44E-03 4.20E-01 2.20E-03 8.00E-05	IEV-LOSPD OTH-R1 ED1M0003 PMAM000ASA	
133	3.27E-10	.03	LOSS OF OFFSITE FAILURE TO BREAKER 100 BREAKER 200 FAILURE UPON	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR FAILS TO OPEN FAILS TO OPEN DEMAND OF LOGIC GROUP PROCESSING	WITH RCS DRAINED 4.44E-03 4.20E-01 1.23E-02 1.23E-02 1.16E-03	IEV-LOSPD OTH-R1 EC1CB100V0 EC2CB200V0 PMA0301ASA	
134	3.27E-10	.03	LOSS OF OFFSITE FAILURE TO BREAKER 100 BREAKER 200 FAILURE UPON	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR FAILS TO OPEN FAILS TO OPEN DEMAND OF LOGIC GROUP PROCESSING	WITH RCS DRAINED 4.44E-03 4.20E-01 1.23E-02 1.23E-02 1.16E-03	IEV-LOSPD OTH-R1 EC1CB100V0 EC2CB200V0 PMA0301BSA	
135	3.23E-10	.03	LOSS OF CCS/SWS FAILURE OF CCF OF THE POWER	WITH RCS FILLED MANUAL DAS INTERFACE OUTPUT BOARDS IN PMS	INITIATING EVENT OCCURS REACTOR TRIP HARDWARE	3.75E-03 1.00E-02 8.62E-06	IEV-COMND MDAS CCX-EP-SAM

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CASE 3 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PROB.	PERCENT	BASIC EVENT NAME		EVENT PROB.	IDENTIFIER
136	3.16E-10	.03	LOSS OF OFFSITE FAILURE TO COMMON CAUSE CCF OF OUTPUT	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR FAILURE 4KV BREAKERS TO OPEN LOGIC I/O BOARDS	4.44E-03 4.20E-01 1.20E-03 1.41E-04	IEV-LOSPD OTH-R1 ECK-CB-GO CCK-PHAM001
137	3.05E-10	.03	LOSS OF OFFSITE FAILURE TO FIXED COMPONENTS FAILURE FAILURE OF INV.	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR STATIC SWITCH AND ASSOC.	4.44E-03 4.20E-01 3.17E-04 5.16E-04	IEV-LOSPD OTH-R1 EDIMOD11 IDAM005
138	3.05E-10	.03	LOSS OF OFFSITE FAILURE TO FIXED COMPONENTS FAILURE FAILURE OF INV.	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR STATIC SWITCH AND ASSOC.	4.44E-03 4.20E-01 3.17E-04 5.16E-04	IEV-LOSPD OTH-R1 EDIMOD113 IDAM005
139	3.05E-10	.03	LOSS OF OFFSITE FAILURE TO PLS LOGIC GROUP CCF OF OUTPUT	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR PROCESSING FAILURE UPON LOGIC I/O BOARDS	4.44E-03 4.20E-01 1.16E-03 1.41E-04	IEV-LOSPD OTH-R1 PL50301ASA CCK-PHAM001
140	3.05E-10	.03	LOSS OF OFFSITE FAILURE TO PLS LOGIC GROUP CCF OF OUTPUT	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR PROCESSING FAILURE UPON LOGIC I/O BOARDS	4.44E-03 4.20E-01 1.17E-03 1.42E-04	IEV-LOSPD OTH-R1 PL50301RSA CCK-PHAM001
141	2.98E-10	.03	LOSS OF OFFSITE FAILURE TO CCF TO START FAILURE OF	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR OF ENGINE-DRIVEN FUEL PUMPS MIMIC BUS SELECTOR BOARD	4.44E-03 4.20E-01 2.00E-03 8.00E-05	IEV-LOSPD OTH-R1 ZOK-PD-BS PHAM50CASA
142	2.97E-10	.03	LOSS OF OFFSITE FAILURE TO PUMP MP 01B FAILS & D/G FAILS TO FAILURE OF INV.	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR ST CK V007B & C B FTC & RE FTC & CB ECS221 SPO START & RUN OR BKR 102 FAILS TO CLOSE STATIC SWITCH AND ASSOC.	4.44E-03 4.20E-01 1.53E-02 2.02E-02 5.16E-04	IEV-LOSPD OTH-R1 RNBM0007S Z01M001 IDAM005
143	2.96E-10	.03	LOSS OF RNS WITH RCS DRAINED CCF OF ORIFICES	INITIATING EVENT OCCURS	8.15E-05 3.63E-06	IEV-RNSD CCK-ORT-SPK
144	2.91E-10	.03	LOSS OF OFFSITE FAILURE TO PUMP MP 01B D/G FAILS TO LOSS OF DIST.	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR SEGMENT HARDWARE FAILURE OR START & RUN OR BKR 102 FAILS TO CLOSE PANEL OR BREAKER A07 SPURIOUSLY OPENS	4.44E-03 4.20E-01 2.44E-02 2.02E-02 3.17E-04	IEV-LOSPD OTH-R1 SWBM0002 Z01M001 IDAM004
145	2.89E-10	.03	LOSS OF OFFSITE FAILURE TO PUMP MP 01B BREAKER 100 FAILURE OF INV.	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR SEGMENT HARDWARE FAILURE OR FAILS TO OPEN STATIC SWITCH AND ASSOC.	4.44E-03 4.20E-01 2.44E-02 [83.5] 5.16E-04	IEV-LOSPD OTH-R1 SWBM0002 EC1CB100VO IDAM005
146	2.81E-10	.02	LOSS OF OFFSITE FAILURE TO CCF TO RUN OF	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR ENGINE-DRIVEN FUEL PUMPS	4.44E-03 4.20E-01 1.30E-04	IEV-LOSPD OTH-R1 ZOK-PD-BS

Table 54B-13

CASE 3 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PROB.	PERCENT	BASIC EVENT NAME	EVENT PROB.	IDENTIFIER
			FAILURE UPON DEMAND OF LOGIC GROUP PROCESSING	1.16E-03	PMA0301ASA
147	2.81E-10	.02	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS WITH RCS DRAINED FAILURE TO RECOVER AC POWER IN 1 HOUR CCF TO RUN OF ENGINE-DRIVEN FUEL PUMPS FAILURE UPON DEMAND OF LOGIC GROUP PROCESSING	4.44E-03 4.20E-01 1.30E-04 1.16E-03	IEV-LOSPD OTH-R1 Z0X-PD-ER PMA0301BSA
148	2.77E-10	.02	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS WITH RCS DRAINED FAILURE TO RECOVER AC POWER IN 1 HOUR PUMP SUBLOOP B HARDWARE FAILURE OR DIVERTED FLOW BREAKER 100 FAILS TO OPEN (#3.5) FAILURE UPON DEMAND OF LOGIC GROUP PROCESSING	4.44E-03 4.20E-01 1.04E-02 1.23E-02 1.16E-03	IEV-LOSPD OTH-R1 CCRMOD01S EC1CB100VO PMA0301BSA
149	2.77E-10	.02	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS WITH RCS DRAINED FAILURE TO RECOVER AC POWER IN 1 HOUR PUMP SUBLOOP B HARDWARE FAILURE OR DIVERTED FLOW BREAKER 100 FAILS TO OPEN (#3.5) FAILURE UPON DEMAND OF LOGIC GROUP PROCESSING	4.44E-03 4.20E-01 1.04E-02 1.23E-02 1.16E-03	IEV-LOSPD OTH-R1 CCRMOD01S EC1CB100VO PMA0301ASA
150	2.76E-10	.02	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS WITH RCS DRAINED FAILURE TO RECOVER AC POWER IN 1 HOUR PUMP MP 01B D/G FAILS TO SEGMENT HARDWARE FAILURE OR DIVERTED FLOW START & RUN OR BKR 102 FAILS TO CLOSE BUS UNAVAILABLE DUE TO TEST OR CORRECTIVE MAINTENANCE	4.44E-03 4.20E-01 2.44E-02 2.02E-02 3.00E-04	IEV-LOSPD OTH-R1 SMBMOD02 Z01M0D01 IDABSDS1TM
151	2.69E-10	.02	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS WITH RCS DRAINED FAILURE TO RECOVER AC POWER IN 1 HOUR COMMON CAUSE FAILURE FAILURE OF INV. STATIC SWITCH AND ASSOC.	4.44E-03 4.20E-01 2.80E-04 5.16E-04	IEV-LOSPD OTH-R1 Z0X-DG-DS IDAMOD05
152	2.68E-10	.02	LOSS OF CCS/SWS WITH RCS DRAINED INITIATING EVENT OCCURS FAILURE UPON DEMAND OF LOGIC GROUP PROCESSING UNAVAILABILITY OF BUS ECS ES 1 DUE TO UNSCHEDUL MAINTENANCE	6.02E-04 1.65E-04 2.70E-03	IEV-CWMD PMA0301BSAX EC1BS001TM
153	2.68E-10	.02	LOSS OF CCS/SWS WITH RCS DRAINED INITIATING EVENT OCCURS FAILURE UPON DEMAND OF LOGIC GROUP PROCESSING BUS UNAVAILABLE DUE TO UNSCHEDULED MAINTENANCE	6.02E-04 1.65E-04 2.70E-03	IEV-CWMD PMA0301BSAX EC1BS012TM
154	2.68E-10	.02	LOSS OF CCS/SWS WITH RCS DRAINED INITIATING EVENT OCCURS FAILURE UPON DEMAND OF LOGIC GROUP PROCESSING BUS UNAVAILABLE DUE TO UNSCHEDULED MAINTENANCE	6.02E-04 1.65E-04 2.70E-03	IEV-CWMD PMA0301BSAX EC1LS121TM
155	2.68E-10	.02	LOSS OF CCS/SWS WITH RCS DRAINED INITIATING EVENT OCCURS FAILURE UPON DEMAND OF LOGIC GROUP PROCESSING UNAVAILABILITY OF BUS ECS ES 1 DUE TO UNSCHEDUL MAINTENANCE	6.02E-04 1.65E-04 2.70E-03	IEV-CWMD PMA0301ASAX EC1BS001TM
156	2.68E-10	.02	LOSS OF CCS/SWS WITH RCS DRAINED INITIATING EVENT OCCURS FAILURE UPON DEMAND OF LOGIC GROUP PROCESSING BUS UNAVAILABLE DUE TO UNSCHEDULED MAINTENANCE	6.02E-04 1.65E-04 2.70E-03	IEV-CWMD PMA0301ASAX EC1BS121TM
157	2.68E-10	.02	LOSS OF CCS/SWS WITH RCS DRAINED INITIATING EVENT OCCURS FAILURE UPON DEMAND OF LOGIC GROUP PROCESSING BUS UNAVAILABLE DUE TO UNSCHEDULED MAINTENANCE	6.02E-04 1.65E-04 2.70E-03	IEV-CWMD PMA0301ASAX EC1BS012TM

Table 54B-13

CASE 3 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PROB.	PERCENT	BASIC EVENT NAME		EVENT PROB.	IDENTIFIER	
158	2.60E-10	.02	LOSS OF CCS/SWS COND. PROB. OF CCF OF PRESSURE OPERATOR FAILS	WITH RCS FILLED REC-MANDAS TRANSMITTERS TO RECOGNIZE THE NEED FOR RCS	INITIATING EVENT OCCURS (FAILURE OF MANUAL DAS ACT. DEPRESSURIZATION	3.75E-03 5.05E-01 2.01E-04 6.83E-04	IEV-CWMD REC-MANDASC CCX-XMTR195 LPM-MAN05
159	2.60E-10	.02	LOSS OF OFFSITE FAILURE TO COMMON CAUSE LOSS OF DIST.	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR FAILURE STANDBY DG TO PANEL OR BREAKER A07 SPURIOUSLY	WITH RCS DRAINED RUN OPENS	4.44E-03 4.20E-01 4.40E-04 3.17E-04	IEV-LOSPD OTH-R1 Z0X-DG-DR IDAMOD04
160	2.57E-10	.02	LOSS OF CCS/SWS FAILURE OF PMS OUTPUT FAILURE OF	WITH RCS DRAINED PMS OUTPUT PMS OUTPUT	INITIATING EVENT OCCURS LOGIC I/Os LOGIC I/Os	6.02E-04 6.53E-04 6.53E-04	IEV-CWMD PMAMOD11X PMAMOD12X
161	2.50E-10	.02	LOSS OF RNS WITH CHECK VALVE CHECK VALVE CHECK VALVE CHECK VALVE MECHANICAL	RCS DRAINED 122A 124A 122B 124B FAILURE CAUSES	INITIATING EVENT OCCURS FAILS TO OPEN FAILS TO OPEN FAILS TO OPEN FAILS TO OPEN MOV 023 TO FAIL-TO-OPEN	8.15E-05 1.00E+00 1.00E+00 1.75E-03 1.75E-03 1.00E+00	IEV-RNSD IWACV122AO IWACV124AO IWBCV122AO IWBCV124AO RN23MOD55
162	2.46E-10	.02	LOSS OF OFFSITE FAILURE TO COMMON CAUSE BUS UNAVAILABLE	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR FAILURE STANDBY DG TO DUE TO TEST OR CORRECTIVE	WITH RCS DRAINED RUN MAINTENANCE	4.44E-03 4.20E-01 4.40E-04 3.00E-04	IEV-LOSPD OTH-R1 Z0X-DG-DR IDABSDS1TM
163	2.41E-10	.02	LOSS OF OFFSITE FAILURE TO D/G FAILS TO D/G FAILS TO LOSS OF DIST.	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR START & RUN OR BKR 102 FAILS TO CLOSE START & RUN OR BKR 202 FAILS TO CLOSE PANEL OR BREAKER A07 SPURIOUSLY	WITH RCS DRAINED FAILS TO OPEN FAILS TO OPEN FAILS TO OPEN OPENS	4.44E-03 4.20E-01 2.02E-02 2.02E-02 3.17E-04	IEV-LOSPD OTH-R1 Z01MOD01 Z02MOD01 IDAMOD04
164	2.40E-10	.02	LOSS OF RNS WITH CCF OF THE POWER	RCS DRAINED INTERFACE OUTPUT BOARDS IN PMS	INITIATING EVENT OCCURS	8.15E-05 2.94E-06	IEV-RNSD CCX-EP-SAMX
165	2.39E-10	.02	LOSS OF OFFSITE FAILURE TO BREAKER 100 D/G FAILS TO FAILURE OF INV..	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR FAILS TO OPEN START & RUN OR BKR 202 FAILS TO CLOSE STATIC SWITCH AND ASSOC.	WITH RCS DRAINED [#3,5] BREAKERS	4.44E-03 4.20E-01 1.23E-02 2.02E-02 5.16E-04	IEV-LOSPD OTH-R1 EC1CB100VO Z02MOD01 IDAMOD05
166	2.39E-10	.02	LOSS OF OFFSITE FAILURE TO D/G FAILS TO BREAKER 200 FAILURE OF INV..	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR START & RUN OR BKR 102 FAILS TO CLOSE FAILS TO OPEN STATIC SWITCH AND ASSOC.	WITH RCS DRAINED [#5,3] BREAKERS	4.44E-03 4.20E-01 2.02E-02 1.23E-02 5.16E-04	IEV-LOSPD OTH-R1 Z01MOD01 EC2CB200VO IDAMOD05
167	2.34E-10	.02	LOSS OF OFFSITE FAILURE TO CCF TO START FAILURE OF	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR DG ROOM VENT FANS PMS OUTPUT LOGIC I/Os	WITH RCS DRAINED	4.44E-03 4.20E-01 5.00E-05 2.09E-03	IEV-LOSPD OTH-R1 Z0X-SL-ES PMAMOD11
168	2.28E-10	.02	LOSS OF OFFSITE FAILURE TO	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR	WITH RCS DRAINED	4.44E-03 4.20E-01	IEV-LOSPD OTH-R1

Table 54B-13

CASE 3 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET	PROB	PERCENT	BASIC EVENT NAME		EVENT	PROB	IDENTIFIER
				D/G FAILS TO D/G FAILS TO BUS UNAVAILABLE	START & RUN OR START & RUN OR DUE TO TEST OR	BKR 102 FAILS TO CLOSE BKR 202 FAILS TO CLOSE CORRECTIVE MAINTENANCE	2.02E-02 2.02E-02 3.00E-04	Z01M0001 Z02M0001 IDABSDS1TM
169	2.22E-10	.02		LOSS OF OFFSITE FAILURE TO COMMON CAUSE FAILURE OF	POWER INITIATING RECOVER AC POWER IN 1 HOUR FAILURE OF THE PMS OUTPUT	EVENT OCCURS WITH RCS DRAINED LOGIC I/Os	4.44E-03 4.20E-01 5.70E-05 2.09E-03	IEV-LOSPD OTH-R1 CCX-BY-PN1 PMAMOD11
170	2.17E-10	.02		LOSS OF OFFSITE FAILURE TO COMMON CAUSE CCF OF LOGIC	POWER INITIATING RECOVER AC POWER IN 1 HOUR FAILURE GROUP PROCESSING	EVENT OCCURS WITH RCS DRAINED 4KV BREAKERS TO OPEN	4.44E-03 4.20E-01 1.20E-03 9.69E-05	IEV-LOSPD OTH-R1 CCX-CB-GO CCX-PMA030
171	2.14E-10	.02		LOSS OF RNS WITH CCF OF PRESSURE	RCS DRAINED TRANSMITTERS	INITIATING EVENT OCCURS	8.15E-05 2.63E-06	IPM-RNSD CCX-XMTX
172	2.13E-10	.02		LOSS OF OFFSITE FAILURE TO BATTERY D/G FAILS TO FAILURE OF	POWER INITIATING RECOVER AC POWER IN 1 HOUR DB1 UNAVAILABLE START & RUN OR PMS OUTPUT	EVENT OCCURS WITH RCS DRAINED LOGIC I/Os	4.44E-03 4.20E-01 2.0E-03 2.02E-02 2.09E-03	IEV-LOSPD OTH-R1 ED2M0003 Z01M0001 PMAMOD11
173	2.10E-10	.02		LOSS OF OFFSITE FAILURE TO PLS LOGIC GROUP CCF OF LOGIC	POWER INITIATING RECOVER AC POWER IN 1 HOUR PROCESSING FAILURE UPON GROUP PROCESSING	EVENT OCCURS WITH RCS DRAINED DEMAND	4.44E-03 4.20E-01 1.16E-03 9.69E-05	IEV-LOSPD OTH-R1 PLS0301BSA CCX-PMA030
174	2.10E-10	.02		LOSS OF OFFSITE FAILURE TO PLS LOGIC GROUP CCF OF LOGIC	POWER INITIATING RECOVER AC POWER IN 1 HOUR PROCESSING FAILURE UPON GROUP PROCESSING	EVENT OCCURS WITH RCS DRAINED DEMAND	4.44E-03 4.20E-01 1.16E-03 9.69E-05	IEV-LOSPD OTH-R1 PLS0301ASA CCX-PMA030
175	2.09E-10	.02		LOSS OF OFFSITE FAILURE TO BREAKER 100 FAILURE OF FAILURE OF	POWER INITIATING RECOVER AC POWER IN 1 HOUR FAILS TO OPEN UNDERVOLTAGE RELAY PMS OUTPUT	EVENT OCCURS WITH RCS DRAINED DEMAND LOGIC I/Os	4.44E-03 4.20E-01 1.23E-02 4.36E-03 2.09E-03	IEV-LOSPD OTH-R1 EC1CB100V0 ECIREDG2GA PMAMOD11
176	2.09E-10	.02		OVERDRAINING OF RHN-MAN04-SUCC CCF OF MUX	RCS DURING DRAIN DOWN TO MID-LOOP LOGIC GROUPS	INITIATING EVENT	4.44E-06 9.45E-01 4.98E-05	IEV-RCS0D RHN-MAN04-SUCC CCX-PMAMOD4
177	2.08E-10	.02		LOSS OF OFFSITE FAILURE TO PLS LOGIC GROUP FAILURE OF STANDBY DG	POWER INITIATING RECOVER AC POWER IN 1 HOUR PROCESSING FAILURE UPON PMS OUTPUT UNAVAILABLE DUE TO TEST AND	EVENT OCCURS WITH RCS DRAINED DEMAND LOGIC I/Os MAINTENANCE	4.44E-03 4.20E-01 1.16E-03 2.09E-03 4.60E-02	IEV-LOSPD OTH-R1 PLS0301ASA PMAMOD11 Z01DG001TM
178	2.08E-10	.02		LOSS OF OFFSITE FAILURE TO FAILURE OF FAILURE UPON STANDBY DG	POWER INITIATING RECOVER AC POWER IN 1 HOUR PLS OUTPUT DEMAND OF LOGIC UNAVAILABLE DUE TO TEST AND	EVENT OCCURS WITH RCS DRAINED LOGIC I/Os GROUP PROCESSING MAINTENANCE	4.44E-03 4.20E-01 2.09E-03 1.16E-03 4.60E-02	IEV-LOSPD OTH-R1 PLS0301ASA PMAMOD11 Z01DG001TM

Table 54B-13

CASE 3 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PROB	PERCENT	BASIC EVENT NAME	EVENT PROB	IDENTIFIER
179	2.08E-10	.02	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS FAILURE TO RECOVER AC POWER IN 1 HOUR PLS LOGIC GROUP PROCESSING FMS OUTPUT UNAVAILABLE DUE TO TEST AND STANDBY DG	WITH RCS DRAINED STANDBY	4.44E-03 4.20E-01 PLS0301BSA PNR000011 201DG001TM
180	2.08E-10	.02	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS FAILURE TO RECOVER AC POWER IN 1 HOUR PLS OUTPUT DEMAND OF LOGIC GROUP PROCESSING UNAVAILABLE DUE TO TEST AND STANDBY DG	WITH RCS DRAINED MAINTENANCE	4.44E-03 4.20E-01 OTB-RI PLSM0011 PNR0301ASA 201DG001TM
181	2.03E-10	.02	LOSS OF CCS/SNS WITH RCS DRAINED INITIATING EVENT OCCURS CHECK VALVE 122A FAILS TO OPEN CHECK VALVE 124A FAILS TO OPEN CHECK VALVE 123B FAILS TO OPEN CHECK VALVE 125B FAILS TO OPEN	WITH RCS DRAINED LOGIC I/O'S DEMAND OF LOGIC GROUP PROCESSING UNAVAILABLE DUE TO TEST AND MAINTENANCE	4.44E-03 4.20E-01 TBT-C00D TWBT122AO 1.00E+00 TWBT123AO 5.80E-04 TWBT125AO
182	2.02E-10	.02	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS FAILURE TO RECOVER AC POWER IN 1 HOUR CCF TO START OF THE PUMPS CCF OF OUTPUT	WITH RCS DRAINED LOGIC I/O BOARDS	4.44E-03 4.20E-01 OTB-RI PNR-FS CCX-PMAN001
183	2.02E-10	.02	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS FAILURE TO RECOVER AC POWER IN 1 HOUR PUMP SURLOOP B HARDWARE FAILURE OR DIVERTED FLOW D/G FAILS TO START & RUN OR WR 102 FAILS TO CLOSE FAILURE OF INV., STATIC SWITCH AND ASSOC.	WITH RCS DRAINED HARDWARE FAILURE OR DIVERTED FLOW START & RUN OR WR 102 FAILS TO CLOSE INV., STATIC SWITCH AND ASSOC.	4.44E-03 4.20E-01 OTB-RI CCB0001S 201HW001 IDAM0095
184	2.02E-10	.02	LOSS OF RCS DRAINED INITIATING EVENT OCCURS CCF OF STRAINERS IN INSTR TANK	WITH RCS FILLED STRAINERS	4.44E-03 4.20E-01 TBT-LOC024ND TBT-FL-GP
185	1.99E-10	.02	LOSS OF RCS PIPE Rupture WITH RCS FILLED INIT. OPERATOR FAILS TO ISOLATE RCS PIPE RUPTURE CHECK VALVE 122A FAILS TO OPEN TRUST DISCHARGE LINE "B"	EVENT OCCURS FAILS TO OPEN STRAINER	1.51E-05 5.50E-02 TBT-LOC00D TBT122AO 1.00E+00 TWBT124AO 2.40E-04 TBT-PLNG
186	1.94E-10	.02	OVERTRAINING OF RCS DURING DRAIN DOWN TO MID-LOOP INITIATING EVENT RHS-RANO4-SUCC CCF OF ACTUATION LOGIC GROUPS	WITH RCS FILLED INIT.	4.44E-06 9.45E-01 4.63E-05 TBT-LOC00D RHS-RANO4-SUCC CCX-PMAN001X
187	1.93E-10	.02	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS FAILURE TO RECOVER AC POWER IN 1 HOUR UNAVAILABLE BATTERIES COMMON CAUSE	WITH RCS DRAINED UNAVAILABLE BATTERIES	4.44E-03 4.20E-01 OTB-RI ED1M0093 CCX-BT-PR
188	1.93E-10	.02	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS FAILURE TO RECOVER AC POWER IN 1 HOUR COMMON CAUSE CCE OF OUTPUT	WITH RCS DRAINED 4KV BREAKER TO CLOSE	4.44E-03 4.20E-01 OTB-RI RCS-BC-OC CCX-PMAN001
189	1.91E-10	.02	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS FAILURE TO RECOVER AC POWER IN 1 HOUR	WITH RCS TRAINED CCE OF OUTPUT	4.44E-03 4.20E-01 OTB-RI

Table 54B-13

CASE 3 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET	PROB.	PERCENT	BASIC EVENT NAME		EVENT PROB.	IDENTIFIER
				D/G FAILS TO FAILURE OF FAILURE UPON	START & RUN OR UNDERVOLTAGE DEMAND OF LOGIC	BKR 102 FAILS TO CLOSE RELAY GROUP PROCESSING	2.02E-02 4.36E-03 1.16E-03
190	1.91E-10	.02		LOSS OF OFFSITE FAILURE TO D/G FAILS TO FAILURE OF FAILURE UPON	POWER INITIATING RECOVER AC POWER IN 1 HOUR START & RUN OR UNDERVOLTAGE DEMAND OF LOGIC	EVENT OCCURS WITH RCS DRAINED BKR 102 FAILS TO CLOSE RELAY GROUP PROCESSING	4.44E-03 4.20E-01 2.02E-02 4.36E-03 1.16E-03
191	1.87E-10	.02		LOSS OF OFFSITE FAILURE TO FIXED LOSS OF DIST.	POWER INITIATING RECOVER AC POWER IN 1 HOUR COMPONENTS FAILURE PANEL OR BREAKER A07 SPURIOUSLY	EVENT OCCURS WITH RCS DRAINED OPENED	4.44E-03 4.20E-01 3.17E-04 3.17E-04
192	1.87E-10	.02		LOSS OF OFFSITE FAILURE TO FIXED LOSS OF DIST.	POWER INITIATING RECOVER AC POWER IN 1 HOUR COMPONENTS FAILURE PANEL OR BREAKER A07 SPURIOUSLY	EVENT OCCURS WITH RCS DRAINED OPENED	4.44E-03 4.20E-01 3.17E-04 3.17E-04
193	1.83E-10	.02		LOSS OF OFFSITE FAILURE TO PUMP 01B FAILS & D/G FAILS TO LOSS OF DIST.	POWER INITIATING RECOVER AC POWER IN 1 HOUR ST CK V007B & C B FTC & RE FTC & CB RCS221 SPO START & RUN OR PANEL OR BREAKER A07 SPURIOUSLY	EVENT OCCURS WITH RCS DRAINED OPENED	4.44E-03 4.20E-01 1.53E-02 2.02E-02 3.17E-04
194	1.81E-10	.02		LOSS OF OFFSITE FAILURE 1J PUMP 01B FAILS & BREAKER 100 FAILURE OF INV.,	POWER INITIATING RECOVER AC POWER IN 1 HOUR ST CK V007B & C B FTC & RE FTC & CB RCS221 SPO FAILS TO OPEN STATIC SWITCH AND ASSOC.	EVENT OCCURS WITH RCS DRAINED OPENED	4.44E-03 4.20E-01 1.53E-02 1.23E-02 5.16E-04
195	1.81E-10	.02		LOSS OF OFFSITE SOFTWARE CCF FAILURE OF	POWER INITIATING AC POWER OF ALL CARDS MANUAL DAS	EVENT OCCURS RECOVERED IN ACTUATION	1.71E-02 7.60E-01 1.20E-06 1.16E-02
196	1.79E-10	.02		LOSS OF OFFSITE FAILURE TO COMMON CAUSE FAILURE OF	POWER INITIATING RECOVER AC POWER IN 1 HOUR FAILURE MIMIC BUS	EVENT OCCURS WITH RCS DRAINED 4KV BREAKERS TO OPEN SELECTOR BOARD	4.44E-03 4.20E-01 1.20E-03 8.00E-05
197	1.77E-10	.02		LOSS OF OFFSITE FAILURE TO PUMP MP 01B BREAKER 100 LOSS OF DIST.	POWER INITIATING RECOVER AC POWER IN 1 HOUR SEGMENT HARDWARE FAILURE OR FAILS TO OPEN PANEL OR BREAKER A07 SPURIOUSLY	EVENT OCCURS WITH RCS DRAINED DIVERTED FLOW (*3.5)	4.44E-03 4.20E-01 2.44E-02 1.23E-02 3.17E-04
198	1.77E-10	.02		LOSS OF OFFSITE FAILURE TO FIXED BUS UNAVAILABLE	POWER INITIATING RECOVER AC POWER IN 1 HOUR COMPONENTS FAILURE DUE TO TEST OR CORRECTIVE	EVENT OCCURS WITH RCS DRAINED MAINTENANCE	4.44E-03 4.20E-01 3.17E-04 3.00E-04

Table 54B-13

CASE 3 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PROB	PERCENT	BASIC EVENT NAME	INITIATING EVENT OCCURS	EVENT PROB.	IDENTIFIER
199	1.77E-10	.02	LOSS OF SITE FAILURE TO RECOVER AC POWER IN 1 HOUR	YR-TH RCS DRAINED	4.48E-03	TEV-LOSPD
			FIXED COMPONENTS FAILURE		4.20E-01	OTRN-R1
			BUS UNAVAILABLE DUE TO TEST OR CORRECTIVE MAINTENANCE		3.17E-04	ED1M00113
					3.00E-06	TDRBDS17W
200	1.75E-10	.02	LOSS OF OFFSITE FAILURE TO RECOVER AC POWER IN 1 HOUR CCF TO START OF ENGINE-DRIVEN FUEL PUMPS COMMON CAUSE FAILURE OF THE BATTERIES	WITH RCS DRAINED TOSA-DB-1A/1B	4.44E-03 2.00E-03 4.70E-05	TEV-LCSPD OTRN-R1 ZDR-PD-B5 CCM-BY-BW

Table 54B-14

BASIC EVENT IMPORTANCE - CASE 3

BASIC EVENT	IMPORTANCE (%DECREASE)	NUMBER OF CUTSETS	DECREASE IN SYSTEM UNAVAILABILITY	BASIC EVENT PROBABILITY
1 IEV-CCWD	75.02	272	8.6082E-07	6.0200E-04
2 IWACV122AO	72.21	74	8.2855E-07	1.0000E+00
3 IWACV124AO	72.21	74	8.2855E-07	1.0000E+00
4 IDCBSDD1TM	17.95	30	2.0600E-07	3.0000E-04
5 IDCBSDK1TM	17.95	30	2.0600E-07	3.0000E-04
6 IDCBSDS1TM	17.95	30	2.0600E-07	3.0000E-04
7 IWB-PLUG	15.08	131	1.7308E-07	2.4000E-04
8 IEV-LOSPD	12.41	1474	1.4243E-07	4.4400E-03
9 OTH-R1	12.07	1331	1.3854E-07	4.2000E-01
10 IEV-RNSD	9.75	183	1.1185E-07	8.1500E-05
11 PMAMOD11	4.04	76	4.6407E-08	2.0900E-03
12 IRAEP121BSAX	3.07	13	3.5188E-08	5.8300E-05
13 CCX-PMAMOD1X	2.84	7	3.2563E-08	4.6300E-05
14 ADX-EV-SA	2.47	290	2.8339E-08	3.8000E-05
15 IWX-MV-GO1	2.47	266	2.8329E-08	3.8000E-05
16 ED1MOD03	2.26	33	2.5963E-08	2.2020E-03
17 PMA0301ASA	2.19	55	2.5161E-08	1.1600E-03
18 PL50301BSA	2.19	55	2.5161E-08	1.1600E-03
19 Z01MOD01	2.14	299	2.4502E-08	2.0200E-02
20 IWX-CV-AO	2.05	74	2.3521E-08	3.1000E-05
21 ZOX-PD-ES	1.98	27	2.2663E-08	2.0000E-03
22 IEV-RCSOD	1.69	118	1.9415E-08	4.4400E-06
23 EC1CB100VO	1.21	228	1.3839E-08	1.2300E-02
24 IDAMOD05	1.19	58	1.3613E-08	5.1600E-05
25 ECX-CB-GO	1.18	25	1.3582E-08	1.2000E-03
26 RHN-MAN04	1.10	66	1.2565E-08	5.5000E-02
27 IWN-MAN00C	1.06	1	1.2200E-08	5.0000E-02
28 CCX-PMA030X	.84	5	9.6473E-09	1.3800E-05
29 SWBMOD02	.81	70	9.2672E-09	2.4400E-02
30 IWX-FI-GP	.80	168	9.1450E-09	1.2000E-05
31 IDAMOD04	.72	56	8.3174E-09	5.1700E-04
32 ECX-CB-GC	.72	27	8.2327E-09	7.3000E-04
33 Z02MOD01	.70	112	8.0594E-09	2.0200E-02
34 CCX-PMAMOD1-SW	.68	8	7.8190E-09	1.1000E-05
35 IDABSDE1TM	.66	47	7.5921E-09	3.0000E-04
36 RHN-MAN04-SUCC	.62	90	7.0899E-09	9.4500E-01
37 CCX-SFTW	.59	26	6.7434E-09	1.2000E-06
38 RNBMOD07S	.52	84	5.9525E-09	1.5300E-02
39 IEV-LOCA24D	.46	103	5.2277E-09	1.1300E-05
40 IWN-MAN00	.45	26	5.2042E-09	1.1500E-03
41 ZOX-DG-DR	.43	20	4.9531E-09	4.4000E-04
42 CCX-PMAMOD1	.43	35	4.9302E-09	1.4100E-04
43 IEV-LOCA24ND	.42	121	4.8750E-09	1.6800E-05
44 EC2CB200VO	.41	92	4.6662E-09	1.2300E-02
45 PMAMOD11X	.38	38	4.3758E-09	6.5300E-04
46 EC1BS001TM	.38	49	4.3112E-09	2.7000E-03
47 EC1BS012TM	.38	49	4.3112E-09	2.7000E-03
48 EC1BS121TM	.38	49	4.3112E-09	2.7000E-03
49 SUC-R1S	.34	143	3.8963E-09	15.8000E-01
50 CCBMOD01S	.33	47	3.7410E-09	1.0400E-02
51 ED1MOD11	.31	23	3.5515E-09	3.1700E-04
52 ED1MOD13	.31	23	3.5515E-09	3.1700E-04
53 ZOX-DG-DS	.27	18	3.1544E-09	2.8000E-04
54 PL5MOD11	.27	38	3.1316E-09	2.0900E-03
55 CCX-PMA030	.27	25	3.1019E-09	9.6900E-05
56 Z01DG001TM	.25	63	2.9120E-09	4.6000E-02
57 IWBCV122AO	.25	66	2.8633E-09	1.7500E-03
58 IWBCV124AO	.25	66	2.8633E-09	1.7500E-03
59 CCX-ORY-SPX	.24	112	2.7053E-09	3.6300E-06
60 CCX-EP-SAMX	.18	5	2.0562E-09	2.9400E-06
61 RN23MOD5S	.18	105	2.0409E-09	1.0000E+00
62 CCX-XMTRX	.17	97	1.9519E-09	6.3000E-06
63 IEV-CCWNL	.14	69	1.6427E-09	3.7500E-03
64 PL50301ASA	.13	29	1.5447E-09	1.1600E-03
65 PL50301BSA	.13	29	1.5447E-09	1.1600E-03
66 EC1REDG2GA	.13	41	1.4490E-09	4.3600E-03

67	PMAXED0ASA	.12	14	3.4165E-09	8.0000E-05
68	CCX-EP-SAM	.12	174	3.3938E-09	8.6200E-06
69	ZOX-PD-ER	.12	14	3.3874E-09	3.3000E-06
70	RNX-PM-FS	.11	36	3.2662E-09	7.7000E-06
71	PMA0301ASAX	.09	27	3.0845E-09	1.6500E-04
72	CCX-BY-PN	.09	124	3.0635E-09	4.7000E-05
73	PMA0301BSAX	.09	23	3.0568E-09	1.6500E-04
74	REC-MANDASC	.09	46	3.0312E-09	5.0600E-01
75	RNX-KV-GO	.08	34	9.7328E-10	6.1000E-06
76	LPM-MANDS	.08	37	9.7191E-10	6.8300E-04
77	IWBVCV123AO	.08	66	9.5048E-10	5.8000E-04
78	IWBVCV125AO	.08	66	9.5048E-10	5.8000E-04
79	REC-MANDAS	.07	34	8.5595E-10	1.1600E-02
80	ED2MOD03	.07	60	8.1990E-10	2.7000E-03
81	MDAS	.07	77	7.5768E-10	1.0000E-02
82	Z01MOD04	.07	73	7.5490E-10	1.2500E-03
83	RNAMOD06S	.06	76	6.7731E-10	1.5300E-02
84	ED3MOD03	.06	27	6.5241E-10	2.2020E-03
85	PMAMOD12X	.06	20	6.3719E-10	6.5300E-04
86	PL4MOD11	.05	37	6.1641E-10	2.0900E-03
87	PL1MOD11	.05	30	6.1447E-10	2.0900E-03
88	PL7MOD11	.05	30	6.1447E-10	2.0900E-03
89	PMAXSD0ASA	.05	29	5.8334E-10	8.0000E-05
90	EL-MOD01	.05	16	5.8070E-10	5.0400E-04
91	ZOX-BL-BS	.05	11	5.6846E-10	6.0000E-05
92	ZWBMOD09P	.05	25	5.6798E-10	1.8500E-03
93	CCX-BY-PN1	.05	12	5.4129E-10	5.7000E-05
94	IWACV123AO	.04	74	4.8084E-10	5.8000E-04
95	IWACV125AO	.04	74	4.8084E-10	5.8000E-04
96	IEV-LOSPND	.04	40	4.7027E-10	1.7100E-02
97	CCX-ORY-SP	.04	18	4.6569E-10	2.7700E-04
98	IEV-RNSND	.04	46	4.2095E-10	9.6100E-04
99	CCX-IV-XR	.03	28	3.8170E-10	2.4000E-05
100	SUC-R2S	.03	9	3.4566E-10	7.6000E-01
101	CCX-XMTR195	.03	16	3.3742E-10	2.0100E-04
102	IDAMOD08	.03	18	3.0927E-10	3.1700E-04
103	Z02MOD04	.03	39	2.8719E-10	1.2500E-03
104	ED1MOD13	.02	12	2.7682E-10	3.1700E-04
105	ED1MOD07	.02	12	2.6622E-10	3.0500E-04
106	IDBBSDD1TM	.02	43	2.5983E-10	3.0000E-04
107	IDBBSDK1TM	.02	43	2.5983E-10	3.0000E-04
108	IDBBSDS1TM	.02	43	2.5983E-10	3.0000E-04
109	PL40301ASA	.02	25	2.5694E-10	1.1600E-03
110	PL40301BSA	.02	22	2.5658E-10	1.1600E-03
111	PL10301ASA	.02	21	2.5620E-10	1.1600E-03
112	PL70301ASA	.02	21	2.5620E-10	1.1600E-03
113	PL10301BSA	.02	20	2.5610E-10	1.1600E-03
114	PL70301BSA	.02	20	2.5610E-10	1.1600E-03
115	IEV-LOCAPRND	.02	59	2.4654E-10	1.5100E-05
116	CCX-PMAMOD4	.02	8	2.3433E-10	4.9800E-05
117	IWA-PLUG	.02	58	2.0864E-10	2.4000E-04
118	CCX-INPUT-LOGIC	.02	28	1.9140E-10	1.0300E-04
119	SWAMOD07	.02	39	1.8637E-10	7.1200E-03
120	PMA0302ASA	.01	12	3.4067E-10	1.6500E-04
121	OTH-R2	.01	29	1.2447E-10	2.4000E-01
122	CCX-PL4MOD1	.01	14	1.1784E-10	1.4100E-04
123	PMA0302BSA	.01	8	1.1302E-10	1.6500E-04
124	CCAMOD02	.01	37	1.1131E-10	7.1000E-03
125	IWI0R170SPX	.01	15	9.5605E-11	9.4600E-05
126	IW20R160SPX	.01	15	9.5605E-11	9.4600E-05
127	EC5EPMB1SA	.01	8	8.7669E-11	1.7100E-04
128	PXX-AV-LA	.01	57	8.3091E-11	6.1000E-05
129	ADN-MANO1	.J1	58	7.9719E-11	4.9300E-04
130	EC1MOD12	.01	19	7.3878E-11	4.8000E-05
131	CCX-PL1MOD1	.01	8	7.2306E-11	1.4100E-04
132	CCX-PL7MOD1	.01	8	7.2306E-11	1.4100E-04
133	CCX-PMAMOD2X	.01	4	7.1120E-11	8.5800E-05
134	IDAMOD02	.01	7	7.0100E-11	2.7000E-03
135	IDAMOD03	.01	9	7.0100E-11	2.7000E-03
136	IW1TL170UFX	.01	15	6.9194E-11	6.8400E-05
137	IW2TL160UFX	.01	15	6.9194E-11	6.8400E-05
138	IDAMOD06	.01	16	6.4567E-11	4.3200E-05
139	CCX-PL403	.00	12	4.9853E-11	9.6900E-05
140	CCX-PMAMOD4-SW	.00	2	4.8890E-11	1.1000E-05
141	IRAEF121ASAX	.00	16	4.7810E-11	5.8300E-05
142	EC1REDG1GA	.00	37	4.7551E-11	4.3600E-03
143	ED3MOD01	.00	10	4.3471E-11	5.0400E-04
144	DG1-LOGIC	.00	1	4.0700E-11	5.0000E-03
145	PMAMOD41	.00	8	2.7705E-11	6.3500E-04
146	IDABSDS1LP	.00	6	2.6580E-11	4.8000E-06
147	CCX-LS-FA	.00	17	2.5411E-11	5.3700E-06

148	ED3MOD07	.00	26	2.4788E-11	3.0500E-04
149	EC1MOD121	.00	9	2.3810E-11	1.6800E-05
150	RNX-CV-GO	.00	11	2.2157E-11	5.1000E-05
151	CCX-INPUT-LOGICK	.00	3	2.1106E-11	2.5900E-05
152	CCX-PL103	.00	6	1.8601E-11	9.6900E-05
153	CCX-PL703	.00	6	1.8601E-11	9.6900E-05
154	CCX-PMAEH0X	.00	2	1.7886E-11	4.0300E-06
155	PL5X500ASA	.00	6	1.5354E-11	8.0000E-05
156	IDAMOD07	.00	9	1.4557E-11	2.1900E-02
157	Z02DG002TM	.00	41	1.3988E-11	4.6000E-02
158	SWAMOD08P	.00	22	1.3491E-11	1.8500E-03
159	PMAMOD21X	.00	7	1.1042E-11	1.1600E-03
160	CCX-IN-LOGIC-SW	.00	2	8.6500E-12	1.1000E-05
161	CCX-PMAMOD2-SW	.00	2	8.6500E-12	1.1000E-05
162	IDBFD013RQ	.00	7	8.5197E-12	1.2000E-05
163	IDBFD014RQ	.00	7	8.5197E-12	1.2000E-05
164	IDCFD007RQ	.00	4	8.2401E-12	1.2000E-05
165	IDCFD008RQ	.00	4	8.2401E-12	1.2000E-05
166	ALL-IND-FAIL	.00	18	7.2730E-12	1.0000E-06
167	RNX-PM-ER	.00	10	6.8751E-12	1.6000E-05
168	RHN-MAN03	.00	36	6.6279E-12	2.2600E-03
169	AD2MOD01	.00	21	6.3662E-12	5.5400E-02
170	AD2MOD02	.00	21	6.3662E-12	5.5400E-02
171	AD3MOD03	.00	21	6.3662E-12	5.5400E-02
172	AD3MOD04	.00	21	6.3662E-12	5.5400E-02
173	CCX-PM-ER	.00	10	6.0156E-12	1.4000E-05
174	SWX-PM-ER	.00	10	6.0156E-12	1.4000E-05
175	ED2MOD11	.00	20	5.3288E-12	3.1700E-04
176	EC1BS001LF	.00	4	5.1631E-12	4.8000E-06
177	ZANMOD01	.00	6	4.8270E-12	8.4000E-05
178	CCX-IV-XR1	.00	6	4.6030E-12	2.4000E-05
179	CCX-PL4MOD1-SW	.00	8	4.5841E-12	1.1000E-05
180	CCX-EP-SA	.00	8	3.5885E-12	8.6200E-06
181	PL4MOD12	.00	16	3.4699E-12	2.0900E-03
182	IDBBSDD1LF	.00	7	3.4067E-12	4.8000E-06
183	IDBBSDK1LF	.00	7	3.4067E-12	4.8000E-06
184	IDBBSDS1LF	.00	7	3.4067E-12	4.8000E-06
185	IDCBSDD1LF	.00	4	3.2949E-12	4.8000E-06
186	IDCBSDK1LF	.00	4	3.2949E-12	4.8000E-06
187	IDCBSDS1LF	.00	4	3.2949E-12	4.8000E-06
188	EC1MOD01	.00	16	3.2830E-12	2.0200E-04
189	PMALH0A1SAX	.00	3	2.7182E-12	8.0000E-05
190	PMAMOD42	.00	2	2.5550E-12	6.3500E-04
191	EC2MOD01	.00	14	2.5059E-12	2.0200E-04
192	CCX-PL1MOD1-SW	.00	4	1.9811E-12	1.1000E-05
193	CCX-PL7MOD1-SW	.00	4	1.9811E-12	1.1000E-05
194	RNAEPRNPSA	.00	9	1.7508E-12	1.7100E-04
195	RNBEPRNPSA	.00	9	1.7508E-12	1.7100E-04
196	ZON-MAN01	.00	7	1.7244E-12	2.6700E-03
197	SWNTP001RI	.00	5	1.5824E-12	5.2300E-03
198	SWB-MAN02	.00	4	1.5079E-12	1.6000E-03
199	SW7EPSBPASA	.00	7	1.4733E-12	1.7100E-04
200	CCB-MAN01	.00	6	1.4190E-12	1.0700E-03
201	PL1MOD12	.00	7	1.4055E-12	2.0900E-03
202	PL7MOD12	.00	7	1.4055E-12	2.0900E-03
203	PL40302/SA	.00	7	1.1774E-12	1.1600E-03
204	CCNTF101RI	.00	5	1.0836E-12	5.2300E-03
205	CC1EPSBPASA	.00	6	1.0401E-12	1.7100E-04
206	Z01MOD03	.00	8	1.0089E-12	1.0000E-04
207	PMAMOD22X	.00	1	9.3203E-13	1.1600E-03
208	SW7EPSBPBSA	.00	5	8.7430E-13	1.7100E-04
209	CC1EPSBPBSA	.00	5	8.7408E-13	1.7100E-04
210	PL40302BSA	.00	4	8.1801E-13	1.1600E-03
211	SW7EPCTFASA	.00	4	7.8804E-13	1.7100E-04
212	SW7EPCTFBEA	.00	4	7.8804E-13	1.7100E-04
213	ED1BSDS1LF	.00	3	7.8693E-13	4.8000E-06
214	ADX-MV-GO	.00	4	7.4873E-13	1.1000E-03
215	DAS	.00	4	7.3730E-13	1.0000E-02
216	CCX-AV-LA	.00	5	6.2306E-13	6.1000E-05
217	Z02MOD03	.00	5	5.8920E-13	1.0000E-04
218	CMX-VS-FA	.00	7	5.2991E-13	3.8400E-05
219	CMX-CV-GO	.00	4	5.2014E-13	5.1000E-05
220	ED1BSDS1TM	.00	1	4.8805E-13	3.0000E-04
221	IWNTPK001AF	.00	5	4.8728E-13	2.4000E-06
222	RC1OR195SP	.00	4	4.5386E-13	7.2200E-03
223	PL10302ASA	.00	3	4.3932E-13	1.1600E-03
224	PL70302ASA	.00	3	4.3932E-13	1.1600E-03
225	PRAAV108LA	.00	11	3.5205E-13	1.0900E-03
226	PRBAV108LA	.00	11	3.5205E-13	1.0900E-03
227	PL10302BSA	.00	2	3.4395E-13	1.1600E-03
228	PL70302BSA	.00	2	3.4395E-13	1.1600E-03

229	PL1MOD51	.00	2	3.2996E-13	8.7400E-04
230	RC1TL195UF	.00	3	3.2829E-13	5.2300E-03
231	CCX-HE-AF	.00	3	3.1908E-13	1.2000E-06
232	PL1XS00ASA	.00	3	2.9976E-13	8.0000E-05
233	PL4XS00ASA	.00	3	2.9976E-13	8.0000E-05
234	PL7XS00ASA	.00	3	2.9976E-13	8.0000E-05
235	CCX-BC-SA	.00	3	2.8300E-13	8.4000E-06
236	PLM0D41	.00	2	2.4203E-13	6.3500E-04
237	EC2BS002TM	.00	10	2.3037E-13	2.7000E-03
238	EC2BS022TM	.00	10	2.3037E-13	2.7000E-03
239	EC2BS221TM	.00	10	2.3037E-13	2.7000E-03
240	PRN-MANO1	.00	4	1.3641E-13	4.0800E-04
241	PRAAV108TM	.00	9	1.6143E-13	5.0000E-04
242	PRBAV108TM	.00	9	1.6143E-13	5.0000E-04
243	EC2MOD22	.00	2	1.5377E-13	4.8000E-05
244	CCX-TRNSM	.00	2	1.4899E-13	2.0100E-04
245	EC1MOD13	.00	2	1.4067E-13	4.8000E-05
246	EC2MOD23	.00	2	1.4067E-13	4.8000E-05
247	CCX-XMTR	.00	2	1.3822E-13	2.0100E-04
248	ZOX-BL-ER	.00	2	9.6367E-14	1.3600E-06
249	ED2MOD01	.00	2	9.5368E-14	5.0400E-04
250	ZOX-FL-GP	.00	2	9.2149E-14	1.3000E-06
251	IDABSDD1TM	.00	2	3.1641E-14	3.0000E-04
252	IDABSDK1TM	.00	2	3.1641E-14	3.0000E-04
253	IDDBSDD1TM	.00	2	3.1641E-14	3.0000E-04
254	IDDBSDK1TM	.00	2	3.1641E-14	3.0000E-04
255	IDOBSDS1TM	.00	2	3.1641E-14	3.0000E-04
256	PRX-HR-ML	.00	4	2.4314E-14	1.2000E-07
257	IWX-XMTRLW	.00	2	1.3323E-15	9.2000E-09
258	PRCEP10RSA	.00	2	2.2204E-16	1.7100E-04
259	PRDEP10RSA	.00	2	2.2204E-16	1.7100E-04

SYSTEM UNAVAILABILITY (Q) = 1.147E-06
 NUMBER OF BASIC EVENTS = 259
 NUMBER OF CUTSETS = 2486

BASIC EVENT	IMPORTANCE (INCREASE)	NUMBER OF CUTSETS	INCREASE IN SYSTEM UNAVAILABILITY	BASIC EVENT PROBABILITY
1 CCX-SFTW	489761.	26	5.6195E-03	1.2000E-06
2 IEV-RCSOD	381099.	118	4.3727E-03	4.4400E-06
3 IEV-CCWD	124549.	272	1.4291E-03	6.0200E-04
4 IEV-RNSD	119599.	183	3.3723E-03	8.1500E-05
5 IWX-FL-GP	66417.4	168	7.6208E-04	1.2000E-05
6 IWX-CV-AO	66124.4	74	7.5871E-04	3.1000E-05
7 ADX-EV-SA	64993.9	290	7.4574E-04	3.8000E-05
8 IWX-MV-GO1	64969.5	266	7.4546E-04	3.8000E-05
9 CCX-ORY-SFX	64951.0	112	7.4525E-04	3.6300E-06
10 CCX-XMTRX	64683.8	97	7.4218E-04	2.6300E-06
11 IWB-PLUG	62836.6	131	7.2099E-04	2.4000E-04
12 CCX-PMAMOD1-SW	61949.4	8	7.1081E-04	1.1000E-05
13 CCX-PMAMOD1X	61292.1	7	7.0327E-04	4.6300E-05
14 CCX-EP-SAMX	60954.4	5	6.9939E-04	2.9400E-06
15 CCX-PMA030X	60926.1	5	6.9907E-04	3.3800E-05
16 IDCBSDD1TM	59825.9	30	6.8644E-04	3.0000E-04
17 IDCBSDK1TM	59825.9	30	6.8644E-04	3.0000E-04
18 IDCBSDS1TM	59825.9	30	6.8644E-04	3.0000E-04
19 IRAEP121BSAX	52670.2	13	6.0354E-04	5.8300E-05
20 IEV-LOCA24D	40339.0	103	4.6282E-04	1.1300E-05
21 IEV-LOCA24ND	25289.8	121	2.9018E-04	1.6800E-05
22 CCX-EP-SAM	14073.9	174	1.6146E-04	8.6200E-06
23 CCX-PMAMOD1	3046.97	35	3.4961E-05	3.4100E-04
24 CCX-PMA030	2789.63	25	3.2008E-05	9.6900E-05
25 IEV-LOSPD	2783.45	1474	3.1937E-05	4.4400E-03
26 IDAMOD05	2298.15	58	2.6369E-05	5.1600E-04
27 IDAMOD04	2285.98	56	2.6229E-05	3.1700E-04
28 IDABSDS1TM	2204.93	47	2.5299E-05	3.0000E-04
29 CCX-BY-PN	1971.90	124	2.2626E-05	4.7000E-05
30 PMA MOD11	1931.12	76	2.2158E-05	2.0900E-03
31 PMA0301ASA	1888.20	55	2.1665E-05	1.1600E-03
32 PMA0301BSA	1888.20	55	2.1665E-05	1.1600E-03
33 PMAX800ASA	1543.04	14	1.7705E-05	8.0000E-05
34 IEV-LOCAPRND	1422.93	59	1.6327E-05	1.5100E-05
35 CCX-IV-XR	1386.06	28	1.5904E-05	2.4000E-05
36 EDIMOD03	1025.34	33	1.1765E-05	2.2020E-03
37 ZOX-PD-ES	985.595	27	1.1309E-05	2.0000E-03
38 ECX-CB-GO	985.214	25	1.1304E-05	1.2000E-03
39 ECK-CB-GC	982.170	27	1.1269E-05	7.3000E-04
40 ZOX-DG-DS	981.571	18	1.1263E-05	2.8000E-04
41 ZOX-DG-DR	980.654	20	1.1252E-05	4.4000E-04
42 EDIMOD11	976.122	23	1.1200E-05	3.1700E-04
43 EDIMOD113	976.122	23	1.1200E-05	3.1700E-04
44 ZOX-PD-ER	929.978	14	1.0671E-05	1.3000E-04
45 CCX-BY-PN1	827.592	12	9.4958E-06	5.7000E-05
46 ZOX-BL-ES	825.677	11	9.4738E-06	6.0000E-05
47 PMAX800ASAX	635.447	29	7.2911E-06	8.0000E-05
48 ALL-IND-FAIL	633.862	18	7.2730E-06	1.0000E-06
49 PMAMOD11X	583.638	38	6.6967E-06	6.5300E-04
50 PMA0301ASAX	572.718	27	6.5714E-06	1.6500E-04
51 PMA0301BSAX	558.115	23	6.4038E-06	1.6500E-04
52 IDABSDS1LF	482.611	6	5.5375E-06	4.8000E-06
53 CCX-LS-FA	412.403	17	4.7319E-06	5.3700E-06
54 CCX-PMAMOD4	410.066	8	4.7051E-06	4.9800E-05
55 IWN-MAN00	393.951	26	4.5202E-06	1.1500E-03
56 CCX-PMAMOD4-SW	387.353	2	4.4445E-06	1.1000E-05
57 CCX-PMAEHDX	386.761	2	4.4377E-06	4.0300E-06
58 CCX-INPUT-LOGIC	161.938	28	1.8581E-06	1.0300E-04
59 CCX-ORY-SP	146.482	18	1.6807E-06	2.7700E-04
60 CCX-XMTR195	146.277	16	1.6784E-06	2.0100E-04
61 RNX-PM-FS	143.207	36	1.6432E-06	7.7000E-04
62 IWBCV123AO	142.741	66	1.6378E-06	5.8000E-04
63 IWBCV125AO	142.741	66	1.6378E-06	5.8000E-04
64 IWBCV122AO	142.347	66	1.6333E-06	1.7500E-03
65 IWBCV124AO	142.347	66	1.6333E-06	1.7500E-03
66 RNX-MV-GO	138.972	34	1.5946E-06	6.1000E-04
67 EC1BS001TM	138.786	49	1.5924E-06	2.7000E-03
68 EC1BS012TM	138.786	49	1.5924E-06	2.7000E-03
69 EC1BS121TM	138.786	49	1.5924E-06	2.7000E-03
70 EC1MOD12	134.134	19	1.5391E-06	4.8000E-05
71 PL5MOD11	130.314	38	1.4952E-06	2.0900E-03
72 IDAMOD06	130.254	16	1.4945E-06	4.3200E-05

73	LPM-MAN05	123.935	37	1.4220E-06	6.8300E-06
74	EC1MOD121	123.517	9	1.4172E-06	1.6800E-05
75	PXX-AV-LA	118.708	57	1.3621E-06	6.1000E-05
76	PL5C301ASA	115.921	29	1.3301E-06	1.1600E-03
77	PL5D301BSA	115.923	29	1.3301E-06	1.1600E-03
78	ZO1MOD01	103.580	299	1.1885E-06	2.0200E-02
79	ED1MOD01	100.365	16	1.1516E-06	5.0400E-04
80	EC1CB100VO	96.8490	228	1.1112E-06	1.2300E-02
81	EC1BS001LF	93.7456	4	1.0756E-06	4.8000E-06
82	IW1TL17DUFX	88.1593	15	1.0115E-06	6.8400E-05
83	IW2TL16DUFX	88.1593	15	1.0115E-06	6.8400E-05
84	IW1OR17DSFX	88.0713	15	1.0105E-06	9.4600E-05
85	IW2OR16DSFX	88.0713	15	1.0105E-06	9.4600E-05
86	ZDAMOD0B	85.0001	18	9.7519E-07	3.1700E-04
87	PMAMOD12X	84.9877	20	9.7515E-07	6.5300E-04
88	ED1MOD13	76.0838	12	8.7299E-07	3.1700E-04
89	ED1MOD07	76.0488	12	8.7259E-07	1.0500E-04
90	IWA-PLUG	75.7472	58	8.6913E-07	2.4000E-04
91	IDBBSSDD1TM	75.4599	43	8.6583E-07	3.0000E-04
92	IDBBSSDK1TM	75.4599	43	8.6583E-07	3.0000E-04
93	IDBBSSDS1TM	75.4599	43	8.6583E-07	3.0000E-04
94	PMA0301ASAX	74.2921	12	8.5243E-07	1.6500E-04
95	CCX-PL4MOD1	72.8283	14	8.3563E-07	4.4100E-04
96	CCX-PMAMOD2X	72.2357	4	8.2883E-07	8.5600E-05
97	IWACV123AO	72.2116	74	8.2856E-07	5.8000E-04
98	IWACV125AO	72.2116	74	8.2856E-07	5.8000E-04
99	IRAEPI21ASAX	71.4680	16	8.2003E-07	5.8300E-05
100	CCX-INPUT-LOGICX	71.0198	3	8.1488E-07	2.5900E-05
101	CCX-IN-LOGIC-SW	68.5332	2	7.8635E-07	1.1000E-05
102	CCX-PMAMOD2-SW	68.5332	2	7.8635E-07	1.1000E-05
103	IDBFD013RQ	61.8763	7	7.0997E-07	1.2000E-05
104	IDBFD014RQ	61.8763	7	7.0997E-07	1.2000E-05
105	IDBBSSDD1LF	61.8553	7	7.0973E-07	4.8000E-06
106	IDBBEDK1LF	61.8553	7	7.0973E-07	4.8000E-06
107	IDBBEDS1LF	61.8553	7	7.0973E-07	4.8000E-06
108	IDCFD007RQ	59.8451	4	6.8666E-07	1.2000E-05
109	IDCFD008RQ	59.8451	4	6.8666E-07	1.2000E-05
110	IDCBSDD1LF	59.8254	4	6.8644E-07	4.8000E-06
111	IDCBSDK1LF	79.8254	4	6.8644E-07	4.8000E-06
112	IDCBSDS1LF	59.8254	4	6.8644E-07	4.8000E-06
113	PMA0302BSAX	59.6897	8	6.8488E-07	1.6500E-04
114	ZO1MOD04	52.5681	73	6.0317E-07	1.2500E-03
115	CCX-PL403	44.8342	12	5.1443E-07	9.6900E-05
116	CCX-PL1MOD1	44.6867	8	5.1274E-07	1.4100E-04
117	CCX-PL7MOD1	44.6867	8	5.1274E-07	1.4100E-04
118	EC5EPMB1SA	44.6745	8	5.1260E-07	1.7100E-04
119	IEV-RNSND	38.1395	46	4.3761E-07	9.6100E-04
120	IEV-CCWND	38.0352	69	4.3642E-07	3.7500E-03
121	RNX-CV-GO	37.8617	11	4.3443E-07	5.1000E-05
122	RNX-PM-ER	37.4484	10	4.2968E-07	1.6000E-05
123	CCX-PM-ER	37.4482	10	4.2968E-07	1.4000E-05
124	SWX-PM-ER	37.4482	10	4.2968E-07	1.4000E-05
125	CCX-PL4MOD1-SW	36.3197	8	4.1673E-07	1.1000E-05
126	CCX-EP-SA	36.2812	8	4.1629E-07	8.6200E-06
127	ZO2MOD01	34.0699	112	3.9092E-07	2.0200E-02
128	RNBMOD07S	33.3885	84	3.8310E-07	3.5300E-02
129	EC2CB200VO	32.6564	92	3.7470E-07	1.2300E-02
130	SWBMOD02	31.2935	70	3.7054E-07	2.4400E-02
131	CCBMOD01S	31.0243	47	3.5597E-07	1.0400E-02
132	EC1REDG2GA	28.8373	41	3.3088E-07	4.3600E-03
133	ED2MOD03	26.3940	60	3.0285E-07	2.7000E-03
134	ED3MOD03	25.7650	27	2.9563E-07	2.2020E-03
135	FL4MOD11	25.6507	37	2.9432E-07	2.0900E-03
136	PL1MOD11	25.5701	30	2.9339E-07	2.0900E-03
137	FL7MOD11	25.5701	30	2.9339E-07	2.0900E-03
138	SWBMOD09P	25.5470	25	2.9313E-07	1.8500E-03
139	CCX-HE-AF	23.1739	3	2.6590E-07	1.2000E-06
140	IWN-MAN00C	20.2222	1	2.3180E-07	5.0000E-02
141	ZO2MOD04	19.9990	39	2.2947E-07	2.2500E-03
142	PL40301ASA	19.2819	25	2.2124E-07	1.1600E-03
143	PL40301BSA	19.2549	22	2.2093E-07	1.1600E-03
144	PL10301ASA	19.2265	21	2.2061E-07	1.1600E-03
145	PL10301BSA	19.2265	21	2.2061E-07	1.1600E-03
146	PL10301BSA	19.2193	20	2.2052E-07	1.1600E-03
147	PL70301BSA	19.2193	20	2.2052E-07	1.1600E-03
148	RHN-MAN04	18.8160	66	2.1589E-07	5.5000E-02
149	IWNTK001AF	17.6949	5	2.0303E-07	2.4000E-06
150	PRX-HR-ML	17.6586	4	2.0262E-07	1.2000E-07
151	CCX-PL103	16.7283	6	1.9194E-07	9.6900E-05
152	CCX-PL703	16.7283	6	1.9194E-07	9.6900E-05
153	PL5XB00ASA	16.7256	6	1.9191E-07	8.0000E-05

154	CCX-IV-XR1	16.7148	6	3.9179E-07	2.4000E-05
155	OTH-R1	16.6737	1331	1.9131E-07	4.2000E-01
156	CCX-PL1MOD1-SW	15.6960	4	1.8010E-07	1.1000E-05
157	CCX-PL7MOD1-SW	15.6960	4	1.8010E-07	1.1000E-05
158	ED1BSDB1LF	14.2881	3	1.6394E-07	1.8000E-06
159	ADN-MAN01	14.0859	58	1.6162E-07	4.9300E-04
160	IWX-XMTRLW	12.6208	2	1.4481E-07	9.2000E-09
161	ED3MOD01	7.51329	10	8.6208E-08	5.0400E-04
162	ED3MOD07	7.08106	26	8.1248E-08	3.0500E-04
163	MDAS	6.53738	77	7.5010E-08	1.0000E-02
164	REC-MANDAB	6.35634	34	7.2933E-08	1.1600E-02
165	ZOX-FL-OF	6.17773	1	7.0863E-08	1.3000E-06
166	ZOX-BL-ER	6.17554	1	7.0858E-08	1.3600E-06
167	Z01DG001TM	5.26338	63	6.0392E-08	4.6000E-02
168	ZANMOD01	5.00781	6	5.7460E-08	8.4000E-05
169	PMA MOD41	3.80010	8	4.3602E-08	6.3500E-04
170	RNA MOD068	3.79916	76	4.3592E-08	1.9300E-02
171	PMAEH0A1SAK	2.96097	33	3.3974E-08	8.0000E-05
172	CCX-BC-SA	2.93617	8	3.3690E-08	8.4000E-06
173	IEV-LOSPND	2.35582	40	2.7031E-08	1.7100E-02
174	SWAMOD07	2.26510	39	2.5990E-08	7.1200E-03
175	IDAMOD02	2.25665	7	2.5893E-08	2.7000E-03
176	IDAMOD03	2.25665	9	2.5893E-08	2.7000E-03
177	ED2MOD11	1.46461	20	1.6805E-08	3.1700E-04
178	EC1MOD01	1.41619	16	1.6249E-08	2.0200E-04
179	CCAMOD02	1.35670	37	1.5567E-08	7.1000E-03
180	CMX-VS-FA	1.20265	7	1.3799E-08	3.8400E-05
181	EC2MOD01	1.08095	14	1.2403E-08	2.0200E-04
182	EC1REDG1GA	.946364	37	1.0859E-08	4.3600E-03
183	RNAEPRNPSEA	.892187	9	1.0237E-08	1.7100E-04
184	RNBEPRNPSA	.892187	9	1.0237E-08	1.7100E-04
185	CCX-AV-IA	.890135	5	1.0213E-08	6.1000E-05
186	CMX-CV-GO	.888816	4	1.0198E-08	5.1000E-05
187	Z01MOD03	.879167	8	1.0088E-08	1.0000E-04
188	PMA MOD21X	.828668	7	9.5082E-09	1.1600E-03
189	SW7EPSEBPASA	.750806	7	8.6148E-09	1.7100E-04
190	DG1-LOGIC	.705881	1	8.0993E-09	5.0000E-03
191	SWAMOD09P	.634394	22	7.2791E-09	1.8500E-03
192	CC1EPSEBPASA	.529894	6	6.0812E-09	1.7100E-04
193	Z02MOD03	.513452	55	5.8914E-09	4.0000E-04
194	SW7EPSEBPBSA	.445528	5	5.1120E-09	1.7100E-04
195	CC1EPSEBPBSA	.445434	5	5.1107E-09	1.7100E-04
196	SW7EPCTFBASA	.401569	4	4.6076E-09	1.7100E-04
197	SW7EPCTFBASA	.401569	4	4.6076E-09	1.7100E-04
198	PMA MOD42	.347703	22	3.9895E-09	6.3500E-04
199	PL1KS00ASA	.326538	33	3.7467E-09	8.0000E-05
200	PL4XS00ASA	.326538	33	3.7467E-09	8.0000E-05
201	PL7XS00ASA	.326538	33	3.7467E-09	8.0000E-05
202	EC2MOD22	.279179	33	2.2033E-09	4.8000E-05
203	EC1MOD13	.255393	20	9.9304E-09	4.8000E-05
204	EC2MOD23	.255393	20	9.9304E-09	4.8000E-05
205	RHN-MAN03	.255018	186	9.9261E-09	2.2600E-03
206	SUC-R1S	.245897	143	8.8214E-09	5.8000E-01
207	PL4MOD12	.144393	16	1.6568E-09	2.0900E-03
208	ED3BSDB1TM	.141743	1	1.6264E-09	3.0000E-04
209	CCB-MAN01	.115454	6	1.3247E-09	3.0700E-03
210	PL40302ASA	.8.835742E-02	7	1.0138E-09	3.1600E-03
211	REC-MANDASC	.8.774003E-02	46	1.0067E-09	5.0000E-01
212	SWB-MAN02	.8.200546E-02	4	9.4093E-10	1.6000E-03
213	PMA MOD22X	.6.994442E-02	1	8.0254E-10	3.1600E-03
214	CCX-TRNSM	.6.458975E-02	2	7.4110E-10	2.0100E-04
215	PL40302BSA	.6.138778E-02	4	7.0437E-10	3.1600E-03
216	CCX-XMTR	.5.992119E-02	3	6.8754E-10	2.0100E-04
217	ADX-MV-GO	.5.925722E-02	4	6.7992E-10	1.1000E-03
218	PL1MOD12	.5.848887E-02	7	6.7110E-10	2.0900E-03
219	PL7MOD12	.5.848887E-02	7	6.7110E-10	2.0900E-03
220	IDAMOD07	.5.674074E-02	9	6.5104E-10	2.1900E-02
221	ZON-MAN01	.5.613703E-02	7	6.4412E-10	2.6700E-03
222	PRN-MAN01	.5.980226E-02	4	4.5669E-10	4.0800E-04
223	RHN-MAN04-SUCC	.5.596274E-02	90	4.1264E-10	9.4500E-01
224	OTH-R2	.5.435172E-02	29	3.9415E-10	2.4000E-01
225	PLMMOD41	.5.319719E-02	2	3.8092E-10	6.3500E-04
226	PL10302ASA	.5.296844E-02	3	3.7828E-10	1.1600E-03
227	PL70302ASA	.5.296844E-02	3	3.7828E-10	1.1600E-03
228	PL1MOD51	.5.287396E-02	32	3.7720E-10	8.7400E-04
229	PRAAV10BTM	.5.812364E-02	9	3.2269E-10	5.0000E-04
230	PRAAV10BTM	.5.812364E-02	9	3.2269E-10	5.0000E-04
231	PRAAV10BLA	.5.811839E-02	11	3.2263E-10	1.0900E-03
232	PRAAV10BLA	.5.811839E-02	11	3.2263E-10	1.0900E-03
233	SWNTP001RI	.5.623141E-02	15	3.0098E-10	5.2300E-03
234	PL10302BSA	.5.581153E-02	12	3.9616E-10	1.1600E-03

235	PL70302BSA	8.581153E-02	2	8.96168E-10	3.1600E-03
236	Z02DG002TM	8.528236E-02	41	8.9009E-10	4.6000E-02
237	CCNTF101RI	1.796244E-02	5	8.0610E-10	5.2300E-03
238	ED2MOD01	1.648307E-02	3	8.89138E-10	5.0400E-04
239	SUC-R2S	9.513432E-03		8.09168E-10	7.6000E-01
240	AD2MOD01	9.460312E-03		8.08558E-10	5.5400E-02
241	AD2MOD02	9.460312E-03	6.	8.08558E-10	5.5400E-02
242	AD3MOD03	9.460312E-03	21	8.08558E-10	5.5400E-02
243	AD3MOD04	9.460312E-03	21	8.08558E-10	5.5400E-02
244	IDABSDD1TM	9.189411E-03	3	8.05448E-10	3.0000E-04
245	IDABSDK1TM	9.189411E-03	3	8.05448E-10	3.0000E-04
246	IDDBSDD1TM	9.189411E-03	3	8.05448E-10	3.0000E-04
247	IDDBSDK1TM	9.189411E-03	3	8.05448E-10	3.0000E-04
248	IDDBSDS1TM	9.189411E-03	3	8.05448E-10	3.0000E-04
249	EC2BS002TM	7.416083E-03	10	8.50928E-11	8.7000E-03
250	EC2BS022TM	7.416083E-03	10	8.50928E-11	8.7000E-03
251	EC2BS221TM	7.416083E-03	10	8.50928E-11	8.7000E-03
252	DAS	6.361553E-03	4	7.29938E-11	1.0000E-02
253	RC1TL195UF	5.442103E-03	3	6.24438E-11	5.2300E-03
254	RC1OR195SP	5.439026E-03	4	6.24088E-11	7.2200E-03
255	PRCEP10BSA	1.131499E-04	1	1.29838E-12	1.7100E-04
256	PRDEP10BSA	1.131499E-04	1	1.29838E-12	1.7100E-04
257	IWACV122AO	.000000	74	0.0000E+00	1.0000E+00
258	IWACV124AO	.000000	74	0.0000E+00	1.0000E+00
259	RN23MOD5S	.000000	105	0.0000E+00	1.0000E+00

TABLE 54B-15

CASE 4 LIST OF TOP 200 DOMINANT CUTSETS

Reduced Sum of Cutsets: 2.4180E-06

NUMBER	CUTSET	PROB.	PERCENT	BASIC EVENT NAME	EVENT	PROB.	IDENTIFIER
1	5.55E-07	22.86		OVERDRAINING OF RCS DURING DRAIN DOWN TO MID-LOOP INITIATING EVENT RHN-MAND4-SHUC OPERATOR FAILS COND. PROB. OF RHN-MAN05 (OP.)	TEV-RC50D RHN-MAN04-SHUC TBN-MAN00 RHN-MAN05C	4.44E-06 5.00E-01 5.00E-01 5.00E-01	
2	5.55E-07	22.86		OVERDRAINING OF RCS DURING DRAIN DOWN TO MID-LOOP INITIATING EVENT RCS DURING DRAIN DOWN TO MID-LOOP INITIATING EVENT OPERATOR FAILS TBN-MAND0C COND. PROB. OF RHN-MAN05 (OP.)	TEV-RC50D RHN-MAN04 TBN-MAN0C RHN-MAN05C	4.44E-06 5.00E-01 5.00E-01 5.00E-01	
3	2.60E-07	10.71		LOSS OF CCS/SWS WITH RCS FILLED COND. PROB. OF REC-MANDAS CCF OF ORIFICES OPERATOR FAILS TO RECOGNIZE THE NEED FOR RCS	TEV-CMND REC-MANDASC CCX-ORY-SP LPM-MAN05	3.75E-03 5.00E-01 2.77E-04 5.00E-01	
4	1.88E-07	7.74		LOSS OF CCS/SWS WITH RCS FILLED COND. PROB. OF REC-MANDAS CCF OF PRESSURE TRANSMITTERS OPERATOR FAILS TO RECOGNIZE THE NEED FOR RCS	TEV-CMND REC-MANDASC CCX-ORY-SP LPM-MAN05	3.75E-03 5.00E-01 2.01E-04 5.00E-01	
5	1.30E-07	5.35		LOSS OF CCS/SWS WITH RCS FILLED COND. PROB. OF CCP-MAN01 PRN-MAN01 OPERATOR FAILS TO ACTUATE ADS	TEV-CMND REC-MANDASC CCX-ORY-SP PRN-MAN01 ALN-MAN01	3.75E-03 5.00E-01 2.77E-04 5.00E-01 5.00E-01	
6	9.65E-08	3.98		LOSS OF CCS/SWS WITH RCS FILLED COND. PROB. OF REC-MANDAS COMMON MODE OPERATOR FAILS TO RECOGNIZE THE NEED FOR RCS	TEV-CMND REC-MANDASC CCX-INPUT-LOGIC LPM-MAN05	3.75E-03 5.00E-01 1.93E-04 5.00E-01	
7	9.42E-08	3.88		LOSS OF CCS/SWS WITH RCS FILLED COND. PROB. OF CCP-MAN01 PRN-MAN01 OPERATOR FAILS TO ACTUATE ADS	TEV-CMND REC-MANDASC CCX-ORY-SP PRN-MAN01	3.75E-03 5.00E-01 2.01E-04 5.00E-01 5.00E-01	
8	6.65E-08	2.74		LOSS OF RNS WITH RCS FILLED COND. PROB. OF REC-MANDAS CCF OF ORIFICES OPERATOR FAILS TO RECOGNIZE THE NEED FOR RCS	TEV-RNSND REC-MANDASC CCX-ORY-SP LPM-MAN05	9.61E-04 5.00E-01 2.77E-04 5.00E-01	

TABLE 54B-15
CASE 4 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PROB.	PERCENT	BASIC EVENT NAME	INITIATING EVENT OCCURS	EVENT PROB.	IDENTIFIER
9	4.83E-08	1.99	LOSS OF RCS WITH RCS FILLED COND. PROB. OF REC-MANDAS CCF OF PRESSURE TRANSMITTERS OPERATOR FAILS	(FAILURE OF MANUAL DAS ACT. TO RECOGNIZE THE NEED FOR RCS DEPRESSURIZATION)	9.51E-04 5.00E-01 2.01E-04 5.00E-01	IEV-RNSND REC-MANDASC CCX-XMTR195 LPM-MAN05
10	2.47E-08	1.02	LOSS OF RCS WITH RCS FILLED COND. PROB. OF REC-MANDAS COMMON MODE OPERATOR FAILS	(FAILURE OF MANUAL DAS ACT. FAILURE OF INPUT LOGIC GROUPS TO RECOGNIZE THE NEED FOR RCS DEPRESSURIZATION)	9.61E-04 5.00E-01 1.03E-04 5.00E-01	IEV-RNSND REC-MANDASC CCX-INPUT-LOGIC LPM-MAN05
11	1.81E-08	.75	LOSS OF CCS/SWS WITH RCS DRAINED CCF OF ADS SQUIB VALVES TO OPERATE	INITIATING EVENT OCCURS	6.02E-04 3.00E-05	IEV-CCWD ADX-EY-SA
12	1.62E-08	.67	LOSS OF CCS/SWS WITH RCS FILLED FAILURE OF MANUAL DAS CCF OF THE POWER INTERFACE OUTPUT BOARDS IN PMS	INITIATING EVENT OCCURS ACTUATION	3.75E-03 5.00E-01 8.62E-06	IEV-CCWD REC-MANDAS CCX-EP-SAM
13	1.57E-08	.65	LOSS OF CCS/SWS WITH RCS DRAINED CCF OF IRWST INJ SQUIB VALVES	INITIATING EVENT OCCURS	6.02E-04 2.60E-05	IEV-CCWD INX-MV-G01
14	1.55E-08	.64	LOSS OF CCS/SWS WITH RCS DRAINED COND. PROB. OF REC-MANDAS COMMON MODE OPERATOR FAILS	INITIATING EVENT OCCURS (FAILURE OF MANUAL DAS ACT. FAILURE OF INPUT LOGIC GROUPS TO ACTUATE ADS BEFORE CORE DAMAGE)	6.02E-04 5.00E-01 1.03E-04 5.00E-01	IEV-CCWD REC-MANDASC CCX-INPUT-LOGIC ADN-MAN01
15	1.42E-08	.58	LOSS OF CCS/SWS ORIFICE FAILURE OPERATOR FAILS COND. PROB. OF RHN-MAN05 (OP.)	WITH RCS DRAINED INITIATING EVENT OCCURS DUE TO PLUGGING TO OPEN TWO IRWST MOVs FAILS TO OPEN RNS MOV V023)	6.02E-04 9.46E-05 5.00E-01 5.00E-01	IEV-CCWD IW2OR160SPX INN-MAN00 RHN-MAN05C
16	1.42E-08	.58	LOSS OF CCS/SWS COND. PROB. OF REC-MANDAS ORIFICE FAILURE OPERATOR FAILS	WITH RCS DRAINED INITIATING EVENT OCCURS (FAILURE OF MANUAL DAS ACT. DUE TO PLUGGING TO ACTUATE ADS BEFORE CORE DAMAGE)	6.02E-04 5.00E-01 9.46E-05 5.00E-01	IEV-CCWD REC-MANDASC IW2OR160SPX ADN-MAN01
17	1.42E-08	.58	LOSS OF CCS/SWS COND. PROB. OF REC-MANDAS ORIFICE FAILURE OPERATOR FAILS	WITH RCS DRAINED INITIATING EVENT OCCURS (FAILURE OF MANUAL DAS ACT. DUE TO PLUGGING TO ACTUATE ADS BEFORE CORE DAMAGE)	6.02E-04 5.00E-01 9.46E-05 5.00E-01	IEV-CCWD REC-MANDASC IW2OR170SPX ADN-MAN01
18	1.42E-08	.58	LOSS OF CCS/SWS ORIFICE FAILURE OPERATOR FAILS COND. PROB. OF RHN-MAN05 (OP.)	WITH RCS DRAINED INITIATING EVENT OCCURS DUE TO PLUGGING TO OPEN TWO IRWST MOVs FAILS TO OPEN RNS MOV V023)	6.02E-04 9.46E-05 5.00E-01 5.00E-01	IEV-CCWD IW2OR170SPX INN-MAN00 RHN-MAN05C

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CASE 4 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PROB	PERCENT	BASIC EVENT NAME	EVENT PROB.	IDENTIFIER
19	1.39E-08	.57	LOSS OF CCS/SMS WITH RCS DRAINED INITIATING EVENT OCCURS CCF OF ACTUATION LOGIC GROUPS NEED AND TO OPEN RNS MOV V023	6.02E-04 4.63E-05 5.00E-01	IEV-COVID CCK-PMAN0DIX RHN-MAN05
20	1.29E-08	.53	LOSS OF CCS/SMS WITH RCS DRAINED INITIATING EVENT OCCURS CCF OF ACTUATION LOGIC GROUPS OPERATOR FAILS TO OPEN TWO RHN-MAN05 TOP. COND. PROB. OF	6.02E-04 8.58E-05 5.00E-01	IEV-COVID CCK-PMAN0DIX RHN-MAN05
21	1.03E-08	.42	LOSS OF CCS/SMS WITH RCS DRAINED INITIATING EVENT OCCURS LEVEL OPERATOR FAILS TO OPEN TWO RHN-MAN05 (OP. COND. PROB. OF	6.02E-04 6.84E-05 5.00E-01	IEV-COVID TWTU1.60UFK RHN-MAN05C
22	1.03E-08	.42	LOSS OF CCS/SMS WITH RCS DRAINED INITIATING EVENT OCCURS LEVEL OPERATOR FAILS TO OPEN TWO RHN-MAN05 (OP. COND. PROB. OF	6.02E-04 6.84E-05 5.00E-01	IEV-COVID TWTU1.70UFK RHN-MAN05C
23	1.03E-08	.42	LOSS OF CCS/SMS WITH RCS DRAINED INITIATING EVENT OCCURS LEVEL OPERATOR FAILS TO ACTIVATE ADS. COND. PROB. OF	6.02E-04 5.00E-01 6.84E-05 5.00E-01	IEV-COVID REC-MANDASC TWTU1.70UFK ADN-MAN01
24	1.03E-08	.42	LOSS OF CCS/SMS WITH RCS DRAINED INITIATING EVENT OCCURS LEVEL OPERATOR FAILS TO ACTIVATE ADS. COND. PROB. OF	6.02E-04 5.00E-01 6.84E-05 5.00E-01	IEV-COVID REC-MANDASC TWTU1.60UFK ADN-MAN01
25	9.03E-09	.37	LOSS OF CCS/SMS WITH RCS DRAINED INITIATING EVENT OCCURS CCF OF GRAVITY INJECTION CHECK VALVES TO OPEN OPERATOR FAILS TO RECOGNIZE	6.02E-04 3.00E-05 5.00E-01	IEV-COVID TWR-CTU-AO RHN-MAN05
26	7.80E-09	.32	POWER INITIATING EVENT OCCURS WITH RCS FILLED OFFSITE AC POWER RECOVERED IN 2 HOURS SOFTWARE CCF OF ALL CARDS MANUAL DAS ACTUATION	1.71E-02 7.60E-01 1.20E-06 5.00E-01	IEV-LOSSPD SUC-825 CCK-SFTW REC-MANDAS
27	7.22E-09	.36	LOSS OF CCS/SMS WITH RCS DRAINED INITIATING EVENT OCCURS CCF OF STRAINERS IN INSTR TANK	6.02E-04 1.20E-05	IEV-COVID TWR-FL-GP
28	5.19E-09	.21	LOSS OF CCS/SMS WITH RCS FILLED INITIATING EVENT OCCURS FAILURE OF MANUAL GAS REACTOR TRIP HARDWARE CCF OF ORIFICES	3.75E-03 1.00E-02 2.77E-04	IEV-COVID MDAS CCK-ORY-SP

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CASE 4 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PROB	PERCENT	BASIC EVENT NAME		EVENT PROB.	IDENTIFIER
29	4.29E-09	.18	OPERATOR FAILS POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR UNAVAILABLE DB1 BATTERY FAILURE OF OPERATOR FAILS TO RECOGNIZE NEED AND TO OPEN RNS MOV V023	WITH RCS DRAINED	5.00E-01	LPM-MAN05
30	4.15E-09	.17	LOSS OF CCS/SWS CCF OF LOGIC OPERATOR FAILS	WITH RCS DRAINED GROUP PROCESSING TO RECOGNIZE NEED AND TO OPEN RNS MOV V023	4.44E-03 4.20E-01 2.20E-03 2.09E-03 5.00E-01	IEV-LOSPD 0TH-R1 EDIMOD03 PHAMOD11 RHN-MAN05
31	4.14E-09	.17	LOSS OF RNS WITH RCS FILLED FAILURE OF CCF OF THE POWER INTERFACE OUTPUT BOARDS IN PMS	INITIATING EVENT OCCURS ACTUATION BOARDS IN PMS	6.02E-04 1.38E-05 5.00E-01	IEV-COVID CCX-EMAO30X RHN-MAN05
32	3.90E-09	.16	LOSS OF CCS/SWS CCF OF INPUT COND. PROB. OF OPERATOR FAILS	WITH RCS DRAINED LOGIC GROUPS TO OPEN TWO TRUST MOVES RHN-MAN05 (OP- FAILS TO OPEN	6.02E-04 2.59E-05 5.00E-01	IEV-COVID CCX-INPUT-JDGIC TWN-MAN05
33	3.90E-09	.16	LOSS OF OFFSITE FAILURE TO START FAILURE OF OPERATOR FAILS	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR OF ENGINE-DRIVEN FUEL PUMPS FMS OUTPUT TO RECOGNIZE NEED AND TO OPEN RNS MOV V023	4.44E-03 4.20E-01 2.00E-03 2.09E-03 5.00E-01	IEV-LOSPD 0TH-R1 Z0X-PD-ES PHAMOD11 RHN-MAN05
34	3.77E-09	.16	LOSS OF CCS/SWS FAILURE OF CCF OF PRESSURE OPERATOR FAILS	WITH RCS FILLED MANUAL DAS TRANSMITTERS TO RECOGNIZE THE NEED FOR RCS	3.75E-03 1.00E-02 2.00E-04 5.00E-01	IEV-COVID MDAS CCX-Z0MP195 LPM-MAN05
35	3.31E-09	.14	LOSS OF CCS/SWS OPERATOR FAILS	POWER INITIATING EVENT OCCURS HARDWARE DEPRESSURIZATION	6.02E-04 1.10E-05 5.00E-01	IEV-COVID CCX-EMAO301-SW RHN-MAN05
36	3.09E-09	.13	LOSS OF OFFSITE SOFTWARE CCF	WITH RCS DRAINED OUTPUT LOGIC TO RECOGNIZE NEED AND TO OPEN RNS MOV V023	4.44E-03 5.00E-01	IEV-LOSPD SUC-R1S CCX-SPTW
37	2.60E-09	.11	LOSS OF CCS/SWS FAILURE OF CCF OF ORIFICES PEN-MAN01	POWER INITIATING EVENT OCCURS AC POWER RECOVERED IN 1 HOUR OF ALL CARDS	3.75E-03 1.00E-02 2.77E-04 5.00E-01	IEV-COVID MDAS CCX-ORF-SP PEN-MAN01

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CASE 4 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PROB	PERCENT	BASIC EVENT NAME	ACTION	BEFORE	CORE	DAMAGE	EVENT PROB.	IDENTIFIER
38	2.59E-09	.11	OPERATOR FAILS WITH RCS DRAINED	INITIATING EVENT OCCURS				5.00E-01	ADM-MAND01
			FAILURE OF MANUAL DAS	ACTUATION				6.02E-04	IEV-CWD
			CCF OF THE POWER INTERFACE	OUTPUT BOARDS IN RMS				5.00E-01	REC-MANDAS
								8.62E-06	CCR-EP-SAM
39	2.46E-09	.10	LOSS OF OFFSITE POWER INITIATING	EVENT OCCURS	WITH RCS FILLED			1.71E-02	IEV-LOS2ND
			FAILURE TO RECOVER AC POWER IN 2 HOURS					2.40E-01	OTH-R2
			SOFTWARE CCF OF ALL CARDS	ACTUATION				1.20E-06	CCR-SFTW
								5.00E-01	RBC-MANDAS
40	2.45E-09	.10	OVERDRAINING OF RCS DURING	DRAIN DOWN TO MID-LOOP	INITIATING EVENT			4.44E-06	IEV-RCSD9
			OPERATOR FAILS TO ISOLATE	RMS PIPE RUPTURE				5.00E-01	RHN-MAND4
			TWN-MAND0C					5.00E-01	TWN-MAND0C
			MECHANICAL FAILURE CAUSES	MVN 023 TO FIL-TO-OPEN				2.21E-03	RNC3M0D5S
41	2.45E-09	.10	OVERDRAINING OF RCS DURING	DRAIN DOWN TO MID-LOOP	INITIATING EVENT			4.44E-06	IEV-RCSD9
			RHN-MAND4-SUCC	TRANSIT MOVES				5.00E-01	RHN-MAND4-ST0CC
			OPERATOR FAILS TO OPEN TWO	MVN 023 TO FAIL-TO-OPEN				5.00E-01	OTH-MAND00
			MECHANICAL FAILURE CAUSES					2.21E-03	RNC23M0D5S
42	2.45E-09	.10	LOSS OF RMS WITH RCS DRAINED	INITIATING EVENT OCCURS				8.15E-05	IEV-RNSD
			CCF OF ADS SQUIB VALVES TO OPERATOR					3.00E-05	ADM-EV-SA
43	2.38E-09	.10	LOSS OF OFFSITE POWER INITIATE / T	EVENT OCCURS	WITH RCS DRAINED			4.44E-03	IEV-LOSED
			FAILURE TO RECOVER AC POWER IN 1 HOUR					4.20E-01	OTH-R1
			BATTERY UNAVAILABLE					2.20E-03	ED1M0D03
				DBI				3.16E-03	PMA0301ASA
			FAILURE UPON OPERATOR FAILS	Demand of logic group processing	NEED AND TO OPEN RMS MV023			5.00E-01	RHN-MAND5
44	2.38E-09	.10	LOSS OF OFFSITE POWER INITIATE	EVENT OCCURS	WITH RCS DRAINED			4.44E-03	IEV-LOSP0
			FAILURE TO RECOVER AC POWER IN 1 HOUR					4.20E-01	OTH-R1
			BATTERY UNAVAILABLE					2.20E-03	ED1M0D03
			OPERATOR FAILS	Demand of logic group processing	NEED AND TO OPEN RMS MV023			5.00E-01	PMA0301ASA
45	2.34E-09	.10	LOSS OF OFFSITE POWER INITIATE	EVENT OCCURS	WITH RCS DRAINED			4.44E-03	IEV-LOSP0
			FAILURE TO RECOVER AC POWER IN 1 HOUR					4.20E-01	OTH-R1
			COMMON CAUSE FAILURE	4KV BREAKERS TO OPEN				1.20E-03	CCR-CB-G0
			FAILURE OF RMS OUTPUT	LOGIC I/O'S				2.09E-03	PMA0D11
			OPERATOR FAILS	TO RECOGNIZE	NEED AND TO OPEN RMS MV023			5.00E-01	RHN-MAND5
46	2.25E-09	.09	LOSS OF RCS/SWS	WITH RCS FILLED	INITIATING EVENT OCCURS			3.75E-03	IEV-CWD
			SOFTWARE CCF OF ALL CARDS					1.20E-06	CCR-SFTW

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CASE 4 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET	PROB	PERCENT	BASIC EVENT NAME	MANUAL DAS	ACTUATION	EVENT PROB.	IDENTIFIER
47	2.24E-09	.09	LOSS OF OFFSITE FAILURE TO SOFTWARE CCF	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR OF ALL CARDS	WITH RCS DRAINED	WITH RCS DRAINED	4.44E-03 4.20E-01 1.20E-06	TEV-LOSPO OTH-B1 CCX-SFTW
48	2.19E-09	.09	LOSS OF CCS/SMS CCF OF OFFICES	WITH RCS DRAINED	INITIATING EVENT OCCURS		6.02E-04	TEV-COND CCX-OFF-SPK
49	2.16E-09	.09	LOSS OF OFFSITE FAILURE TO CCF TO START FAILURE UPON OPERATOR FAILS	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR OF ENGINE-DRIVEN FUEL PUMPS DEMAND OF LOGIC GROUP PROCESSING NEED AND TO OPEN RNS MOV V023	WITH RCS DRAINED		4.44E-03 4.20E-01 2.00E-03 PM0301BSA RHN-MAN05	TEV-LOSPO OTH-B1 ZOK-PD-ES PM0301BSA RHN-MAN05
50	2.16E-09	.09	LOSS OF OFFSITE FAILURE TO CCF TO START FAILURE UPON OPERATOR FAILS	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR OF ENGINE-DRIVEN FUEL PUMPS DEMAND OF LOGIC GROUP PROCESSING NEED AND TO OPEN RNS MOV V023	WITH RCS DRAINED		4.44E-03 4.20E-01 2.00E-03 1.16E-03 5.00E-01	TEV-LOSPO OTH-B1 ZOK-PD-ES PM0301BSA RHN-MAN05
51	2.12E-09	.09	LOSS OF RNS WITH CCF OF IRNST INJ SQUIB VALVES		INITIATING EVENT OCCURS		8.15E-05 2.60E-05	TEV-RNSD ZOK-MV-G01
52	2.10E-09	.09	LOSS OF RNS WITH RCS DRAINED COND. PROB. OF COMMON MODE OPERATOR FAILS	MANUAL DAS FAILURE OF LOGIC GROUPS TO ACTUATE ADS	INITIATING EVENT OCCURS (FAILURE OF HARDWARE DAMAGE BEFORE CORE)		8.15E-05 5.00E-01 1.03E-04 5.00E-01	TEV-RNSD REC-MANDASC CCK-INPUT-LOGIC ADM-MAN01
53	1.93E-09	.08	LOSS OF CCS/SMS FAILURE OF COMMON MODE OPERATOR FAILS	WITH RCS FILLED MANUAL DAS FAILURE OF INPUT LOGIC GROUPS TO RECOGNIZE THE NEED FOR RCS	INITIATING EVENT OCCURS REACTOR TRIP LOGIC GROUPS DEPRESSURIZATION		3.75E-03 1.00E-02 1.03E-04 5.00E-01	TEV-CUND M005 CCK-INPUT-LOGIC LPM-MAN05
54	1.93E-09	.08	LOSS OF RNS WITH RCS DRAINED ORIFICE FAILURE OPERATOR FAILS COND. PROB. OF	DUE TO PLUGGING TO OPEN TWO RNS-MAN05 (OP.)	INITIATING EVENT OCCURS URGST MOV FAILS TO OPEN	RNS MOV V023)	8.15E-05 9.46E-05 5.00E-01 5.00E-01	TEV-RNSD TM20R160SPX RHN-MAN00 RHN-MAN05C
55	1.93E-09	.09	C9 LOSS OF RNS WITH RCS DRAINED COND. PROB. OF ORIFICE FAILURE OPERATOR FAILS	REC-MANDAS DUE TO PLUGGING TO ACTUATE ADS	INITIATING EVENT OCCURS (FAILURE OF DAMAGE BEFORE CORE)		8.15E-05 5.00E-01 9.46E-05 5.00E-01	TEV-RNSD REC-MANDASC TM20R160SPX ADM-MAN01

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CASE 4 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PROB	BASIC EVENT NAME	PERCENT	EVENT PROB.	IDENTIFIER
56	1.93E-09	.08 LOSS OF RNS WITH RCS DRAINED COND. PROB. OF REC-MANDAS ORIFICE FAILURE DUE TO PLUGGING OPERATOR FAILS TO ACTUATE ADS	.08	INITIATING EVENT OCCURS (FAILURE OF MANUAL DAS ACT. BEFORE CORE) DAMAGE	8.15E-05 IEV-BNSD REC-MANDASC TWOHBI170SPX ADS-MAN01 5.00E-01 9.46E-05 5.00E-01
57	1.93E-09	.08 LOSS OF RNS WITH RCS DRAINED ORIFICE FAILURE DUE TO PLUGGING OPERATOR FAILS TO OPEN TWO COND. PROB. OF RHN-MAN05 (OP.)	.08	INITIATING EVENT OCCURS IRNST MWS FAILS TO OPEN	8.15E-05 IEV-BNSD TWOHBI170SPX TWN-MAN00 RHN-MAN05C 5.00E-01 9.46E-05 5.00E-01 5.00E-01
58	1.89E-09	.08 LOSS OF RNS WITH RCS DRAINED CCF OF ACTUATION LOGIC GROUPS OPERATOR FAILS TO RECOGNIZE	.08	INITIATING EVENT OCCURS NEED AND TO OPEN RNS MWS V023	8.15E-05 IEV-BNSD MDAS CCX-FMAMODIX RHN-MAN05 5.00E-01 4.62E-05 5.00E-01
59	1.88E-09	.08 LOSS OF CCS/SWS WITH RCS FILLED MANUAL DAS TRANSMITTERS	.08	INITIATING EVENT OCCURS REACTOR TRIP HARDWARE	3.75E-03 IEV-CWWD MDAS CCX-ZMPTR195 PBN-MAN01 ADN-MAN01 1.00E-02 2.01E-04 5.00E-01 5.00E-01
60	1.75E-09	.07 LOSS OF RNS WITH RCS DRAINED CCF OF ACTUATION LOGIC GROUPS OPERATOR FAILS TO OPEN TWO COND. PROB. OF RHN-MAN05 (OP.)	.07	INITIATING EVENT OCCURS IRNST MWS FAILS TO OPEN	8.15E-05 IEV-BNSD CCX-FMAMOD2X TWN-MAN00 RHN-MAN05C 5.00E-01 8.58E-05 5.00E-01 5.00E-01
61	1.66E-09	.07 LOSS OF CCS/SWS WITH RCS DRAINED FOR INPUT LOGIC OPERATOR FAILS TO OPEN TWO COND. PROB. OF RHN-MAN05 (OP.)	.07	INITIATING EVENT OCCURS IRNST MWS FAILS TO OPEN	6.02E-04 IEV-CWWD CCX-FMAMOD2-SW TWN-MAN00 RHN-MAN05C 1.10E-05 5.00E-01 5.00E-01
62	1.66E-09	.07 LOSS CCS/SWS CCF OF SOFTWARE FOR ACTUATION OPERATOR FAILS TO OPEN TWO COND. PROB. OF RHN-MAN05 (OP.)	.07	INITIATING EVENT OCCURS LOGIC GROUPS IRNST MWS FAILS TO OPEN	6.02E-04 IEV-CWWD CCX-FMAMOD2-SW TWN-MAN00 RHN-MAN05C 5.00E-01 5.00E-01
63	1.58E-09	.07 LOSS OF CCS/SWS WITH RCS DRAINED TRANSMITTERS CCF OF PRESSURE OPERATOR FAILS TO RECOGNIZE	.07	INITIATING EVENT OCCURS	6.02E-04 IEV-CWWD CCX-ZMPTRX 5.00E-01 2.61E-06
64	1.42E-09	.06 LOSS OF OFFSITE POWER INITIATING EVENT OCCURS WITH RCS DRAINED FAILURE TO RECOVER AC POWER IN 1 HOUR COMMON CAUSE FAILURE FAILURE OF PMS OUTPUT OPERATOR FAILS TO RECOGNIZE	.06	WITH RCS DRAINED FAILURE 4KV BREAKER TO CLOSE LOGIC I/Os NEED AND TO OPEN RNS MWS V023	4.44E-03 IEV-LOSSD OTH-BI BOX-CB-GC FMAMOD11 RHN-MAN05 4.20E-01 7.30E-04 2.09E-03 5.00E-01

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CASE 4 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PROB.	PERCENT	BASIC EVENT NAME	INITIATING EVENT OCCURS	EVENT PROB.	IDENTIFIER
65	1.39E-09	.06	LOSS OF RNS WITH RCS DRAINED COND. PROB. OF REC-MANDAS LEVEL TRANSMITTER OPERATOR FAILS TO ACTUATE ADS	(FAILURE OF MANUAL DAS ACT. FAILURE BEFORE CORE DAMAGE	8.15E-05 5.00E-01 6.84E-05 5.00E-01	IEV-RNSD REC-MANDASC IWITL170UFX ADN-MAN01
66	1.39E-09	.06	LOSS OF RNS WITH RCS DRAINED COND. PROB. OF REC-MANDAS LEVEL TRANSMITTER OPERATOR FAILS TO ACTUATE ADS	(FAILURE OF MANUAL DAS ACT. FAILURE BEFORE CORE DAMAGE	8.15E-05 5.00E-01 6.84E-05 5.00E-01	IEV-RNSD REC-MANDASC IW2TL160UFX ADN-MAN01
67	1.39E-09	.06	LOSS OF RNS WITH RCS DRAINED LEVEL TRANSMITTER OPERATOR FAILS TO OPEN TWO COND. PROB. OF RHN-MAN05 (OP.)	INITIATING EVENT OCCURS FAILURE IRWST MOVs FAILS TO OPEN RNS MOV V023)	8.15E-05 6.84E-05 5.00E-01 5.00E-01	IEV-RNSD IW2TL160UFX IWN-MAN00 RHN-MAN05C
68	1.39E-09	.06	LOSS OF RNS WITH RCS DRAINED LEVEL TRANSMITTER OPERATOR FAILS TO OPEN TWO COND. PROB. OF RHN-MAN05 (OP.)	INITIATING EVENT OCCURS FAILURE IRWST MOVs FAILS TO OPEN RNS MOV V023)	8.15E-05 6.84E-05 5.00E-01 5.00E-01	IEV-RNSD IWITL170UFX IWN-MAN00 RHN-MAN05C
69	1.33E-09	.05	LOSS OF RNS WITH RCS FILLED FAILURE OF CCF OF ORIFICES OPERATOR FAILS	INITIATING EVENT OCCURS REACTOR TRIP MANUAL DAS	9.61E-04 1.00E-02 2.77E-04 5.00E-01	IEV-RNSD MDAS CCX-ORY-SP LPM-MAN05
70	1.30E-09	.05	LOSS OF OFFSITE FAILURE TO COMMON CAUSE FAILURE UPON OPERATOR FAILS	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR 4KV BREAKERS TO OPEN DEMAND OF LOGIC GROUP PROCESSING TO RECOGNIZE NEED AND TO OPEN RNS MOV V023	4.44E-03 4.20E-01 1.20E-03 1.16E-03 5.00E-01	IEV-LOSPD OTH-R1 ECX-CB-GO PMA0301ASA RHN-MAN05
71	1.30E-09	.05	LOSS OF OFFSITE FAILURE TO COMMON CAUSE FAILURE UPON OPERATOR FAILS	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR 4KV BREAKERS TO OPEN DEMAND OF LOGIC GROUP PROCESSING TO RECOGNIZE NEED AND TO OPEN RNS MOV V023	4.44E-03 4.20E-01 1.20E-03 1.16E-03 5.00E-01	IEV-LOSPD OTH-R1 ECX-CB-GO PMA0301BSA RHN-MAN05
72	1.22E-09	.05	LOSS OF RNS WITH RCS DRAINED CCF OF GRAVITY OPERATOR FAILS	INITIATING EVENT OCCURS INJECTION CHECK NEED AND TO OPEN RNS MOV V023	8.15E-05 3.00E-05 5.00E-01	IEV-RNSD IWX-CV-AO RHN-MAN05
73	1.16E-09	.05	LOCA/RNS-V024 CCF OF ORIFICES COND. PROB. OF	OPENS INITIATING EVENT OCCURS REC-MANDAS (FAILURE OF	1.68E-05 2.77E-04 5.00E-01	IEV-LOCA24ND CCX-ORY-SP REC-MANDASC

TABLE 54B-15
CASE 4 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PROB	PERCENT	BASIC EVENT NAME				EVENT PROB.	IDENTIFIER
			OPERATOR FAILS	TO ACTUATE ADS	BEFORE CORE	DAMAGE		
74	1.16E-09	.05	LOCA/RNS-V024 CCF OF ORIFICES COND. PROB. OF OPERATOR FAILS	OPENS INITIATING EVENT OCCURS REC-MANDAS (FAILURE OF TO RECOGNIZE THE NEED FOR RCS	WITH RCS FILLED MANUAL DAS ACT. DEPRESSURIZATION	5.00E-01 5.00E-01 5.00E-01	IEV-LOCA24ND CCX-ORY-SP REC-MANDASC LPM-MAN05	
75	1.06E-09	.04	LOSS OF OFFSITE FAILURE TO BATTERY FAILURE OF INV. OPERATOR FAILS	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR DB1 UNAVAILABLE STATIC SWITCH AND ASSOC. TO RECOGNIZE	WITH RCS DRAINED BREAKERS NEED AND TO OPEN RNS MOV V023	4.44E-03 4.20E-01 2.20E-03 5.16E-04 5.00E-01	IEV-LOSPD OTH-R1 EDIMOD03 IDAMOD05 RHN-MAN05	
76	1.05E-09	.04	LOCA/RNS PIPE COND. PROB. OF CCF OF ORIFICES OPERATOR FAILS	RUPTURE WITH RCS FILLED INIT. REC-MANDAS (FAILURE OF TO RECOGNIZE THE NEED FOR RCS	EVENT OCCURS MANUAL DAS ACT. DEPRESSURIZATION	1.51E-05 5.00E-01 2.77E-04 5.00E-01	IEV-LOCAPRND REC-MANDASC CCX-ORY-SP LPM-MAN05	
77	9.78E-10	.04	LOSS OF RNS WITH CCF OF STRAINERS IN IRWST TANK	RCS DRAINED INITIATING EVENT OCCURS		8.15E-05 1.20E-05	IEV-RNSD INX-FL-GP	
78	9.66E-10	.04	LOSS OF RNS WITH FAILURE OF CCF OF PRESSURE OPERATOR FAILS	RCS FILLED MANUAL DAS TRANSMITTERS TO RECOGNIZE THE NEED FOR RCS	INITIATING EVENT OCCURS REACTOR TRIP HARDWARE DEPRESSURIZATION	9.61E-04 1.00E-02 2.01E-04 5.00E-01	IEV-RNSND MDAS CCX-XMTR195 LPM-MAN05	
79	9.62E-10	.04	LOSS OF OFFSITE FAILURE TO CCF TO START FAILURE OF INV. OPERATOR FAILS	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR OF ENGINE-DRIVEN FUEL PUMPS STATIC SWITCH AND ASSOC. TO RECOGNIZE	WITH RCS DRAINED REACTOR TRIP HARDWARE DEPRESSURIZATION BREAKERS NEED AND TO OPEN RNS MOV V023	4.44E-03 4.20E-01 2.00E-03 5.16E-04 5.00E-01	IEV-LOSPD OTH-R1 ZOK-PD-ES IDAMOD05 RHN-MAN05	
80	9.60E-10	.04	LOSS OF OFFSITE FAILURE TO PUMP MP 01B D/G FAILS TO FAILURE OF OPERATOR FAILS	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR SEGMENT HARDWARE FAILURE OR START & RUN OR PMS OUTPUT TO RECOGNIZE	WITH RCS DRAINED DIVERTED FLOW BKR 102 FAILS TO CLOSE LOGIC I/Os NEED AND TO OPEN RNS MOV V023	4.44E-03 4.20E-01 2.44E-02 2.02E-02 2.09E-03 5.00E-01	IEV-LOSPD OTH-R1 SWBMOD02 Z01MOD01 PMAMOD11 RHN-MAN05	
81	8.85E-10	.04	LOSS OF CCS/SWS CCF OF THE POWER OPERATOR FAILS	WITH RCS DRAINED INTERFACE OUTPUT TO RECOGNIZE	INITIATING EVENT OCCURS BOARDS IN PMS NEED AND TO OPEN RNS MOV V023	6.02E-04 2.94E-06 5.00E-01	IEV-CCWD CCX-EP-SAMX RHN-MAN05	
82	8.57E-10	.04	LOSS OF OFFSITE	POWER INITIATING EVENT OCCURS	WITH RCS DRAINED	4.44E-03	IEV-LOSPD	

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CASE 4 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PROB.	PERCENT	BASIC EVENT NAME		EVENT PROB.	IDENTIFIER	
			FAILURE TO COMMON CAUSE FAILURE OF OPERATOR FAILS	RECOVER AC POWER IN 1 HOUR FAILURE STANDBY DG TO RUN PMS OUTPUT LOGIC I/Os TO RECOGNIZE NEED AND TO OPEN RNS MOV V023	4.20E-01 4.40E-04 2.09E-03 5.00E-01	OTH-R1 ZOX-DG-DR PMAMOD11 RHN-MAN05	
83	8.44E-10	.03	LOCA/RNS-V024 CCF OF PRESSURE COND. PROB. OF OPERATOR FAILS	OPENS INITIATING EVENT OCCURS TRANSMITTERS REC-MANDAS (FAILURE OF TO RECOGNIZE THE NEED FOR RCS	WITH RCS FILLED 2.01E-04 5.00E-01 5.00E-01	IEV-LOCA24ND CCX-XMTR195 REC-MANDASC LPM-MAN05	
84	8.44E-10	.03	LOCA/RNS-V024 CCF OF PRESSURE COND. PROB. OF OPERATOR FAILS	OPENS INITIATING EVENT OCCURS TRANSMITTERS REC-MANDAS (FAILURE OF TO ACTUATE ADS BEFORE CORE	WITH RCS FILLED 2.01E-04 5.00E-01 5.00E-01	IEV-LOCA24ND CCX-XMTR195 REC-MANDASC ADN-MAN01	
85	7.95E-10	.03	LOSS OF OFFSITE FAILURE TO D/G FAILS TO D/G FAILS TO FAILURE OF OPERATOR FAILS	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR START & RUN OR BKR 102 FAILS TO CLOSE START & RUN OR BKR 202 FAILS TO CLOSE PMS OUTPUT LOGIC I/Os TO RECOGNIZE NEED AND TO OPEN RNS MOV V023	WITH PCS DRAINED 4.20E-01 2.02E-02 2.02E-02 2.09E-03 5.30E-01	IEV-LOSPD OTH-R1 Z01MOD01 Z02MOD01 PMAMOD11 RHN-MAN05	
86	7.90E-10	.03	LOSS OF OFFSITE FAILURE TO COMMON CAUSE FAILURE UPON OPERATOR FAILS	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR FAILURE 4KV BREAKER TO CLOSE DEMAND OF LOGIC GROUP PROCESSING TO RECOGNIZE NEED AND TO OPEN RNS MOV V023	WITH RCS DRAINED 4.20E-01 7.30E-04 1.16E-03 5.00E-01	IEV-LOSPD OTH-R1 ZCX-CB-GC PMA0301BSA RHN-MAN05	
87	7.90E-10	.03	LOSS OF OFFSITE FAILURE TO COMMON CAUSE FAILURE UPON OPERATOR FAILS	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR FAILURE 4KV BREAKER TO CLOSE DEMAND OF LOGIC GROUP PROCESSING TO RECOGNIZE NEED AND TO OPEN RNS MOV V023	WITH RCS DRAINED 4.20E-01 7.30E-04 1.16E-03 5.00E-01	IEV-LOSPD OTH-R1 ZCX-CB-GC PMA0301ASA RHN-MAN05	
88	7.59E-10	.03	LOCA/RNS PIPE COND. PROB. OF CCF OF PRESSURE OPERATOR FAILS	RUPTURE WITH RCS FILLED INIT. REC-MANDAS (FAILURE OF TRANSMITTERS TO RECOGNIZE THE NEED FOR RCS	EVENT OCCURS MANUAL DAS ACT. DEPRESSURIZATION	1.51E-05 5.00E-01 2.01E-04 5.00E-01	IEV-LOCAPRND REC-MANDASC CCX-XMTR195 LPM-MAN05
89	7.22E-10	.03	LOSS OF CCS/SWS SOFTWARE CCF	WITH RCS DRAINED INITIATING EVENT OCCURS OF ALL CARDS		6.02E-04 1.20E-06	IEV-CCWD CCX-SFTW
90	6.51E-10	.03	LOSS OF OFFSITE FAILURE TO	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR	WITH RCS DRAINED	4.44E-03 4.20E-01	IEV-LOSPD OTH-R1

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TABLE 54B-15
CASE 4 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PROB	PERCENT	BASIC EVENT NAME		EVENT PROB.	IDENTIFIER
			BATTERY DB1 UNAVAILABLE		2.20E-03	ED1MOD03
			LOSS OF DIST. PANEL OR BREAKER A07 SPURIOUSLY OPENS		3.17E-04	IDAMOD04
			OPERATOR FAILS TO RECOGNIZE NEED AND TO OPEN RNS MOV V023		5.00E-01	RHN-MAN05
91	6.11E-10	.03	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS WITH RCS DRAINED		4.44E-03	IEV-LOSPD
			FAILURE TO RECOVER AC POWER IN 1 HOUR		4.20E-01	OTH-R1
			FIXED COMPONENTS FAILURE		3.17E-04	ED1MOD13
			FAILURE OF PMS OUTPUT LOGIC I/Os		2.09E-03	PMAMOD11
			OPERATOR FAILS TO RECOGNIZE NEED AND TO OPEN RNS MOV V023		5.00E-01	RHN-MAN05
92	6.18E-10	.03	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS WITH RCS DRAINED		4.44E-03	IEV-LOSPD
			FAILURE TO RECOVER AC POWER IN 1 HOUR		4.20E-01	OTH-R1
			FIXED COMPONENTS FAILURE		3.17E-04	ED1MOD11
			FAILURE OF PMS OUTPUT LOGIC I/Os		2.09E-03	PMAMOD11
			OPERATOR FAILS TO RECOGNIZE NEED AND TO OPEN RNS MOV V023		5.00E-01	RHN-MAN05
93	6.16E-10	.03	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS WITH RCS DRAINED		4.44E-03	IEV-LOSPD
			FAILURE TO RECOVER AC POWER IN 1 HOUR		4.20E-01	OTH-R1
			BATTERY DB1 UNAVAILABLE		2.20E-03	ED1MOD03
			BUS UNAVAILABLE DUE TO TEST OR CORRECTIVE MAINTENANCE		3.00E-04	IDABSDS1TM
			OPERATOR FAILS TO RECOGNIZE NEED AND TO OPEN RNS MOV V023		5.00E-01	RHN-MAN05
94	6.02E-10	.02	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS WITH RCS DRAINED		4.44E-03	IEV-LOSPD
			FAILURE TO RECOVER AC POWER IN 1 HOUR		4.20E-01	OTH-R1
			PUMP 01B FAILS & ST CK V007B & C B FTC & RE FTC & CB JCS221 SPO		1.53E-02	RNBMOD07S
			D/G FAILS TO START & RUN OR BBR 102 FAILS TO CLOSE		2.02E-02	Z01MOD01
			FAILURE OF PMS OUTPUT LOGIC I/Os		2.09E-03	PMAMOD11
			OPERATOR FAILS TO RECOGNIZE NEED AND TO OPEN RNS MOV V023		5.00E-01	RHN-MAN05
95	5.91E-10	.02	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS WITH RCS DRAINED		4.44E-03	IEV-LOSPD
			FAILURE TO RECOVER AC POWER IN 1 HOUR		4.20E-01	OTH-R1
			CCF TO START OF ENGINE-DRIVEN FUEL PUMPS		2.00E-03	Z0X-PD-ES
			LOSS OF DIST. PANEL OR BREAKER A07 SPURIOUSLY OPENS		3.17E-04	IDAMOD04
			OPERATOR FAILS TO RECOGNIZE NEED AND TO OPEN RNS MOV V023		5.00E-01	RHN-MAN05
96	5.85E-10	.02	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS WITH RCS DRAINED		4.44E-03	IEV-LOSPD
			FAILURE TO RECOVER AC POWER IN 1 HOUR		4.20E-01	OTH-R1
			PUMP MP 01B SEGMENT HARDWARE FAILURE OR DIVERTED FLOW		2.44E-02	SWEMOD02
			BREAKER 100 FAILS TO OPEN [#3,5]		1.23E-02	EC1CB100VO
			FAILURE OF PMS OUTPUT LOGIC I/Os		2.09E-03	PMAMOD11
			OPERATOR FAILS TO RECOGNIZE NEED AND TO OPEN RNS MOV V023		5.00E-01	RHN-MAN05
97	5.77E-10	.02	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS WITH RCS DRAINED		4.44E-03	IEV-LOSPD
			FAILURE TO RECOVER AC POWER IN 1 HOUR		4.20E-01	OTH-R1

TABLE 54B-15
CASE 4 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PROB	PERCENT	BASIC EVENT NAME		EVENT PROB.	IDENTIFIER
			COMMON CAUSE FAILURE OF INV., OPERATOR FAILS	FAILURE STATIC SWITCH TO RECOGNIZE	4KV BREAKERS TO OPEN AND ASSOC. BREAKERS NEED AND TO OPEN RNS MOV V023	1.20E-03 5.16E-04 5.00E-01
98	5.77E-10	.02	LOSS OF RNS WITH RCS FILLED SOFTWARE CCF FAILURE OF	OF ALL CARDS MANUAL DAS	INITIATING EVENT OCCURS ACTUATION	9.61E-04 1.20E-06 5.00E-01
99	5.62E-10	.02	LOSS OF RNS WITH RCS DRAINED CCF OF LOGIC OPERATOR FAILS	GROUP PROCESSING TO RECOGNIZE	INITIATING EVENT OCCURS NEED AND TO OPEN RNS MOV V023	8.15E-05 1.38E-05 5.00E-01
100	5.59E-10	.02	LOSS OF OFFSITE FAILURE TO CCF TO START BUS UNAVAILABLE OPERATOR FAILS	POWER INITIATING RECOVER AC POWER IN 1 HOUR OF ENGINE-DRIVEN FUEL PUMPS DUE TO TEST OR CORRECTIVE MAINTENANCE TO RECOGNIZE NEED AND TO OPEN RNS MOV V023	WITH RCS DRAINED	4.44E-03 4.20E-01 2.00E-03 3.00E-04 5.00E-01
101	5.46E-10	.02	LOSS OF OFFSITE FAILURE TO COMMON CAUSE FAILURE OF OPERATOR FAILS	POWER INITIATING RECOVER AC POWER IN 1 HOUR FAILURE STANDBY DG TO START PMS OUTPUT LOGIC I/Os TO RECOGNIZE NEED AND TO OPEN RNS MOV V023	WITH RCS DRAINED	4.44E-03 4.20E-01 2.80E-04 2.09E-03 5.00E-01
102	5.33E-10	.02	LOSS OF OFFSITE FAILURE TO PUMP MP 01B D/G FAILS TO FAILURE UPON OPERATOR FAILS	POWER INITIATING RECOVER AC POWER IN 1 HOUR SEGMENT HARDWARE FAILURE OR START & RUN OR DEMAND OF LOGIC TO RECOGNIZE NEED AND TO OPEN RNS MOV V023	WITH RCS DRAINED DIVERTED FLOW	4.44E-03 4.20E-01 2.44E-02 2.02E-02 1.16E-03 5.00E-01
103	5.33E-10	.02	LOSS OF OFFSITE FAILURE TO PUMP MP 01B D/G FAILS TO FAILURE UPON OPERATOR FAILS	POWER INITIATING RECOVER AC POWER IN 1 HOUR SEGMENT HARDWARE FAILURE OR START & RUN OR DEMAND OF LOGIC TO RECOGNIZE NEED AND TO OPEN RNS MOV V023	WITH RCS DRAINED DIVERTED FLOW	4.44E-03 4.20E-01 2.44E-02 2.02E-02 1.16E-03 5.00E-01
104	5.31E-10	.02	LOSS OF CCS/SWS FAILURE OF BUS UNAVAILABLE OPERATOR FAILS	WITH RCS DRAINED PMS OUTPUT DUE TO TO RECOGNIZE	INITIATING EVENT OCCURS LOGIC I/Os UNSCHEDULED MAINTENANCE NEED AND TO OPEN RNS MOV V023	6.02E-04 6.53E-04 2.70E-03 5.00E-01
105	5.31E-10	.02	LOSS OF CCS/SWS	WITH RCS DRAINED	INITIATING EVENT OCCURS	6.02E-04
						IEV-CCWD
						PMAMOD11X
						EC1BS12ITM
						RHN-MAN05

TABLE 54B-15
CASE 4 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PROB.	PERCENT	BASIC EVENT NAME	INITIATING EVENT OCCURS	EVENT PROB.	IDENTIFIER
			FAILURE OF UNAVAILABILITY OPERATOR FAILS	PMS OUTPUT OF BUS ECS ES 1 TO RECOGNIZE	LOGIC I/Os DUE TO UNSCHEDUL MAINTENANCE NEED AND TO OPEN RNS MOV V023	6.53E-04 2.70E-03 5.00E-01
106	5.31E-10	.02	LOSS OF CCS/SWS FAILURE OF BUS UNAVAILABLE OPERATOR FAILS	WITH RCS DRAINED PMS OUTPUT DUE TO LOGIC I/Os UNSCHEDULED MAINTENANCE NEED AND TO OPEN RNS MOV V023	INITIATING EVENT OCCURS	6.02E-04 6.53E-04 2.70E-03 5.00E-01
107	5.28E-10	.02	LOSS OF RNS WITH CCF OF INPUT OPERATOR FAILS COND. PROB. OF	RCS DRAINED LOGIC GROUPS TO OPEN TWO IRWST MOVs RHN-MAN05 (OP.)	INITIATING EVENT OCCURS	8.15E-05 2.59E-05 5.00E-01 5.00E-01
108	5.23E-10	.02	LOCA/RNS PIPE OPERATOR FAILS CCF OF ORIFICES COND. PROB. OF OPERATOR FAILS	RUPTURE WITH RCS TO ISOLATE REC-MANDAS MANUAL DAS ACT. TO ACTUATE ADS	FILLED INIT. RNS PIPE RUPTURE (FAILURE OF BEFORE CORE)	1.51E-05 5.00E-01 2.77E-04 5.00E-01 5.00E-01
109	5.04E-10	.02	LOCA/RNS-V024 CCF OF GRAVITY	OPENS INITIATING INJECTION CHECK	EVENT OCCURS VALVES TO OPEN	1.68E-05 3.00E-05
110	4.95E-10	.02	LOSS OF RNS WITH COMMON MODE OPERATOR FAILS	RCS FILLED MANUAL DAS FAILURE OF INPUT TO RECOGNIZE THE NEED FOR RCS	INITIATING EVENT OCCURS REACTOR TRIP LOGIC GROUPS	9.61E-04 1.00E-02 1.03E-04 5.00E-01
111	4.84E-10	.02	LOSS OF OFFSITE FAILURE TO D/G FAILS TO BREAKER 200 FAILURE OF OPERATOR FAILS	POWER INITIATING RECOVER AC POWER IN 1 HOUR START & RUN OR FAILS TO OPEN PMS OUTPUT TO RECOGNIZE	EVENT OCCURS IN 1 HOUR BKR 102 FAILS TO CLOSE LOGIC I/Os NEED AND TO OPEN RNS MOV V023	4.44E-03 4.20E-01 2.02E-02 1.23E-02 2.09E-03 5.00E-01
112	4.84E-10	.02	LOSS OF OFFSITE FAILURE TO BREAKER 100 D/G FAILS TO FAILURE OF OPERATOR FAILS	POWER INITIATING RECOVER AC POWER IN 1 HOUR FAILS TO OPEN START & RUN OR PMS OUTPUT TO RECOGNIZE	EVENT OCCURS IN 1 HOUR BKR 202 FAILS TO CLOSE LOGIC I/Os NEED AND TO OPEN RNS MOV V023	4.44E-03 4.20E-01 1.23E-02 2.02E-02 2.09E-03 5.00E-01
113	4.76E-10	.02	LOSS OF OFFSITE FAILURE TO	POWER INITIATING RECOVER AC POWER IN 1 HOUR	EVENT OCCURS IN 1 HOUR	4.44E-03 4.20E-01

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CASE 4 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PROB	PERCENT	BASIC EVENT NAME			EVENT PROB.	IDENTIFIER
			COMMON CAUSE FAILURE	STANDBY DG TO RUN		4.40E-04	ZOX-DG-DR
			FAILURE UPON DEMAND OF LOGIC	GROUP PROCESSING NEED AND TO OPEN RNS MOV V023		1.16E-03	PMA0301BSA
			OPERATOR FAILS TO RECOGNIZE			5.00E-01	RHN-MAN05
114	4.76E-10	.02	LOSS OF OFFSITE FAILURE TO	POWER INITIATING EVENT OCCURS WITH RCS DRAINED		4.44E-03	IEV-LOSSPD
			RECOVER AC POWER IN 1 HOUR			4.20E-01	OTH-R1
			STANDBY DG TO RUN			4.40E-04	ZOX-DG-DR
			COMMON CAUSE FAILURE	GROUP PROCESSING NEED AND TO OPEN RNS MOV V023		1.16E-03	PMA0301ASA
			OPERATOR FAILS TO RECOGNIZE			5.00E-01	RHN-MAN05
115	4.71E-10	.02	LOSS OF CCS/SWS PMAMOD21X	WITH RCS DRAINED INITIATING EVENT OCCURS		6.02E-04	IEV-CCWD
			OPERATOR FAILS TO OPEN TWO BUS UNAVAILABLE	IRWST MOVS TO OPEN TWO OF BUS ECS ES 1		1.1E-03	PMAMOD21X
			COND. PROB. OF RHN-MAN05 (OP.)	DUE TO UNSCHEDULED FAILS TO OPEN RHN-MAN05 (OP.)		5.00E-01	IWN-MAN00
				Maintenance RNS MOV V023)		2.70E-03	EC1BS121TM
						5.00E-01	RHN-MAN05C
116	4.71E-10	.02	LOSS OF CCS/SWS PMAMOD21X	WITH RCS DRAINED INITIATING EVENT OCCURS		6.02E-04	IEV-CCWD
			OPERATOR FAILS TO OPEN TWO BUS UNAVAILABLE	IRWST MOVS TO OPEN TWO DUE TO UNSCHEDULED FAILS TO OPEN RHN-MAN05 (OP.)		1.16E-03	PMAMOD21X
			COND. PROB. OF RHN-MAN05 (OP.)	Maintenance RNS MOV V023)		5.00E-01	IWN-MAN00
						2.70E-03	EC1BS121TM
						5.00E-01	RHN-MAN05C
117	4.71E-10	.02	LOSS OF CCS/SWS PMAMOD21X	WITH RCS DRAINED INITIATING EVENT OCCURS		6.02E-04	IEV-CCWD
			OPERATOR FAILS TO OPEN TWO BUS UNAVAILABLE	IRWST MOVS TO OPEN TWO DUE TO UNSCHEDULED FAILS TO OPEN RHN-MAN05 (OP.)		1.16E-03	PMAMOD21X
			COND. PROB. OF RHN-MAN05 (OP.)	Maintenance RNS MOV V023)		5.00E-01	IWN-MAN00
						2.70E-03	EC1BS012TM
						5.00E-01	RHN-MAN05C
118	4.49E-10	.02	LOSS OF RNS WITH SOFTWARE CCF OF OPERATOR FAILS TO RECOGNIZE	POWER INITIATING EVENT OCCURS		8.15E-05	IEV-RNSD
			FAILURE UPON DEMAND OF LOGIC	I/O NEED AND TO OPEN RNS MOV V023		1.10E-05	CCX-PMAMOD1-SW
			OPERATOR FAILS TO RECOGNIZE			5.00E-01	RHN-MAN05
119	4.41E-10	.02	LOSS OF OFFSITE FAILURE TO	POWER INITIATING EVENT OCCURS WITH RCS DRAINED		4.44E-03	IEV-LOSSPD
			DIG FAILS TO DIG FAILS TO	RECOVER AC POWER IN 1 HOUR START & RUN OR BKR 102 FAILS TO CLOSE		4.20E-01	OTH-R1
			DIG FAILS TO	START & RUN OR BKR 202 FAILS TO CLOSE		2.02E-02	201MOD01
			FAILURE UPON OPERATOR FAILS	DEMAND OF LOGIC GROUP PROCESSING NEED AND TO OPEN RNS MOV V023		2.02E-02	202MOD01
			OPERATOR FAILS TO RECOGNIZE			1.16E-03	PMA0301ASA
						5.00E-01	RHN-MAN05
120	4.41E-10	.02	LOSS OF OFFSITE FAILURE TO	POWER INITIATING EVENT OCCURS		4.44E-03	IEV-LOSSPD
			:/G FAILS TO :/G FAILS TO	RECOVER AC POWER IN 1 HOUR START & RUN OR BKR 102 FAILS TO CLOSE		4.20E-01	OTH-R1
			:/G FAILS TO	START & RUN OR BKR 202 FAILS TO CLOSE		2.02E-02	201MOD01
			:/G FAILS TO	DEMAND OF LOGIC GROUP PROCESSING		2.02E-02	202MOD01
			FAILURE UPON			1.16E-03	PMA0301BSA

TABLE 54B-15
CASE 4 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PROB.	PERCENT	BASIC EVENT NAME			EVENT PROB.	IDENTIFIER
			OPERATOR FAILS	TO RECOGNIZE	NEED AND TO OPEN RNS MOV V023	5.00E-01	RHN-MAN05
121	4.33E-10	.02	LOSS OF CCS/SWS MECHANICAL IRWST DISCHARGE	WITH RCS DRAINED FAILURE CAUSES LINE "B"	INITIATING EVENT OCCURS MOV 121A TO STRAINER	6.02E-04 3.00E-03 2.40E-04	IEV-CCWD IRWMOD05S IWB-PLUG
122	4.33E-10	.02	LOCA/RNS-V024 COND. PROB. OF COMMON MODE OPERATOR FAILS	OPENS INITIATING REC-MANDAS FAILURE OF INPUT LOGIC GROUPS TO ACTUATE ADS BEFORE CORE	WITH RCS FILLED MANUAL DAS ACT. DAMAGE	1.68E-05 5.00E-01 1.03E-04 5.00E-01	IEV-LOCA24ND REC-MANDASC CCX-INPUT-LOGIC ADN-MAN01
123	4.33E-10	.02	LOCA/RNS-V024 COND. PROB. OF COMMON MODE OPERATOR FAILS	OPENS INITIATING REC-MANDAS FAILURE OF INPUT LOGIC GROUPS TO RECOGNIZE THE NEED FOR RCS	WITH RCS FILLED MANUAL DAS ACT. DEPRESSURIZATION	1.68E-05 5.00E-01 1.03E-04 5.00E-01	IEV-LOCA24ND REC-MANDASC CCX-INPUT-LOGIC LPM-MAN05
124	4.19E-10	.02	LOSS OF CCS/SWS FAILURE OF INV., UNAVAILABILITY OPERATOR FAILS	WITH RCS DRAINED STATIC SWITCH AND ASSOC. OF BUS ECS ES 1 TO RECOGNIZE	INITIATING EVENT OCCURS AND ASSOC. BREAKERS DUE TO UNSCHEDUL MAINTENANCE NEED AND TO OPEN RNS MOV V023	6.02E-04 5.16E-04 2.70E-03 5.00E-01	IEV-CCWD IDAMOD05 EC1BS001TM RHN-MAN05
125	4.19E-10	.02	LOSS OF CCS/SWS FAILURE OF INV., BUS UNAVAILABLE OPERATOR FAILS	WITH RCS DRAINED STATIC SWITCH DUE TO TO RECOGNIZE	INITIATING EVENT OCCURS AND ASSOC. BREAKERS UNSCHEDULED MAINTENANCE NEED AND TO OPEN RNS MOV V023	6.02E-04 5.16E-04 2.70E-03 5.00E-01	IEV-CCWD IDAMOD05 EC1BS012TM RHN-MAN05
126	4.19E-10	.02	LOSS OF CCS/SWS FAILURE OF INV., BUS UNAVAILABLE OPERATOR FAILS	WITH RCS DRAINED STATIC SWITCH DUE TO TO RECOGNIZE	INITIATING EVENT OCCURS AND ASSOC. BREAKERS UNSCHEDULED MAINTENANCE NEED AND TO OPEN RNS MOV V023	6.02E-04 5.16E-04 2.70E-03 5.00E-01	IEV-CCWD IDAMOD05 EC1BS121TM RHN-MAN05
127	4.09E-10	.02	LOSS OF OFFSITE FAILURE TO PUMP SUBLOOP B D/G FAILS TO START & RUN OR PMS OUTPUT OPERATOR FAILS	POWER INITIATING RECOVER AC POWER IN 1 HOUR HARDWARE FAILURE OR DIVERTED FLOW START & RUN OR BKR 102 FAILS TO CLOSE LOGIC I/Os TO RECOGNIZE	EVENT OCCURS WITH RCS DRAINED	4.44E-03 4.20E-01 1.04E-02 2.02E-02 2.09E-03 5.00E-01	IEV-LOSPD OTH-R1 CCBMOD01S ZO1MOD01 PMAMOD11 RHN-MAN05
128	3.89E-10	.02	LOCA/RNS PIPE COND. PROB. OF COMMON MODE OPERATOR FAILS	RUPTURE WITH RCS FILLED INIT. REC-MANDAS (FAILURE OF FAILURE OF INPUT LOGIC GROUPS TO RECOGNIZE THE NEED FOR RCS	EVENT OCCURS MANUAL DAS ACT. DEPRESSURIZATION	1.51E-05 5.00E-01 1.03E-04 5.00E-01	IEV-LOCAPRND REC-MANDASC CCX-INPUT-LOGIC LPM-MAN05
129	3.67E-10	.02	LOSS OF OFFSITE	POWER INITIATING EVENT OCCURS	WITH RCS DRAINED	4.44E-03	IEV-LOSPD

TABLE 54B-15
CASE 4 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PROB	PERCENT	BASIC EVENT NAME			EVENT PROB.	IDENTIFIER
			FAILURE TO PUMP 01B FAILS & BREAKER 100 FAILURE OF OPERATOR FAILS	RECOVER AC POWER; ST CK V007B & C FAILS TO OPEN PMS OUTPUT TO RECOGNIZE	1 HOUR ~ & RE PTC & CB ECS221 SPO [#3,5] LG. I/Os NEED AND TO OPEN RNS MOV V023	4.20E-01 1.53E-02 1.23E-02 2.09E-03 5.00E-01	OTH-R1 RNBMOD07S EC1CB100VO PMAMOD11 RHN-MAN05
130	3.55E-10	.01	LOSS OF OFFSITE FAILURE TO COMMON CAUSE LOSS OF DIST. OPERATOR FAILS	POWER INITIATING RECOVER AC POWER IN 1 HOUR FAILURE 4KV BREAKERS TO OPEN PANEL OR BREAKER A07 SPURIOUSLY OPENS TO RECOGNIZE	EVENT OCCURS WITH RCS DRAINED ACTUATION NEED AND TO OPEN RNS MOV V023	4.44E-03 4.20E-01 1.20E-03 3.17E-04 5.00E-01	IEV-LOSPD OTH-R1 ECX-CB-GO IDAMOD04 RHN-MAN05
131	3.51E-10	.01	LOSS OF RNS WITH FAILURE OF CCF OF THE POWER	RCS DRAINED MANUAL DAS INTERFACE OUTPUT	INITIATING EVENT OCCURS ACTUATION BOARDS IN PMS	8.15E-05 5.00E-01 8.62E-06	IEV-RNSD REC-MANDAS CCX-EP-SAM
132	3.51E-10	.01	LOSS OF OFFSITE FAILURE TO COMMON CAUSE FAILURE OF INV. OPERATOR FAILS	POWER INITIATING RECOVER AC POWER IN 1 HOUR FAILURE 4KV BREAKER TO CLOSE STATIC SWITCH AND / SOC. BREAKERS TO RECOGNIZE	EVENT OCCURS WITH RCS DRAINED ACTUATION NEED AND TO OPEN RNS MOV V023	4.44E-03 4.20E-01 7.30E-04 5.16E-04 5.00E-01	IEV-LOSPD OTH-R1 ECX-CB-GC IDAMOD05 RHN-MAN05
133	3.43E-10	.01	LOSS OF OFFSITE FAILURE TO FIXED FAILURE UPON OPERATOR FAILS	POWER INITIATING RECOVER AC POWER IN 1 HOUR FAILURE COMPONENTS DEMAND OF LOGIC TO RECOGNIZE	EVENT OCCURS WITH RCS DRAINED FAILURE GROUP PROCESSING NEED AND TO OPEN RNS MOV V023	4.44E-03 4.20E-01 3.17E-04 1.16E-03 5.00E-01	IEV-LOSPD OTH-R1 ED1MOD113 PMA0301BSA RHN-MAN05
134	3.43E-10	.01	LOSS OF OFFSITE FAILURE TO FIXED FAILURE UPON OPERATOR FAILS	POWER INITIATING RECOVER AC POWER IN 1 HOUR FAILURE COMPONENTS DEMAND OF LOGIC TO RECOGNIZE	EVENT OCCURS WITH RCS DRAINED FAILURE GROUP PROCESSING NEED AND TO OPEN RNS MOV V023	4.44E-03 4.20E-01 3.17E-04 1.16E-03 5.00E-01	IEV-LOSPD OTH-R1 ED1MOD11 PMA0301ASA RHN-MAN05
135	3.43E-10	.01	LOSS OF OFFSITE FAILURE TO FIXED FAILURE UPON OPERATOR FAILS	POWER INITIATING RECOVER AC POWER IN 1 HOUR FAILURE COMPONENTS DEMAND OF LOGIC TO RECOGNIZE	EVENT OCCURS WITH RCS DRAINED FAILURE GROUP PROCESSING NEED AND TO OPEN RNS MOV V023	4.44E-03 4.20E-01 3.17E-04 1.16E-03 5.00E-01	IEV-LOSPD OTH-R1 ED1MOD113 PMA0301ASA RHN-MAN05
136	3.43E-10	.01	LOSS OF OFFSITE FAILURE TO FIXED FAILURE UPON	POWER INITIATING RECOVER AC POWER IN 1 HOUR FAILURE COMPONENTS DEMAND OF LOGIC	EVENT OCCURS WITH RCS DRAINED FAILURE GROUP PROCESSING	4.44E-03 4.20E-01 3.17E-04 1.16E-03	IEV-LOSPD OTH-R1 ED1MOD11 PMA0301RSA

TABLE 54B-15

CASE 4 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PROB	PERCENT	BASIC EVENT NAME	EVENT PROB.	IDENTIFIER
			OPERATOR FAILS TO RECOGNIZE NEED AND TO OPEN RNS MOV V023	5.00E-01	RHN-MAN05
137	3.39E-10	.01	LOCA/RNS-V024 CCF OF ADS SQUIB OPENS INITIATING EVENT OCCURS WITH RCS DRAINED	1.13E-05 3.00E-05	IEV-LOCA24D ADX-EV-SA
138	3.36E-10	.01	LOSS OF OFFSITE FAILURE TO RECOVER AC POWER IN 1 HOUR COMMON CAUSE FAILURE 4KV BREAKERS TO OPEN BUS UNAVAILABLE DUE TO TEST OR CORRECTIVE MAINTENANCE OPERATOR FAILS TO RECOGNIZE NEED AND TO OPEN RNS MOV V023	4.44E-03 4.20E-01 1.20E-03 3.00E-04 5.00E-01	IEV-LOSPD OTH-R1 ECX-CB-GO IDABSDS1TM RHN-MAN05
139	3.34E-10	.01	LOSS OF OFFSITE FAILURE TO RECOVER AC POWER IN 1 HOUR PUMP 01B FAILS & ST CK V007B & C B FTC & RE FTC & CB ECS221 SPO D/G FAILS TO START & RUN OR BKR 102 FAILS TO CLOSE FAILURE UPON DEMAND OF LOGIC GROUP PROCESSING OPERATOR FAILS TO RECOGNIZE NEED AND TO OPEN RNS MOV V023	4.44E-03 4.20E-01 1.53E-02 2.02E-02 1.16E-03 5.00E-01	IEV-LOSPD OTH-R1 RNBMOD07S Z01MOD01 PMA0301ASA RHN-MAN05
140	3.34E-10	.01	LOSS OF OFFSITE FAILURE TO RECOVER AC POWER IN 1 HOUR PUMP 01B FAILS & ST CK V007B & C B FTC & RE FTC & CB ECS221 SPO D/G FAILS TO START & RUN OR BKR 102 FAILS TO CLOSE FAILURE UPON DEMAND OF LOGIC GROUP PROCESSING OPERATOR FAILS TO RECOGNIZE NEED AND TO OPEN RNS MOV V023	4.44E-03 4.20E-01 1.53E-02 2.02E-02 1.16E-03 5.00E-01	IEV-LOSPD OTH-R1 RNBMOD07S Z01MOD01 PMA0301BSA RHN-MAN05
141	3.33E-10	.01	OVERDRAINING OF RCS DURING DRAIN DOWN TO MID-LOOP INITIATING EVENT OPERATOR FAILS TO ISOLATE RNS PIPE RUPTURE IWN-MAN00C BUS UNAVAILABLE DUE TO TEST OR CORRECTIVE MAINTENANCE	4.44E-06 5.00E-01 5.00E-01 3.00E-04	IEV-RCS0D RHN-MAN04 IWN-MAN00C IDDBSDS1TM
142	3.33E-10	.01	OVERDRAINING OF RCS DURING DRAIN DOWN TO MID-LOOP INITIATING EVENT OPERATOR FAILS TO ISOLATE RNS PIPE RUPTURE IWN-MAN00C BUS UNAVAILABLE DUE TO TEST OR CORRECTIVE MAINTENANCE	4.44E-06 5.00E-01 5.00E-01 3.00E-04	IEV-RCS0D RHN-MAN04 IWN-MAN00C IDDBSDK1TM
143	3.33E-10	.01	OVERDRAINING OF RCS DURING DRAIN DOWN TO MID-LOOP INITIATING EVENT RHN-MAN04-SUCC OPERATOR FAILS TO OPEN TWO IRWST MOVs IWN-MAN00C BUS UNAVAILABLE DUE TO TEST OR CORRECTIVE MAINTENANCE	4.44E-06 5.00E-01 5.00E-01 3.00E-04	IEV-RCS0D RHN-MAN04-SUCC IWN-MAN00 IDDBSDD1TM
144	3.33E-10	.01	OVERDRAINING OF RCS DURING DRAIN DOWN TO MID-LOOP INITIATING EVENT OPERATOR FAILS TO ISOLATE RNS PIPE RUPTURE IWN-MAN00C BUS UNAVAILABLE DUE TO TEST OR CORRECTIVE MAINTENANCE	4.44E-06 5.00E-01 5.00E-01 3.00E-04	IEV-RCS0D RHN-MAN04 IWN-MAN00C IDDBSDD1TM

TABLE 54B-15
CASE 4 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PROB.	PERCENT	BASIC EVENT NAME		EVENT PROB.	IDENTIFIER
145	3.33E-10	.01	OVERDRAINING OF RCS DURING DRAIN DOWN TO MID-LOOP INITIATING EVENT RHN-MAN04-SUCC OPERATOR FAILS TO OPEN TWO IRWST MOVs BUS UNAVAILABLE DUE TO TEST OR CORRECTIVE MAINTENANCE		4.44E-06 5.00E-01 5.00E-01 3.00E-04	IEV-RCSOD RHN-MAN04-SUCC IWN-MAN00 IDDBSDS1TM
146	3.33E-10	.01	OVERDRAINING OF RCS DURING DRAIN DOWN TO MID-LOOP INITIATING EVENT RHN-MAN04-SUCC OPERATOR FAILS TO OPEN TWO IRWST MOVs BUS UNAVAILABLE DUE TO TEST OR CORRECTIVE MAINTENANCE		4.44E-06 5.00E-01 5.00E-01 3.00E-04	IEV-RCSOD RHN-MAN04-SUCC IWN-MAN00 IDDBSDK1TM
147	3.25E-10	.01	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS WITH RCS DRAINED FAILURE TO RECOVER AC POWER IN 1 HOUR PUMP MP 01B SEGMENT HARDWARE FAILURE OR DIVERTED FLOW (#3,5) BREAKER 100 FAILS TO OPEN FAILURE UPON DEMAND OF LOGIC GROUP PROCESSING OPERATOR FAILS TO RECOGNIZE NEED AND TO OPEN RNS MOV V023		4.44E-03 4.20E-01 2.44E-02 1.23E-02 1.16E-03 5.00E-01	IEV-LOSPD OTH-R1 SWBMOD02 EC1CB100VO PMA0301ASA RHN-MAN05
148	3.25E-10	.01	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS WITH RCS DRAINED FAILURE TO RECOVER AC POWER IN 1 HOUR PUMP MP 01B SEGMENT HARDWARE FAILURE OR DIVERTED FLOW (#3,5) BREAKER 100 FAILS TO OPEN FAILURE UPON DEMAND OF LOGIC GROUP PROCESSING OPERATOR FAILS TO RECOGNIZE NEED AND TO OPEN RNS MOV V023		4.44E-03 4.20E-01 2.44E-02 1.23E-02 1.16E-03 5.00E-01	IEV-LOSPD OTH-R1 SWBMOD02 EC1CB100VO PMA0301BSA RHN-MAN05
149	3.23E-10	.01	LOSS OF CCS/SWS WITH RCS FILLED INITIATING EVENT OCCURS FAILURE OF MANUAL DAS REACTOR TRIP HARDWARE CCF OF THE POWER INTERFACE OUTPUT BOARDS IN PMS		3.75E-03 1.00E-02 8.62E-06	IEV-CCWND MDAS CCK-EP-SAM
150	3.10E-10	.01	LOSS OF CCS/SWS WITH RCS DRAINED INITIATING EVENT OCCURS FAILURE OF MANUAL DAS REACTOR TRIP HARDWARE COMMON MODE FAILURE OF INPUT LOGIC GROUPS OPERATOR FAILS TO ACTUATE ADS BEFORE CORE DAMAGE		6.02E-04 1.00E-02 1.03E-04 5.00E-01	IEV-CCWD MDAS CCK-INPUT-LOGIC ADN-MAN01
151	3.03E-10	.01	LOCA/RNS-V024 OPENS INITIATING EVENT OCCURS WITH RCS FILLED DAS REC-MANDAS (FAILURE OF MANUAL DAS ACT. COND. PROB. OF RC10R195SP OPERATOR FAILS TO RECOGNIZE THE NEED FOR RCS DEPRESSURIZATION		1.68E-05 1.00E-02 5.00E-01 7.22E-03 5.00E-01	IEV-LOCA24ND DAS REC-MANDASC RC10R195SP LPM-MAN05
152	3.03E-10	.01	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS WITH RCS DRAINED FAILURE TO RECOVER AC POWER IN 1 HOUR COMMON CAUSE FAILURE STANDBY DG TO START FAILURE UPON DEMAND OF LOGIC GROUP PROCESSING OPERATOR FAILS TO RECOGNIZE NEED AND TO OPEN RNS MOV V023		4.44E-03 4.20E-01 2.80E-04 1.16E-03 5.00E-01	IEV-LOSPD OTH-R1 ZOX-DG-DS PMA0301ASA RHN-MAN05

+1
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TABLE 54B-15
CASE 4 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PROB	PERCENT	BASIC EVENT NAME			EVENT PROB.	IDENTIFIER
153	3.03E-10	.01	LOSS OF OFFSITE FAILURE TO COMMON CAUSE FAILURE UPON OPERATOR FAILS	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR STANDBY DG TO START DEMAND OF LOGIC GROUP PROCESSING NEED AND TO OPEN RNS MOV V023	WITH RCS DRAINED	4.44E-03 4.20E-01 2.80E-04 1.16E-03 5.00E-01	IEV-LOSPD OTH-R1 ZOX-DG-DS PMA0301BSA RHN-MAN05
154	2.96E-10	.01	LOSS OF RNS WITH RCS DRAINED CCF OF ORIFICES		INITIATING EVENT OCCURS		8.15E-05 3.63E-06
155	2.95E-10	.01	LOSS OF OFFSITE FAILURE TO BREAKER 100 BREAKER 200 FAILURE OF OPERATOR FAILS	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR FAILS TO OPEN [#3, 5] FAILS TO OPEN [#5, 3] PMS OUTPUT LOGIC I/Os TO RECOGNIZE NEED AND TO OPEN RNS MOV V023	WITH RCS DRAINED	4.44E-03 4.20E-01 1.23E-02 1.23E-02 2.09E-03 5.00E-01	IEV-LOSPD OTH-R1 EC1CB100VO EC2CB200VO PMAMOD11 RHN-MAN05
156	2.94E-10	.01	LOCA/RNS-V024 CCF OF IRWST INJ	OPENS INITIATING EVENT OCCURS SQUIB VALVES	WITH RCS DRAINED	1.13E-05 2.60E-05	IEV-LOCA24D IWX-MV-G01
157	2.91E-10	.01	LOCA/RNS-V024 COND. PROB. OF COMMON MODE OPERATOR FAILS	OPENS INITIATING EVENT OCCURS REC-MANDAS (FAILURE OF FAILURE OF INPUT LOGIC GROUPS TO ACTUATE ADS BEFORE CORE)	WITH RCS DRAINED MANUAL DAS ACT. DAMAGE	1.13E-05 5.00E-01 1.03E-04 5.00E-01	IEV-LOCA24D REC-MANDASC CCK-INPUT-LOGIC ADN-MAN01
158	2.89E-10	.01	LOSS OF OFFSITE FAILURE TO BATTERY CCF OF OUTPUT OPERATOR FAILS	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR DB1 UNAVAILABLE LOGIC I/O BOARDS TO RECOGNIZE NEED AND TO OPEN RNS MOV V023	WITH RCS DRAINED	4.44E-03 4.20E-01 2.20E-03 1.41E-04 5.00E-01	IEV-LOSPD OTH-R1 EDIMOD03 CCX-PMAMOD1 RHN-MAN05
159	2.85E-10	.01	LOSS OF CCS/SWS FAILURE OF ORIFICE FAILURE OPERATOR FAILS	WITH RCS DRAINED MANUAL DAS DUE TO PLUGGING TO ACTUATE ADS BEFORE CORE	INITIATING EVENT OCCURS REACTOR TRIP HARDWARE	6.02E-04 1.00E-02 9.46E-05 5.00E-01	IEV-CCWD MDAS IWIOR170SPX ADN-MAN01
160	2.85E-10	.01	LOSS OF CCS/SWS FAILURE OF ORIFICE FAILURE OPERATOR FAILS	WITH RCS DRAINED MANUAL DAS DUE TO PLUGGING TO ACTUATE ADS BEFORE CORE	INITIATING EVENT OCCURS REACTOR TRIP HARDWARE	6.02E-04 1.00E-02 9.46E-05 5.00E-01	IEV-CCWD MDAS IW2OR160SPX ADN-MAN01
161	2.75E-10	.01	LOSS OF OFFSITE FAILURE TO FAILURE OF CCF OF OUTPUT	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR PLS OUTPUT LOGIC I/O BOARDS	WITH RCS DRAINED	4.44E-03 4.20E-01 2.09E-03 1.41E-04	IEV-LOSPD OTH-R1 PL5MOD11 CCX-PMAMOD1

TABLE 54B-15
CASE 4 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PROB.	PERCENT	BASIC EVENT NAME		EVENT PROB.	IDENTIFIER
			OPERATOR FAILS	TO RECOGNIZE NEED AND TO OPEN RNS MOV V023	5.00E-01	RHN-MAN05
162	2.71E-10	.01	LOSS OF CCS/SWS MECHANICAL BUS UNAVAILABLE OPERATOR FAILS	WITH RCS DRAINED INITIATING EVENT OCCURS FAILURE CAUSES MOV 121A TO FAIL-TO-OPEN DUE TO TEST OR CORRECTIVE MAINTENANCE TO RECOGNIZE NEED AND TO OPEN RNS MOV V023	6.02E-04 3.00E-03 3.00E-04 5.00E-01	IEV-CCWD IRWMOD05S IDCBSD1TM RHN-MAN05
163	2.71E-10	.01	LOSS OF CCS/SWS MECHANICAL BUS UNAVAILABLE OPERATOR FAILS	WITH RCS DRAINED INITIATING EVENT OCCURS FAILURE CAUSES MOV 121A TO FAIL-TO-OPEN DUE TO TEST OR CORRECTIVE MAINTENANCE TO RECOGNIZE NEED AND TO OPEN RNS MOV V023	6.02E-04 3.00E-03 3.00E-04 5.00E-01	IEV-CCWD IRWMOD05S IDCBSD1TM RHN-MAN05
164	2.71E-10	.01	LOSS OF CCS/SWS MECHANICAL BUS UNAVAILABLE OPERATOR FAILS	WITH RCS DRAINED INITIATING EVENT OCCURS FAILURE CAUSES MOV 121A TO FAIL-TO-OPEN DUE TO TEST OR CORRECTIVE MAINTENANCE TO RECOGNIZE NEED AND TO OPEN RNS MOV V023	6.02E-04 3.00E-03 3.00E-04 5.00E-01	IEV-CCWD IRWMOD05S IDCBSD1TM RHN-MAN05
165	2.69E-10	.01	LOSS OF OFFSITE FAILURE TO D/G FAILS TO BREAKER 200 FAILURE UPON OPERATOR FAILS	POWER INITIATING EVENT OCCURS WITH RCS DRAINED RECOVER AC POWER IN 1 HOUR START & RUN OR BKR 102 FAILS TO CLOSE FAILS TO OPEN [#5,3] DEMAND OF LOGIC GROUP PROCESSING TO RECOGNIZE NEED AND TO OPEN RNS MOV V023	4.44E-03 4.20E-01 2.02E-02 1.23E-02 1.16E-03 5.00E-01	IEV-LOSPD OTH-R1 Z01MOD01 EC2CB200VO PMA0301BSA RHN-MAN05
166	2.69E-10	.01	LOSS OF OFFSITE FAILURE TO BREAKER 100 D/G FAILS TO FAILURE UPON OPERATOR FAILS	POWER INITIATING EVENT OCCURS WITH RCS DRAINED RECOVER AC POWER IN 1 HOUR FAILS TO OPEN [#3,5] START & RUN OR BKR 202 FAILS TO CLOSE DEMAND OF LOGIC GROUP PROCESSING TO RECOGNIZE NEED AND TO OPEN RNS MOV V023	4.44E-03 4.20E-01 1.23E-02 2.02E-02 1.16E-03 5.00E-01	IEV-LOSPD OTH-R1 EC1CB100VO Z02MOD01 PMA0301ASA RHN-MAN05
167	2.69E-10	.01	LOSS OF OFFSITE FAILURE TO BREAKER 100 D/G FAILS TO FAILURE UPON OPERATOR FAILS	POWER INITIATING EVENT OCCURS WITH RCS DRAINED RECOVER AC POWER IN 1 HOUR FAILS TO OPEN [#3,5] START & RUN OR BKR 202 FAILS TO CLOSE DEMAND OF LOGIC GROUP PROCESSING TO RECOGNIZE NEED AND TO OPEN RNS MOV V023	4.44E-03 4.20E-01 1.23E-02 2.02E-02 1.16E-03 5.00E-01	IEV-LOSPD OTH-R1 EC1CB100VO Z02MOD01 PMA0301BSA RHN-MAN05
168	2.69E-10	.01	LOSS OF OFFSITE FAILURE TO D/G FAILS TO BREAKER 200 FAILURE UPON OPERATOR FAILS	POWER INITIATING EVENT OCCURS WITH RCS DRAINED RECOVER AC POWER IN 1 HOUR START & RUN OR BKR 102 FAILS TO CLOSE FAILS TO OPEN [#5,3] DEMAND OF LOGIC GROUP PROCESSING TO RECOGNIZE NEED AND TO OPEN RNS MOV V023	4.44E-03 4.20E-01 2.02E-02 1.23E-02 1.16E-03 5.00E-01	IEV-LOSPD OTH-R1 Z01MOD01 EC2CB200VO PMA0301ASA RHN-MAN05

TABLE 54B-15
CASE 4 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PROB.	PERCENT	BASIC EVENT NAME			EVENT PROB.	IDENTIFIER
169	2.67E-10	.01	LOCA/RNS-V024 ORIFICE FAILURE OPERATOR FAILS COND. PROB. OF RHN-MAN05 (OP.)	OPENS INITIATING DUE TO PLUGGING TO OPEN TWO IRWST MOVs FAILS TO OPEN	EVENT OCCURS IRWST MOVs FAILS TO OPEN	WITH RCS DRAINED RNS MOV V023)	1.13E-05 9.46E-05 5.00E-01 5.00E-01
170	2.67E-10	.01	LOCA/RNS-V024 ORIFICE FAILURE OPERATOR FAILS COND. PROB. OF RHN-MAN05 (OP.)	OPENS INITIATING DUE TO PLUGGING TO OPEN TWO IRWST MOVs FAILS TO OPEN	EVENT OCCURS IRWST MOVs FAILS TO OPEN	WITH RCS DRAINED RNS MOV V023)	1.13E-05 9.46E-05 5.00E-01 5.00E-01
171	2.67E-10	.01	LOCA/RNS-V024 COND. PROB. OF ORIFICE FAILURE OPERATOR FAILS	OPENS INITIATING REC-MANDAS (FAILURE OF DUE TO PLUGGING TO ACTUATE ADS	EVENT OCCURS MANUAL DAS ACT. BEFORE CORE	WITH RCS DRAINED DAMAGE	1.13E-05 5.00E-01 9.46E-05 5.00E-01
172	2.67E-10	.01	LOCA/RNS-V024 COND. PROB. OF ORIFICE FAILURE OPERATOR FAILS	OPENS INITIATING REC-MANDAS (FAILURE OF DUE TO PLUGGING TO ACTUATE ADS	EVENT OCCURS MANUAL DAS ACT. BEFORE CORE	WITH RCS DRAINED DAMAGE	1.13E-05 5.00E-01 9.46E-05 5.00E-01
173	2.66E-10	.01	OVERDRAINING OF RHN-MAN04-SUCC OPERATOR FAILS IRWST DISCHARGE	RCS DURING DRAIN DOWN TO MID-LOOP TO OPEN TWO LINE "B"	INITIATING EVENT IRWST MOVs STRAINER	4.44E-06 5.00E-01 5.00E-01 2.40E-04	IEV-RCSOD RHN-MAN04-SUCC IWN-MAN00 IW-B-PLUG
174	2.66E-10	.01	OVERDRAINING OF OPERATOR FAILS IWN-MAN00C IRWST DISCHARGE	RCS DURING DRAIN DOWN TO MID-LOOP TO ISOLATE LINE "B"	INITIATING EVENT RNS PIPE RUPTURE STRAINER	4.44E-06 5.00E-01 5.00E-01 2.40E-04	IEV-RCSOD RHN-MAN04 IWN-MAN00C IW-B-PLUG
175	2.63E-10	.01	LOSS OF OFFSITE FAILURE TO CCF TO START CCF OF OUTPUT OPERATOR FAILS	POWER INITIATING RECOVER AC POWER IN 1 HOUR OF ENGINE-DRIVEN FUEL PUMPS LOGIC I/O BOARDS TO RECOGNIZE	EVENT OCCURS NEED AND TO OPEN RNS MOV V023	WITH RCS DRAINED	4.44E-03 4.20E-01 2.00E-03 1.41E-04 5.00E-01
176	2.62E-10	.01	LOCA/RNS-V024 CCF OF ACTUATION OPERATOR FAILS	OPENS INITIATING LOGIC GROUPS TO RECOGNIZE	EVENT OCCURS NEED AND TO OPEN RNS MOV V023	WITH RCS DRAINED	1.13E-05 4.63E-05 5.00E-01
177	2.58E-10	.01	LOSS OF CCS/SWS LOSS OF DIST. BUS UNAVAILABLE OPERATOR FAILS	WITH RCS DRAINED PANEL OR BREAKER A07 SPURIOUSLY DUE TO TO RECOGNIZE	INITIATING EVENT OCCURS OPENS UNSCHEDULED MAINTENANCE NEED AND TO OPEN RNS MOV V023	6.02E-04 3.17E-04 2.70E-03 5.00E-01	IEV-CCWD IDAMOD04 EC1BS012TM RHN-MAN05

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CASE 4 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PROB.	PERCENT	BASIC EVENT NAME		EVENT PROB.	IDENTIFIER	
178	2.58E-10	.01	LOSS OF CCS/SWS LOSS OF DIST. UNAVAILABILITY OPERATOR FAILS	WITH RCS DRAINED INITIATING EVENT OCCURS PANEL OR BREAKER A07 SPURIOUSLY OPENS OF BUS ECS ES 1 DUE TO UNSCHEDUL MAINTENANCE TO RECOGNIZE NEED AND TO OPEN RNS MOV V023	6.02E-04 3.17E-04 2.70E-03 5.00E-01	IEV-CCWD IDAMOD04 EC1BS001TM RHN-MAN05	
179	2.58E-10	.01	LOSS OF CCS/SWS LOSS OF DIST. BUS UNAVAILABLE OPERATOR FAILS	WITH RCS DRAINED INITIATING EVENT OCCURS PANEL OR BREAKER A07 SPURIOUSLY OPENS DUE TO UNSCHEDULED MAINTENANCE TO RECOGNIZE NEED AND TO OPEN RNS MOV V023	6.02E-04 3.17E-04 2.70E-03 5.00E-01	IEV-CCWD IDAMOD04 EC1BS121TM RHN-MAN05	
180	2.56E-10	.01	LOCA/RNS-V024 COMMON CAUSE COND. PROB. OF OPERATOR FAILS	OPENS INITIATING EVENT OCCURS FAILURE OF 4 AOVs TO OPEN REC-MANDAS (FAILURE OF TO ACTUATE ADS BEFORE CORE	WITH RCS FILLED MANUAL DAS ACT. DAMAGE	1.68E-05 6.10E-05 5.00E-01 5.00E-01	IEV-LOCA24ND CCX-AV-LA REC-MANDASC ADN-MAN01
181	2.56E-10	.01	LOCA/RNS-V024 COMMON CAUSE COND. PROB. OF OPERATOR FAILS	OPENS INITIATING EVENT OCCURS FAILURE OF 4 AOVs TO OPEN REC-MANDAS (FAILURE OF TO RECOGNIZE THE NEED FOR RCS	WITH RCS FILLED MANUAL DAS ACT. DEPRESSURIZATION	1.68E-05 6.10E-05 5.00E-01 5.00E-01	IEV-LOCA24ND CCX-AV-LA REC-MANOASC LPM-MAN05
182	2.53E-10	.01	LOSS OF OFFSITE FAILURE TO CCF TO RUN OF FAILURE OF OPERATOR FAILS	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR ENGINE-DRIVEN FUEL PUMPS PMS OUTPUT LOGIC I/Os TO RECOGNIZE NEED AND TO OPEN RNS MOV V023	WITH RCS DRAINED	4.44E-03 4.20E-01 1.30E-04 2.09E-03 5.00E-01	IEV-LOSPD OTH-R1 ZOX-PD-ER PMAMOD11 RHN-MAN05
183	2.49E-10	.01	LOSS OF OFFSITE FAILURE TO PUMP SUBLOOP B BREAKER 100 FAILURE OF OPERATOR FAILS	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR HARDWARE FAILURE OR DIVERTED FLOW FAILS TO OPEN (#3,5) PMS OUTPUT LOGIC I/Os TO RECOGNIZE NEED AND TO OPEN RNS MOV V023	WITH RCS DRAINED	4.44E-03 4.20E-01 1.04E-02 1.23E-02 2.09E-03 5.00E-01	IEV-LOSPD OTH-R1 CCBMOD01S EC1CB100V0 PMAMOD11 RHN-MAN05
184	2.44E-10	.01	LOSS OF CCS/SWS BUS UNAVAILABLE BUS UNAVAILABLE OPERATOR FAILS	WITH RCS DRAINED INITIATING EVENT OCCURS DUE TO TEST OR CORRECTIVE MAINTENANCE DUE TO UNSCHEDULED MAINTENANCE TO RECOGNIZE NEED AND TO OPEN RNS MOV V023	6.02E-04 3.00E-04 2.70E-03 5.00E-01	IEV-CCWD IDABSDS1TM EC1BS012TM RHN-MAN05	
185	2.44E-10	.01	LOSS OF CCS/SWS BUS UNAVAILABLE BUS UNAVAILABLE OPERATOR FAILS	WITH RCS DRAINED INITIATING EVENT OCCURS DUE TO TEST OR CORRECTIVE MAINTENANCE DUE TO UNSCHEDULED MAINTENANCE TO RECOGNIZE NEED AND TO OPEN RNS MOV V023	6.02E-04 3.00E-04 2.70E-03 5.00E-01	IEV-CCWD IDABSDS1TM EC1BS121TM RHN-MAN05	
186	2.44E-10	.01	LOSS OF CC3/SWS	WITH RCS DRAINED INITIATING EVENT OCCURS	6.02E-04	IEV-CCWD	

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TABLE 54B-15
CASE 4 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PROB	PERCENT	BASIC EVENT NAME				EVENT PROB.	IDENTIFIER
			BUS UNAVAILABLE UNAVAILABILITY OPERATOR FAILS	DUE TO TEST OR OF BUS ECS ES 1 TO RECOGNIZE	CORRECTIVE DUE TO UNSCHEDUL MAINTENANCE NEED AND TO OPEN RNS MOV V023	MAINTENANCE		
187	2.42E-10	.01	LOCA/RNS-V024 CCF OF ACTUATION OPERATOR FAILS COND. PROB. OF	OPENS INITIATING LOGIC GROUPS TO OPEN TWO RHN-MAN05 (OP.)	EVENT OCCURS IRWST MOVs FAILS TO OPEN	WITH RCS DRAINED RNS MOV V023)	3.00E-04 2.70E-03 5.00E-01	IDABSDS1TM EC1BS001TM RHN-MAN05
188	2.37E-10	.01	LOSS OF OFFSITE FAILURE TO PUMP MP 01B D/G FAILS TO FAILURE OF INV. OPERATOR FAILS	POWER INITIATING RECOVER AC POWER IN 1 HOUR SEGMENT HARDWARE FAILURE OR START & RUN OR STATIC SWITCH AND ASSOC. TO RECOGNIZE	EVENT OCCURS DIVERTED FLOW BKR 102 FAILS TO CLOSE BREAKERS NEED AND TO OPEN RNS MOV V023	WITH RCS DRAINED	1.13E-05 8.58E-05 5.00E-01 4.44E-03 4.20E-01 2.44E-02 2.02E-02 5.16E-04 5.00E-01	IEV-LOCA24D CCX-PMAMOD2X IWN-MAN00 RHN-MAN05C
189	2.27E-10	.01	LOSS OF OFFSITE FAILURE TO PUMP SUBLOOP B D/G FAILS TO FAILURE UPON OPERATOR FAILS	POWER INITIATING RECOVER AC POWER IN 1 HOUR HARDWARE FAILURE OR DIVERTED FLOW START & RUN OR DEMAND OF LOGIC TO RECOGNIZE	EVENT OCCURS DIVERTED FLOW BKR 102 FAILS TO CLOSE GROUP PROCESSING NEED AND TO OPEN RNS MOV V023	WITH RCS DRAINED	4.44E-03 4.20E-01 1.04E-02 2.02E-02 1.16E-03 5.00E-01	IEV-LOSPD OTH-R1 CCBMOD02 Z01MOD01 IDAMOD05 RHN-MAN05
190	2.27E-10	.01	LOSS OF OFFSITE FAILURE TO PUMP SUBLOOP B D/G FAILS TO FAILURE UPON OPERATOR FAILS	POWER INITIATING RECOVER AC POWER IN 1 HOUR HARDWARE FAILURE OR DIVERTED FLOW START & RUN OR DEMAND OF LOGIC TO RECOGNIZE	EVENT OCCURS DIVERTED FLOW BKR 102 FAILS TO CLOSE GROUP PROCESSING NEED AND TO OPEN RNS MOV V023	WITH RCS DRAINED	4.44E-03 4.20E-01 1.04E-02 2.02E-02 1.16E-03 5.00E-01	IEV-LOSPD OTH-R1 CCBMOD01S Z01MOD01 PMA0301BSA RHN-MAN05
191	2.27E-10	.01	LOCA/RNS PIPE OPERATOR FAILS CCF OF GRAVITY	RUPTURE WITH RCS TO ISOLATE INJECTION CHECK	FILLED INIT. RNS PIPE RUPTURE VALVES TO OPEN	EVENT OCCURS	1.51E-05 5.00E-01 3.00E-05	IEV-LOCAPRND RHN-MAN04 IWX-CV-AO
192	2.24E-10	.01	LOSS OF RNS WITH CCF OF SOFTWARE OPERATOR FAILS COND. PROB. OF	RCS DRAINED FOR ACTUATION TO OPEN TWO RHN-MAN05 (OP.)	INITIATING LOGIC GROUPS IRWST MOVs FAILS TO OPEN	RNS MOV V023)	8.15E-05 1.10E-05 5.00E-01 5.00E-01	IEV-RNSD CCX-PMAMOD2-SW IWN-MAN00 RHN-MAN05C
193	2.24E-10	.01	LOSS OF RNS WITH CCF OF SOFTWARE OPERATOR FAILS COND. PROB. OF	RCS DRAINED FOR INPUT LOGIC TO OPEN TWO RHN-MAN05 (OP.)	INITIATING LOGIC GROUPS IRWST MOVs FAILS TO OPEN	RNS MOV V023)	8.15E-05 1.10E-05 5.00E-01 5.00E-01	IEV-RNSD CCX-IN-LOGIC-SW IWN-MAN00 RHN-MAN05C

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CASE 4 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PROB	PERCENT	BASIC EVENT NAME			EVENT PROB.	IDENTIFIER	
194	2.20E-10	.01	LOCA/RNS-V024 DAS COND. PROB. OF RCITL195UF OPERATOR FAILS	OPENS INITIATING EVENT OCCURS REC-MANDAS (FAILURE OF TO RECOGNIZE THE NEED FOR RCS	WITH RCS FILLED MANUAL DAS ACT. DEPRESSURIZATION	1.68E-05 1.00E-02 5.00E-01 5.23E-03 5.00E-01	IEV-LOCA24ND DAS REC-MANDASC RCITL195UF LPM-MAN05	
195	2.16E-10	.01	LOSS OF OFFSITE FAILURE TO COMMON CAUSE LOSS OF DIST. OPERATOR FAILS	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR FAILURE 4KV BREAKER TO PANEL OR BREAKER A07 SPURIOUSLY TO RECOGNIZE	CLOSE OPENS NEED AND TO OPEN RNS MOV V023	4.44E-03 4.20E-01 7.30E-04 3.17E-04 5.00E-01	IEV-LOSPD OTH-R1 ECX-CB-GC IDAMOD04 RHN-MAN05	
196	2.14E-10	.01	LOSS OF RNS WITH CCF OF PRESSURE	PCS DRAINED TRANSMITTERS	INITIATING EVENT OCCURS	8.15E-05 2.63E-06	IEV-RMSD CCX-XMTRX	
197	2.14E-10	.01	LOCA/RNS-V024 COMMON CAUSE COND. PROB. OF OPERATOR FAILS	OPENS INITIATING EVENT OCCURS FAILURE OF 4 REC-MANDAS TO ACTUATE ADS	CHECK VALVES TO OPEN (FAILURE OF BEFORE CORE	WITH RCS FILLED MANUAL DAS ACT. DAMAGE	1.68E-05 5.10E-05 5.00E-01 5.00E-01	IEV-LOCA24ND CMX-CV-GO REC-MANDASC ADN-MAN01
198	2.14E-10	.01	LOCA/RNS-V024 COMMON CAUSE COND. PROB. OF OPERATOR FAILS	OPENS INITIATING EVENT OCCURS FAILURE OF 4 REC-MANDAS TO RECOGNIZE THE NEED FOR RCS	CHECK VALVES TO OPEN (FAILURE OF MANUAL DAS ACT. DEPRESSURIZATION	WITH RCS FILLED MANUAL DAS ACT. DEPRESSURIZATION	1.68E-05 5.10E-05 5.00E-01 5.00E-01	IEV-LOCA24ND CMX-CV-GO REC-MANDASC LPM-MAN05
199	2.12E-10	.01	LOSS OF OFFSITE FAILURE TO COMMON CAUSE FAILURE OF INV. OPERATOR FAILS	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR FAILURE STATIC SWITCH TO RECOGNIZE	STANDBY DG TO RUN AND ASSOC. BREAKERS NEED AND TO OPEN RNS MOV V023	WITH RCS DRAINED MANUAL DAS REACTOR TRIP FAILURE BEFORE CORE	4.44E-03 4.20E-01 4.40E-04 5.16E-04 5.00E-01	IEV-LOSPD OTH-R1 ZOX-DG-DR IDAMOD05 RHN-**.005
200	2.06E-10	.01	LOSS OF CCS/SWS FAILURE OF LEVEL OPERATOR FAILS	WITH RCS DRAINED MANUAL DAS TRANSMITTER TO ACTUATE ADS	INITIATING EVENT OCCURS REACTOR TRIP FAILURE DAMAGE	6.02E-04 1.00E-02 6.84E-05 5.00E-01	IEV-CCWD MDAS IWITL170UFK ADN-MAN01	

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Table 54B-16

BASIC EVENT IMPORTANCE - CASE 4

SYSTEM UNAVAILABILITY (Q) = 2.428E-06
 NUMBER OF BASIC EVENTS = 295
 NUMBER OF CUTSETS = 6834

BASIC EVENT	IMPORTANCE (%DECREASE)	NUMBER OF CUTSETS	DECREASE IN SYSTEM UNAVAILABILITY	BASIC EVENT PROBABILITY
1 RHN-MAN05C	49.06	27	1.1913E-06	5.0000E-01
2 IEV-RCSOD	46.11	484	1.1197E-06	4.4400E-06
3 REC-MANDASC	40.87	46	9.9237E-07	5.0000E-01
4 IEV-CCWND	33.07	69	8.0301E-07	3.7500E-03
5 LPM-MAN05	28.98	37	7.0373E-07	5.0000E-01
6 IWN-MAN00	26.41	189	6.4125E-07	5.0000E-01
7 RHN-MAN04	23.08	123	5.6057E-07	5.0000E-01
8 RHN-MAN04-SUCC	23.06	399	5.6003E-07	5.0000E-01
9 IWN-MAN00C	23.03	23	5.5933E-07	5.0000E-01
10 CCX-ORY-SP	19.34	18	4.6959E-07	2.7700E-04
11 CCX-XMTR195	13.99	16	3.3961E-07	2.0100E-04
12 ADN-IAN01	12.71	58	3.0853E-07	5.0000E-01
13 PRN-MAN01	9.42	4	2.2868E-07	5.0000E-01
14 IEV-CCWD	9.28	2122	2.2541E-07	6.0200E-04
15 IEV-RNSND	6.06	46	1.4711E-07	9.6100E-04
16 CCX-INPUT-LOGIC	5.90	29	1.4331E-07	1.0300E-04
17 RHN-MAN05	4.54	785	1.1034E-07	5.0000E-01
18 IEV-LOSPD	3.18	2450	7.7138E-08	4.4400E-03
19 OTH-R1	2.98	2292	7.2384E-08	4.2000E-01
20 REC-MANDAS	1.52	36	3.6991E-08	5.0000E-01
21 IW1OR170SPX	1.37	34	3.3302E-08	9.4600E-05
22 IW2OR160SPX	1.37	34	3.3302E-08	9.4600E-05
23 IEV-RNSD	1.25	1015	3.0296E-08	8.1500E-05
24 CCX-EP-SAM	1.02	218	2.4744E-08	8.6200E-06
25 IW1TL170UFX	.99	33	2.4133E-08	6.8400E-05
26 IW2TL160UFX	.99	33	2.4133E-08	6.8400E-05
27 ADX-EV-SA	.96	290	2.3311E-08	3.0000E-05
28 PMAMOD11	.96	296	2.3247E-08	2.0900E-03
29 IDAS	.85	79	2.0583E-08	1.0000E-02
30 IWX-MV-GO1	.84	266	2.0342E-08	2.6000E-05
31 CCX-SPTW	.80	26	1.9545E-08	1.2000E-06
32 CCX-PMAMOD1X	.67	195	1.6365E-08	4.6300E-05
33 CCX-PMAMOD2X	.62	22	1.5006E-08	8.5800E-05
34 ED1MOD03	.53	131	1.2948E-08	2.2020E-03
35 PMA0301ASA	.52	218	1.2643E-08	1.1600E-03
36 PMA0301BSA	.52	218	1.2643E-08	1.1600E-03
37 ZO1MOD01	.51	524	1.2300E-08	2.0200E-02
38 IWX-CV-AO	.49	395	1.1872E-08	3.0000E-05
39 ZOX-PD-ES	.49	113	1.1819E-08	2.0000E-03
40 IEV-LOSPND	.44	40	1.0762E-08	1.7100E-02
41 IWX-FL-GP	.39	168	9.5232E-09	1.2000E-05
42 SUC-R2S	.33	9	8.0530E-09	7.6000E-01
43 IEV-LOCA24ND	.31	121	7.6299E-09	1.6800E-05
44 ECX-CB-GO	.29	92	7.0988E-09	1.2000E-03
45 EC1CB100VO	.29	380	6.9747E-09	1.2300E-02
46 IDAMOD05	.28	354	6.7548E-09	5.1600E-04
47 RN23MOD5S	.24	917	5.7507E-09	2.2100E-03
48 CCX-PMAP030X	.20	130	4.8587E-09	1.3800E-05
49 SUC-R1S	.20	158	4.7538E-09	5.8000E-01
50 SWBMOD02	.19	150	4.7168E-09	2.4400E-02
51 CCX-INPUT-LOGICX	.18	12	4.4596E-09	2.5900E-05
52 ECX-CB-GC	.18	74	4.2845E-09	7.3000E-04
53 IDAMOD04	.17	340	4.1872E-09	3.1700E-04
54 ZO2MOD01	.17	187	4.1301E-09	2.0200E-02
55 IEV-LOCA24D	.17	428	4.0509E-09	1.1300E-05
56 CCX-PMAMOD1-SW	.16	128	3.8978E-09	1.1000E-05
57 IDABSDS1TM	.16	255	3.8177E-09	3.0000E-04
58 IEV-LOCAPRND	.13	59	3.1838E-09	1.5100E-05
59 RNBMOD07S	.12	146	2.9939E-09	1.5300E-02
60 OTH-R2	.11	29	2.7091E-09	2.4000E-01
61 CCX-ORY-SPX	.11	112	2.7053E-09	3.6300E-06
62 EC1BS001TM	.11	442	2.6382E-09	2.7000E-03
63 EC1BS012TM	.11	442	2.6382E-09	2.7000E-03
64 EC1BS121TM	.11	442	2.6382E-09	2.7000E-03
65 ZOX-DG-DR	.11	57	2.5654E-09	4.4000E-04
66 EC2CB200VO	.10	144	2.3656E-09	1.2300E-02

67	CCX-PMAMOD1	.10	87	2.3206E-09	1.4100E-04
68	PMAMOD11K	.09	369	2.2001E-09	6.5300E-04
69	CCX-XMTRX	.08	97	1.9520E-09	2.6300E-06
70	IRWMOD05S	.08	380	1.9059E-09	3.0000E-03
71	CCX-IN-LOGIC-SW	.08	8	1.8961E-09	1.1000E-05
72	CCX-PMAMOD2-SW	.08	8	1.8961E-09	1.1000E-05
73	CCBMOD01S	.08	91	1.8833E-09	1.0400E-02
74	PL5MOD11	.08	73	1.8546E-09	2.0900E-03
75	ED1MOD11	.07	55	1.7935E-09	3.1700E-04
76	ED1MOD113	.07	55	1.7935E-09	3.1700E-04
77	PMAMOD21K	.07	14	1.6249E-09	1.1600E-03
78	ZOX-DG-DS	.07	50	1.6061E-09	2.8000E-04
79	ZO1DG001TM	.06	95	1.4801E-09	4.6000E-02
80	CCX-PMAU30	.06	59	1.4742E-09	9.6900E-05
81	IWB-PLUG	.06	443	1.4174E-09	2.4000E-04
82	RHN-MAN03	.05	36	1.1106E-09	5.0000E-01
83	CCX-EP-SAMX	.04	87	1.0362E-09	2.9400E-06
84	PL50301ASA	.04	47	9.6705E-10	1.1600E-03
85	PL50301BSA	.04	47	9.6705E-10	1.1600E-03
86	CCX-BY-PN	.03	237	8.1154E-10	4.7000E-05
87	RNX-PM-FS	.03	50	7.8210E-10	7.7000E-04
88	IDDBSDD1TM	.03	370	7.7189E-10	3.0000E-04
89	IDDBSDK1TM	.03	370	7.7189E-10	3.0000E-04
90	IDDBSDS1TM	.03	370	7.7189E-10	3.0000E-04
91	ED2MOD03	.03	68	7.5987E-10	2.7000E-03
92	EC1REDG2GA	.03	57	7.4263E-10	4.3600E-03
93	ZOX-PD-ER	.03	32	7.0812E-10	1.3000E-04
94	RNX-KV-GO	.02	44	5.9576E-10	6.1000E-04
95	PMAXS00ASA	.02	28	5.6078E-10	8.0000E-05
96	PMA0301ASAX	.02	176	5.4451E-10	1.6500E-04
97	DAS	.02	4	5.3345E-10	1.0000E-02
98	PMA0301BSAX	.02	157	5.3061E-10	1.6500E-04
99	CCX-AV-LA	.02	5	5.2224E-10	6.1000E-05
100	CCB-MAN01	.02	6	5.1450E-10	5.0000E-01
101	IDCBSDD1TM	.02	176	4.7568E-10	3.0000E-04
102	IDCBSDK1TM	.02	176	4.7568E-10	3.0000E-04
103	IDCBSDS1TM	.02	176	4.7568E-10	3.0000E-04
104	RNDEP023SA	.02	291	4.3738E-10	1.7100E-04
105	CMX-CV-GO	.02	4	4.3656E-10	5.1000E-05
106	RNAMOD06S	.02	90	4.0233E-10	1.5300E-02
107	CCNTF101RI	.02	5	3.7355E-10	8.2300E-03
108	SWNTP001RI	.02	5	3.7355E-10	5.2300E-03
109	SWB-MAN02	.02	4	3.7350E-10	5.0000E-01
110	CCX-PMDMOD1	.01	270	3.5979E-10	1.4100E-04
111	ZO1MOD04	.01	82	3.4675E-10	1.2500E-03
112	ED1MOD01	.01	23	3.3742E-10	5.0400E-04
113	RC1OR195SP	.01	4	3.3587E-10	7.2200E-03
114	ED3MOD03	.01	35	3.3554E-10	2.2020E-02
115	CMX-VS-FA	.01	7	3.2865E-10	3.8400E-05
116	PMAMOD12X	.01	123	3.1897E-10	6.5300E-04
117	CCX-IV-XR	.01	132	3.0459E-10	2.4000E-05
118	PL4MOD11	.01	43	2.9430E-10	2.0900E-03
119	PL1MOD11	.01	36	2.9284E-10	2.0900E-03
120	PL7MOD11	.01	36	2.9284E-10	2.0900E-03
121	PMAXS00ASAX	.01	158	2.9216E-10	8.0000E-05
122	ZOX-BL-ES	.01	16	2.9153E-10	6.0000E-05
123	CCX-BY-PN1	.01	17	2.7939E-10	5.7000E-05
124	SWBMOD09P	.01	31	2.5840E-10	1.8500E-03
125	ZON-MAN01	.01	7	2.5070E-10	5.0000E-01
126	CCX-PMD030	.01	184	2.4527E-10	9.6900E-05
127	IWBCV122AO	.01	184	2.4081E-10	8.7600E-03
128	IWBCV123AO	.01	184	2.4081E-10	8.7600E-03
129	IWBCV124AO	.01	184	2.4081E-10	8.7600E-03
130	IWBCV125AO	.01	184	2.4081E-10	8.7600E-03
131	RC1TL195UF	.01	3	2.3779E-10	5.2300E-03
132	PMAMOD22X	.01	2	2.0389E-10	1.1600E-03
133	IDDBSDD1TM	.01	125	1.8655E-10	3.0000E-04
134	IDBBSDK1TM	.01	125	1.8655E-10	3.0000E-04
135	IDDBSDS1TM	.01	125	1.8655E-10	3.0000E-04
136	ED1MOD13	.01	17	1.6811E-10	3.1700E-04
137	ED1MOD07	.01	17	1.6183E-10	3.0500E-04
138	IDAMOD08	.01	96	1.5440E-10	3.1700E-04
139	IWA-PLUG	.01	136	1.5239E-10	2.4000E-04
140	ZO2MOD04	.01	44	1.5107E-10	1.2500E-03
141	PL40301ASA	.01	29	1.3152E-10	1.1600E-03
142	PL40301BSA	.01	26	1.3126E-10	1.1600E-03
143	PL10301ASA	.01	25	1.3097E-10	1.1600E-03
144	PL70301ASA	.01	25	1.3097E-10	1.1600E-03
145	PL10301BSA	.01	24	1.3091E-10	1.1600E-03
146	PL70301BSA	.01	24	1.3091E-10	1.1600E-03
147	CCX-PMDMOD4	.01	133	1.2412E-10	4.9800E-05

148	CCX-PMAMOD4	.00	41	1.1766E-10	4.9800E-05
149	IWACV122AO	.00	126	9.2456E-11	8.7600E-03
150	IWACV123AO	.00	126	9.2456E-11	8.7600E-03
151	IWACV124AO	.00	126	9.2456E-11	8.7600E-03
152	IWACV125AO	.00	126	9.2456E-11	8.7600E-03
153	IRAEPI21BSAX	.00	66	9.0638E-11	5.8300E-05
154	PMA0302ASAX	.00	59	7.0115E-11	1.6500E-04
155	SWJMOD07	.00	42	6.9016E-11	7.1200E-03
156	ED3MOD07	.00	26	6.4578E-11	3.0500E-04
157	PMA0302BSAX	.00	40	5.6211E-11	1.6500E-04
158	PMDMOD11	.00	206	5.5612E-11	2.0900E-03
159	CCX-PL4MOD1	.00	17	5.4804E-11	1.4100E-04
160	CCAMOD02	.00	40	5.3178E-11	7.1000E-03
161	PL1MOD51	.00	2	4.5600E-11	8.7400E-04
162	EC1REDG1GA	.00	39	3.8569E-11	4.3600E-03
163	EC1MOD12	.00	66	3.6853E-11	4.8000E-05
164	EC2DG002TM	.00	42	3.4976E-11	4.6000E-02
165	IRAEPI21ASAX	.00	42	3.4265E-11	5.8300E-05
166	CCX-PL403	.00	14	3.3840E-11	9.6900E-05
167	IDAMOD06	.00	48	3.1916E-11	4.3200E-05
168	EC2BS002TM	.00	187	2.8167E-11	2.7000E-03
169	EC2BS022TM	.00	187	2.8167E-11	2.7000E-03
170	EC2BS221TM	.00	187	2.8167E-11	2.7000E-03
171	IDDFD019RQ	.00	58	2.7837E-11	1.2000E-05
172	IDDFD020RQ	.00	58	2.7837E-11	1.2000E-05
173	EC5EPMBG1SA	.00	9	2.6790E-11	1.7100E-04
174	CCX-PMDMOD1-SW	.00	56	2.5532E-11	1.1000E-05
175	CCX-PMDMOD4-SW	.00	56	2.5532E-11	1.1000E-05
176	CCX-PMAMOD4-SW	.00	12	2.4547E-11	1.1000E-05
177	CCX-PL1MOD1	.00	9	2.2094E-11	1.4100E-04
178	CCX-PL7MOD1	.00	9	2.2094E-11	1.4100E-04
179	IDAMOD02	.00	31	2.0373E-11	2.7000E-03
180	IDAMOD03	.00	31	2.0373E-11	2.7000E-03
181	RNX-CV-GO	.00	12	1.7721E-11	5.1000E-05
182	PMDMOD12	.00	86	1.6617E-11	2.0900E-03
183	IDCFD007RQ	.00	18	1.6478E-11	1.2000E-05
184	IDCFD008RQ	.00	18	1.6478E-11	1.2000E-05
185	PMD0301ASA	.00	134	1.6126E-11	1.1600E-03
186	CCX-PL103	.00	7	1.5111E-11	9.6900E-05
187	CCX-PL703	.00	7	1.5111E-11	9.6900E-05
188	PMD0301BSA	.00	117	1.4531E-11	1.1600E-03
189	CCX-LS-FA	.00	32	1.3597E-11	5.3700E-06
190	IDABSDS1LF	.00	24	1.3369E-11	4.8000E-06
191	PXX-AV-LA	.00	57	1.2491E-11	6.1000E-05
192	PL5XS00ASA	.00	7	1.2481E-11	8.0000E-05
193	ED2MOD01	.00	1	1.2200E-11	5.0400E-04
194	EC1MOD121	.00	24	1.1563E-11	1.6800E-05
195	IDDBSDK1LF	.00	31	1.1056E-11	4.8000E-06
196	IDDBSDK1LF	.00	31	1.1056E-11	4.8000E-06
197	IDDBSDK1LF	.00	31	1.1056E-11	4.8000E-06
198	SWAMOD09P	.00	22	1.0838E-11	1.8500E-03
199	CCX-PMDEHO	.00	29	9.2710E-12	4.0300E-06
200	CCX-PMAEHDX	.00	11	8.9933E-12	4.0300E-06
201	PMAMOD41	.00	34	8.2206E-12	6.3500E-04
202	ALL-IND-FAIL	.00	27	7.3394E-12	1.0000E-06
203	AD2MOD01	.00	21	6.8895E-12	5.5400E-02
204	AD2MOD02	.00	21	6.8895E-12	5.5400E-02
205	AD3MOD03	.00	21	6.8895E-12	5.5400E-02
206	AD3MOD04	.00	21	6.8895E-12	5.5400E-02
207	PMDMOD41	.00	67	6.5833E-12	6.3500E-04
208	IDAMOD07	.00	15	6.3711E-12	2.1900E-02
209	RNX-FM-ER	.00	10	5.4562E-12	1.6000E-05
210	IDBFDO13RQ	.00	10	5.2583E-12	1.2000E-05
211	IDBFDO14RQ	.00	10	5.2583E-12	1.2000E-05
212	IDDMOD33	.00	45	4.9614E-12	5.1600E-04
213	IDCBSDD1LF	.00	12	4.9550E-12	4.8000E-06
214	IDCBSDK1LF	.00	12	4.9550E-12	4.8000E-06
215	IDCBSDS1LF	.00	12	4.9550E-12	4.8000E-06
216	PMD0302ASA	.00	46	4.9095E-12	1.1600E-03
217	CCX-PM-ER	.00	10	4.7707E-12	1.4000E-05
218	SWX-PM-ER	.00	10	4.7707E-12	1.4000E-05
219	IDDMOD32	.00	58	4.6906E-12	3.1700E-04
220	ED2MOD11	.00	20	4.3133E-12	3.1700E-04
221	CCX-IV-XR1	.00	6	3.7030E-12	2.4000E-05
222	CCX-PL4MOD1-SW	.00	8	3.6009E-12	1.1000E-05
223	PMD0302BSA	.00	29	3.3148E-12	1.1600E-03
224	ED3MOD01	.00	10	3.2503E-12	5.0400E-04
225	CCX-EP-SA	.00	8	2.8215E-12	8.6200E-06
226	EC1MOD01	.00	16	2.6423E-12	2.0200E-04
227	PL4MOD12	.00	16	2.6108E-12	2.0900E-03
228	EC1BS001LF	.00	7	2.1584E-12	4.8000E-06

229	EC2MOD01	.00	14	2.0179E-12	2.0200E-04
230	IDDMOD38	.00	31	1.6623E-12	3.1700E-04
231	CCX-PL1MOD1-SW	.00	4	1.5710E-12	1.1000E-05
232	CCX-PL7MOD1-SW	.00	4	1.5710E-12	1.1000E-05
233	ZANMOD01	.00	8	1.3746E-12	8.4000E-05
234	RNAEPRNPSA	.00	9	1.3107E-12	1.7100E-04
235	RNBEPRNPSA	.00	9	1.3107E-12	1.7100E-04
236	SW7EPSBPASA	.00	7	1.1081E-12	1.7100E-04
237	PL1MOD12	.00	7	1.0618E-12	2.0900E-03
238	PL7MOD12	.00	7	1.0618E-12	2.0900E-03
239	DG1-LOGIC	.00	1	9.6501E-13	5.0000E-03
240	PL40302ASA	.00	7	8.6231E-13	1.1600E-03
241	ADX-MV-GO	.00	4	8.1246E-13	1.1000E-03
242	IDBBSDD1LF	.00	7	8.0913E-13	4.8000E-06
243	IDBBSDK1LF	.00	7	8.0913E-13	4.8000E-06
244	IDBBSDS1LF	.00	7	8.0913E-13	4.8000E-06
245	PMDX500ASA	.00	32	7.8704E-13	8.0000E-05
246	PMDEHO1SA	.00	28	7.7849E-13	8.0000E-05
247	CC1EPSBPASA	.00	6	7.6561E-13	1.7100E-04
248	Z01MOD03	.00	8	7.3574E-13	1.0000E-04
249	PMAEHOA1SAX	.00	6	7.2342E-13	8.0000E-05
250	PMAMOD42	.00	4	6.7402E-13	6.3500E-04
251	CC1EPSBPBSA	.00	5	6.3893E-13	1.7100E-04
252	SW7EPSBPBSA	.00	5	6.3893E-13	1.7100E-04
253	ED1BSDS1LF	.00	3	6.0907E-13	4.8000E-06
254	PL40302BSA	.00	4	6.0296E-13	1.1600E-03
255	SW7EPCTFASA	.00	4	5.7998E-13	1.7100E-04
256	SW7EPCTFBSA	.00	4	5.7998E-13	1.7100E-04
257	ED3BSDS1TM	.00	1	4.8805E-13	3.0000E-04
258	PMDMOD42	.00	11	4.8650E-13	6.3500E-04
259	IWNNTK001AF	.00	5	4.7595E-13	2.4000E-06
260	Z02MOD03	.00	5	4.3032E-13	1.0000E-04
261	PRAAV10BLA	.00	11	3.5461E-13	1.0900E-03
262	PRBAV10BLA	.00	11	3.5461E-13	1.0900E-03
263	PL10302ASA	.00	3	3.1919E-13	1.1600E-03
264	PL70302ASA	.00	3	3.1919E-13	1.1600E-03
265	CCX-BC-SA	.00	5	2.8222E-13	8.4000E-06
266	PL10302BSA	.00	2	2.5402E-13	1.1600E-03
267	PL70302BSA	.00	2	2.5402E-13	1.1600E-03
268	CCX-HE-AF	.00	3	2.3115E-13	1.2000E-06
269	PL1XS00ASA	.00	3	2.1649E-13	8.0000E-05
270	PL4XS00ASA	.00	3	2.1649E-13	8.0000E-05
271	PL7XS00ASA	.00	3	2.1649E-13	8.0000E-05
272	CCX-XMTR	.00	3	1.9007E-13	2.0100E-04
273	PLMMOD41	.00	2	1.7897E-13	6.3500E-04
274	EC2MOD22	.00	17	1.5954E-13	4.8000E-05
275	PRAAV10RTM	.00	9	1.5754E-13	5.0000E-04
276	PRBAV10RTM	.00	9	1.5754E-13	5.0000E-04
277	CCX-TRNSM	.00	2	1.0192E-13	2.0100E-04
278	EC1MOD13	.00	2	9.6145E-14	4.8000E-05
279	EC2MOD23	.00	2	9.6145E-14	4.8000E-05
280	DG1-LOGIC	.00	1	9.0039E-14	5.0000E-03
281	ZOX-BL-ER	.00	1	6.5947E-14	1.3600E-06
282	ZOX-FL-GP	.00	1	6.2950E-14	1.3000E-06
283	IDDMOD21	.00	6	4.9960E-14	1.9200E-04
284	IDABSDD1TM	.00	3	2.4980E-14	3.0000E-04
285	IDABSDK1TM	.00	3	2.4980E-14	3.0000E-04
286	PRX-HR-ML	.00	2	2.3759E-14	1.2000E-07
287	PMDEHO1SA	.00	10	1.7431E-14	8.0000E-05
288	IDDMOD34	.00	10	1.2101E-14	4.3200E-05
289	PRCEP108SA	.00	1	1.0547E-14	1.7100E-04
290	PRDEP108SA	.00	1	1.0547E-14	1.7100E-04
291	IDDMOD35	.00	4	5.7732E-15	2.1900E-02
292	EC2MOD221	.00	3	1.3323E-15	1.6800E-05
293	IWX-XMTRLW	.00	2	1.2212E-15	9.2000E-09
294	IDDMOD22	.00	3	9.9920E-16	2.7000E-03
295	IDDMOD23	.00	2	9.9920E-16	2.7000E-03

SYSTEM UNAVAILABILITY (Q) = 2.428E-06
 NUMBER OF BASIC EVENTS = 295
 NUMBER OF CUTSETS = 6834

BASIC EVENT	IMPORTANCE (% INCREASE)	NUMBER OF CUTSETS	INCREASE IN SYSTEM UNAVAILABILITY	BASIC EVENT PROBABILITY
1 IEV-RCSOD	1.038544E+07	484	2.5219E-01	4.4400E-06
2 CCX-SFTW	670744.	26	1.6288E-02	1.2000E-06
3 CCX-EP-SAM	118210.	218	2.8705E-03	8.6200E-06
4 CCX-ORY-SP	69793.3	18	1.6948E-03	2.7700E-04
5 CCX-XMTR195	69565.5	16	1.6893E-03	2.0100E-04
6 CCX-INPUT-LOGIC	57292.4	29	1.3912E-03	1.0300E-04
7 IWX-FL-GP	32680.4	168	7.9359E-04	1.2000E-05
8 IWX-MV-GO1	32218.1	266	7.8236E-04	2.6000E-05
9 ADX-EV-SA	31997.7	290	7.7701E-04	3.0000E-05
10 CCX-ORY-SPX	30690.2	112	7.4526E-04	3.6300E-06
11 CCX-XMTRX	30564.2	97	7.4220E-04	2.6300E-06
12 IEV-LOCA24ND	18702.3	121	4.5415E-04	1.6800E-05
13 IWX-CV-AO	16295.7	395	3.9571E-04	3.0000E-05
14 IEV-CCWD	15410.1	2122	3.7421E-04	6.0200E-04
15 IEV-RNSD	15306.8	1015	3.7170E-04	8.1500E-05
16 IEV-LOCA24D	14762.5	428	3.5848E-04	1.1300E-05
17 CCX-PMAMOD1-SW	14591.9	128	3.5434E-04	1.1000E-05
18 CCX-PMAMOD1X	14555.2	195	3.5345E-04	4.6300E-05
19 IW1TL170UFX	14528.4	33	3.5280E-04	6.8400E-05
20 IW2TL160UFX	14528.4	33	3.5280E-04	6.8400E-05
21 CCX-EP-SAMX	14514.1	87	3.5245E-04	2.9400E-06
22 CCX-PMA030X	14498.7	130	3.5207E-04	1.3800E-05
23 JW1OR170SPX	14495.4	34	3.5200E-04	9.4600E-05
24 IW2OR160SPX	14495.4	34	3.5200E-04	9.4600E-05
25 IEV-CCWND	8785.20	69	2.1333E-04	3.7500E-03
26 IEV-LOCAPRND	8682.60	59	2.1084E-04	1.5100E-05
27 CCX-PMAMOD2X	7201.47	22	1.7488E-04	8.5800E-05
28 CCX-IN-LOGIC-SW	7098.28	8	1.7237E-04	1.1000E-05
29 CCX-PMAMOD2-SW	7098.28	8	1.7237E-04	1.1000E-05
30 CCX-INPUT-LOGICX	7090.53	12	1.7218E-04	2.5900E-05
31 IEV-RNSND	6297.81	46	1.5293E-04	9.6100E-04
32 IEV-LOSPD	712.270	2450	1.7296E-05	4.4400E-03
33 CCX-BY-PN	711.023	237	1.7266E-05	4.7000E-05
34 CCX-PMAMOD1	677.652	87	1.6456E-05	1.4100E-04
35 CCX-PMA030	626.452	59	1.5212E-05	9.6900E-05
36 IDAMOD04	543.770	340	1.3205E-05	3.1700E-04
37 IDAMOD05	538.807	354	1.3084E-05	5.1600E-04
38 IDABSDS1TM	523.898	255	1.2722E-05	3.0000E-04
39 CCX-IV-XR	522.623	132	1.2691E-05	2.4000E-05
40 PMAMOD11	457.098	296	1.1100E-05	2.0900E-03
41 PMA0301ASA	448.329	218	1.0887E-05	1.1600E-03
42 PMA0301BSA	448.329	218	1.0887E-05	1.1600E-03
43 CCX-AV-LA	352.539	5	8.5608E-06	6.1000E-05
44 CMX-CV-GO	352.488	4	8.5596E-06	5.1000E-05
45 CMX-VS-FA	352.435	7	8.5583E-06	3.8400E-05
46 ALL-IND-FAIL	302.239	27	7.3393E-06	1.0000E-06
47 PMAXS00ASA	288.640	28	7.0091E-06	8.0000E-05
48 ECX-CB-GO	243.320	92	5.9086E-06	1.2000E-03
49 IW8-PLUG	243.147	443	5.9044E-06	2.4000E-04
50 ZOX-PD-ES	242.873	113	5.8978E-06	2.0000E-03
51 ED1MOD03	241.621	131	5.8673E-06	2.2020E-03
52 ECX-CB-GC	241.522	74	5.8649E-06	7.3000E-04
53 ZOX-DG-DR	240.001	57	5.8280E-06	4.4000E-04
54 ZOX-DG-DS	236.150	50	5.7345E-06	2.8000E-04
55 ED1MOD11	232.916	55	5.6560E-06	3.1700E-04
56 ED1MOD113	232.916	55	5.6560E-06	3.1700E-04
57 ZOX-PD-ER	224.284	32	5.4464E-06	1.3000E-04
58 CCX-BY-PN1	201.842	17	4.9014E-06	5.7000E-05
59 ZOX-BL-ES	200.080	16	4.8586E-06	6.0000E-05
60 PMAXS00ASAX	150.379	158	3.6517E-06	8.0000E-05
61 PMAMOD11X	138.654	369	3.3670E-06	6.5300E-04
62 PMA0301ASAX	135.876	176	3.2995E-06	1.6500E-04
63 PMA0301BSAX	132.406	157	3.2153E-06	1.6500E-04
64 IDABSDS1LF	114.699	24	2.7853E-06	4.8000E-06
65 RN23MOD5S	106.921	917	2.5964E-06	2.2100E-03
66 IDDBSDD1TM	105.925	370	2.5722E-06	3.0000E-04
67 IDDBSDK1TM	105.925	370	2.5722E-06	3.0000E-04
68 IDDBSDS1TM	105.925	370	2.5722E-06	3.0000E-04
69 RJDEP023SA	105.312	291	2.5573E-06	1.7100E-04
70 CCX-PMDMOD1	105.065	270	2.5513E-06	1.4100E-04
71 CCX-LS-FA	104.271	32	2.5320E-06	5.3700E-06
72 CCX-PMD030	104.225	184	2.5309E-06	9.6900E-05

73	CCX-PMDMOD4	102.635	133	2.4923E-06	4.9800E-05
74	CCX-PMAMOD4	97.2944	41	2.3626E-06	4.9800E-05
75	CCX-PMDMOD1-SW	95.5830	56	2.3211E-06	1.1000E-05
76	CCX-PMDMOD4-SW	95.5830	56	2.3211E-06	1.1000E-05
77	IDDFD019RQ	95.5274	58	2.3197E-06	1.2000E-05
78	IDDFD020RQ	95.5274	58	2.3197E-06	1.2000E-05
79	IDDBSDD1LF	94.8507	31	2.3033E-06	4.8000E-06
80	IDDBSDK1LF	94.8507	31	2.3033E-06	4.8000E-06
81	IDDBSDS1LF	94.8507	31	2.3033E-06	4.8000E-06
82	CCX-PMDEMO	94.7358	29	2.3005E-06	4.0300E-06
83	CCX-PMAEH0X	91.8973	11	2.2316E-06	4.0300E-06
84	CCX-PMAMOD4-SW	91.8955	12	2.2315E-06	1.1000E-05
85	MDAS	83.5156	79	2.0377E-06	1.0000E-02
86	IDCBSDD1TM	65.2765	176	1.5851E-06	3.0000E-04
87	IDCBSDK1TM	65.2765	176	1.5851E-06	3.0000E-04
88	IDCBSDS1TM	65.2765	176	1.5851E-06	3.0000E-04
89	IRAEPI21BSAX	64.0193	66	1.5546E-06	5.8300E-05
90	PMAMOD21X	57.6193	14	1.3992E-06	1.1600E-03
91	IDCFD007RQ	56.5473	18	1.3732E-06	1.2000E-05
92	IDCFD008RQ	56.5473	18	1.3732E-06	1.2000E-05
93	RHN-MAN05C	49.0570	27	1.1913E-06	5.0000E-01
94	IDCBSDD1LF	42.5105	12	1.0323E-06	4.8000E-06
95	IDCBSDK1LF	42.5105	12	1.0323E-06	4.8000E-06
96	IDCBSDS1LF	42.5105	12	1.0323E-06	4.8000E-06
97	RNX-PM-FS	41.7955	50	1.0149E-06	7.7000E-04
98	REC-MANDASC	40.8664	46	9.9237E-07	5.0000E-01
99	RNX-KV-GO	40.1945	44	9.7605E-07	6.1000E-04
100	EC1BS001TM	40.1297	442	9.7448E-07	2.7000E-03
101	EC1BS012TM	40.1297	442	9.7448E-07	2.7000E-03
102	EC1BS121TM	40.1297	442	9.7448E-07	2.7000E-03
103	PL5MOD11	36.4662	73	8.8552E-07	2.0900E-03
104	PL50301ASA	34.2910	47	8.3270E-07	1.1600E-03
105	PL50301BSA	34.2910	47	8.3270E-07	1.1600E-03
106	EC1MOD12	31.6155	66	7.6773E-07	4.8000E-05
107	IDAMOD06	30.4224	48	7.3875E-07	4.3200E-05
108	LPM-MAN05	28.9799	37	7.0373E-07	5.0000E-01
109	EC1MOD121	28.3430	24	6.8826E-07	1.6800E-05
110	ED1MOD01	27.5	23	6.6914E-07	5.0400E-04
111	IWN-MAN00	26.169	189	6.4125E-07	5.0000E-01
112	IWA-PLUG	26.1420	136	6.3481E-07	2.4000E-04
113	IRWMOD05S	26.0833	380	6.3339E-07	3.0000E-03
114	IDBBSDD1TM	25.5997	125	6.2164E-07	3.0000E-04
115	IDBBSDK1TM	25.5997	125	6.2164E-07	3.0000E-04
116	IDBBSDS1TM	25.5997	125	6.2164E-07	3.0000E-04
117	IEV-LOSPND	25.4745	40	6.1860E-07	1.7100E-02
118	Z01MOD01	24.5691	524	5.9662E-07	2.0200E-02
119	IRAEPI21ASAX	24.2017	42	5.8770E-07	5.8300E-05
120	RHN-MAN04	23.0847	123	5.6057E-07	5.0000E-01
121	EC1CB100VO	23.0642	380	5.6007E-07	1.2300E-02
122	RHN-MAN04-SUCC	23.0625	399	5.6003E-07	5.0000E-01
123	IWN-MAN00C	23.0336	23	5.5933E-07	5.0000E-01
124	ED1MOD07	21.8434	17	5.3043E-07	3.0500E-04
125	ED1MOD13	21.8313	17	5.3014E-07	3.1700E-04
126	PMAMOD12X	20.1023	123	4.8815E-07	6.5300E-04
127	IDAMOD08	20.0513	96	4.8691E-07	3.1700E-04
128	EC1BS001LF	18.5173	7	4.4966E-07	4.8000E-06
129	IDBFDO13RQ	18.0450	10	4.3819E-07	1.2000E-05
130	IDBFDO14RQ	18.0450	10	4.3819E-07	1.2000E-05
131	PMA0302ASAX	17.4963	59	4.2487E-07	1.6500E-04
132	CCX-PL4MOD1	16.0040	17	3.8863E-07	1.4100E-04
133	CCX-PL403	14.3798	14	3.4919E-07	9.6900E-05
134	RNX-CV-GO	14.3087	12	3.4746E-07	5.1000E-05
135	RNX-PM-ER	14.0429	10	3.4101E-07	1.6000E-05
136	CCX-PM-ER	14.0328	10	3.4076E-07	1.4000E-05
137	SWX-PM-ER	14.0328	10	3.4076E-07	1.4000E-05
138	PMA0302BSAX	14.0269	40	3.4062E-07	1.6500E-04
139	CCX-PL4MOD1-SW	13.4805	8	3.2735E-07	1.1000E-05
140	CCX-EP-SA	13.4792	8	3.2732E-07	8.6200E-06
141	ADN-MAN01	12.7054	58	3.0853E-07	5.0000E-01
142	ED2MOD03	11.5583	68	2.8067E-07	2.7000E-03
143	Z01MOD04	11.4092	82	2.7705E-07	1.2500E-03
144	PRN-MAN01	9.41718	4	2.2868E-07	5.0000E-01
145	ED3MOD07	8.71659	26	2.1167E-07	3.0500E-04
146	PXX-AV-LA	8.43237	57	2.0477E-07	6.1000E-05
147	Z02MOD01	8.24963	187	2.0033E-07	2.0200E-02
148	IWNTK001AF	8.16666	5	1.9831E-07	2.4000E-06
149	PRX-HR-ML	8.15334	4	1.9799E-07	1.2000E-07
150	RNBMOD07S	7.1486	146	1.9268E-07	1.5300E-02
151	CCX-HE-AF	7.93235	3	1.9262E-07	1.2000E-06
152	EC2CB200VO	7.82260	144	1.8996E-07	1.2300E-02
153	SWBMOD02	7.76650	150	1.8860E-07	2.4400E-02

154	CCBMOD01S	7.37986	91	1.7921E-07	1.0400E-02
155	PMAMOD22X	7.22998	2	1.7557E-07	1.1600E-03
156	EC1REDG2GA	6.98365	57	1.6959E-07	4.3600E-03
157	IDBBSSDD1LF	6.94174	7	1.6857E-07	4.8000E-06
158	IDBBBSDK1LF	6.94174	7	1.6857E-07	4.8000E-06
159	IDBBSDS1LF	6.94174	7	1.6857E-07	4.8000E-06
160	CCX-PL1MOD1	6.45198	9	1.5668E-07	1.4100E-04
161	CCX-PL7MOD1	6.45198	9	1.5668E-07	1.4100E-04
162	EC5EPMGB1SA	6.45042	9	1.5664E-07	1.7100E-04
163	PL5XS00ASA	6.42419	7	1.5600E-07	8.0000E-05
164	CCX-PL103	6.42127	7	1.5593E-07	9.6900E-05
165	CCX-PL703	6.42127	7	1.5593E-07	9.6900E-05
166	CCX-IV-XR1	6.35374	6	1.5429E-07	2.4000E-05
167	ED3MOD03	6.26126	35	1.5204E-07	2.2020E-03
168	CCX-PL1MOD1-SW	5.88115	4	1.4281E-07	1.1000E-05
169	CCX-PL7MOD1-SW	5.88115	4	1.4281E-07	1.1000E-05
170	PL4MOD11	5.78667	43	1.4052E-07	2.0900E-03
171	PL1MOD11	5.75793	36	1.3982E-07	2.0900E-03
172	PL7MOD11	5.75793	36	1.3982E-07	2.0900E-03
173	SWBMOD09P	5.74125	31	1.3942E-07	1.8500E-03
174	IWX-XMTRLW	5.46648	2	1.3274E-07	9.2000E-09
175	ED1BSDS1LF	5.22535	3	1.2689E-07	4.8000E-06
176	ZO2MOD04	4.97060	44	1.2070E-07	1.2500E-03
177	PL40301ASA	4.66350	29	1.1324E-07	1.1600E-03
178	PL40301BSA	4.65430	26	1.1302E-07	1.1600E-03
179	PL10301ASA	4.64424	25	1.1278E-07	1.1600E-03
180	PL70301ASA	4.64424	25	1.1278E-07	1.1600E-03
181	PL10301BSA	4.64193	24	1.1272E-07	1.1600E-03
182	PL70301BSA	4.64193	24	1.1272E-07	1.1600E-03
183	RHN-MAN05	4.54369	785	1.1034E-07	5.0000E-01
184	OTH-R1	4.11637	2292	9.9959E-08	4.2000E-01
185	CCNTF101RI	2.92593	5	7.1051E-08	5.2300E-03
186	SWNTP001RI	2.92593	5	7.1051E-08	5.2300E-03
187	DAS	2.17481	6	5.2812E-08	1.0000E-02
188	PL1MOD51	2.14668	2	5.2128E-08	8.7400E-04
189	ZOX-BL-ER	1.99687	1	4.8491E-08	1.3600E-06
190	ZOX-FL-GP	1.99408	1	4.8423E-08	1.3000E-06
191	RC1OR195SP	1.90187	4	4.6184E-08	7.2200E-03
192	RC1TL195UF	1.86255	3	4.5229E-08	5.2300E-03
193	REC-MANDAS	1.52332	36	3.6991E-08	5.0000E-01
194	CCX-BC-SA	1.38355	5	3.3597E-08	8.4000E-06
195	ZO1DG001TM	1.26406	95	3.0696E-08	4.6000E-02
196	IWBKV122AO	1.12213	184	2.7249E-08	8.7600E-03
197	IWBKV123AO	1.12213	184	2.7249E-08	8.7600E-03
198	IWBKV124AO	1.12213	184	2.7249E-08	8.7600E-03
199	IWBKV125AO	1.12213	184	2.7249E-08	8.7600E-03
200	PMDMOD11	1.09347	206	2.6553E-08	2.0900E-03
201	RNAMOD06S	1.06633	90	2.5894E-08	1.5300E-02
202	ED2MOD01	.996332	1	2.4194E-08	5.0400E-04
203	ZANMOD01	.673819	8	1.6363E-08	8.4000E-05
204	IDDMOD32	.609148	58	1.4792E-08	3.1700E-04
205	PMD0301ASA	.571805	134	1.3805E-08	1.1600E-03
206	ED2MOD11	.560155	20	1.3602E-08	3.1700E-04
207	EC1MOD01	.538568	16	1.3078E-08	2.0200E-04
208	PMAMOD41	.532782	34	1.2938E-08	6.3500E-04
209	PMD0301BSA	.515257	117	1.2512E-08	1.1600E-03
210	IWACV122AO	.430828	126	1.0462E-08	8.7600E-03
211	IWACV123AO	.430828	126	1.0462E-08	8.7600E-03
212	IWACV124AO	.430828	126	1.0462E-08	8.7600E-03
213	IWACV125AO	.430828	126	1.0462E-08	8.7600E-03
214	EC2BS002TM	.428441	187	1.0404E-08	2.7000E-03
215	EC2BS022TM	.428441	187	1.0404E-08	2.7000E-03
216	EC2BS221TM	.428441	187	1.0404E-08	2.7000E-03
217	PMDMOD41	.426664	67	1.0361E-08	6.3500E-04
218	EC2MOD01	.411303	14	9.9878E-09	2.0200E-04
219	PMDXS002	.405101	32	9.8372E-09	8.0000E-05
220	PMDEH0A1SA	.400701	28	9.7303E-09	8.0000E-05
221	SWAMOD07	.396334	42	9.6243E-09	7.1200E-03
222	IDDMOD33	.395749	45	9.6101E-09	5.1600E-04
223	PMAEH0A1SAX	.372357	6	9.0420E-09	8.0000E-05
224	EC1REDG1GA	.362699	39	8.8075E-09	4.3600E-03
225	OTH-R2	.353274	29	8.5787E-09	2.4000E-01
226	PMDMOD12	.326736	86	7.9342E-09	2.0900E-03
227	RNAEPRNPSA	.315599	9	7.6638E-09	1.7100E-04
228	RNBEPRNPSA	.315599	9	7.6638E-09	1.7100E-04
229	IDAMOD02	.309896	31	7.5253E-09	2.7000E-03
230	IDAMOD03	.309896	31	7.5253E-09	2.7000E-03
231	CCAMOD02	.306247	40	7.4367E-09	7.1000E-03
232	ZO1MOD03	.302954	8	7.3567E-09	1.0000E-04
233	SW7EPSBPASA	.266866	7	6.4804E-09	1.7100E-04
234	ED3MOD01	.265439	10	6.4457E-09	5.0400E-04

235	SWAMOD09P	.240805	22	5.8475E-09	1.8500E-03
236	IDDMOD3R	.215681	31	5.2423E-09	3.1700E-04
237	CC1EPSPBASA	.184344	6	4.4765E-09	1.7100E-04
238	ZO2MOD03	.7192	5	4.3028E-09	1.0000E-04
239	PMD0302ASA	.088	46	4.2274E-09	1.1600E-03
240	CC1EPSPBBSA	.153843	5	3.7358E-09	1.7100E-04
241	SW7EPSPBBSA	.153843	5	3.7358E-09	1.7100E-04
242	SUC-R1S	.141760	158	3.4424E-09	5.8000E-01
243	SW7EPCTFASA	.139648	4	3.3911E-09	1.7100E-04
244	SW7EPCTFBSA	.139648	4	3.3911E-09	1.7100E-04
245	EC2MOD22	.136867	17	3.3236E-09	4.8000E-05
246	PMD0302BSA	.117540	29	2.8547E-09	1.1600E-03
247	PL1XS00ASA	.111433	3	2.7060E-09	8.0000E-05
248	PL4XS00ASA	.111433	3	2.7060E-09	8.0000E-05
249	PL7XS00ASA	.111433	3	2.7060E-09	8.0000E-05
250	SUC-R2S	.104724	9	2.5430E-09	7.6000E-01
251	EC1MOD13	8.248194E-02	2	2.0029E-09	4.8000E-05
252	EC2MOD23	8.248194E-02	2	2.0029E-09	4.8000E-05
253	ED3BSDS1TM	6.697445E-02	1	1.6264E-09	3.0000E-04
254	PL4MOD12	5.133477E-02	16	1.2466E-09	2.0900E-03
255	RHN-MAN03	4.5735561E-02	36	1.1106E-09	5.0000E-01
256	PMAMOD42	4.368313E-02	4	1.0608E-09	6.3500E-04
257	CCX-XMTR	3.893350E-02	3	9.4543E-10	2.0100E-04
258	PMDMOD42	3.153014E-02	11	7.6565E-10	6.3500E-04
259	PL40302ASA	3.057696E-02	7	7.4251E-10	1.1600E-03
260	ADX-MV-GO	3.038259E-02	4	7.3779E-10	1.1000E-03
261	ZO2DG002TM	2.987156E-02	42	7.2538E-10	4.6000E-02
262	PL40302BSA	2.138065E-02	4	5.1919E-10	1.1600E-03
263	CCB-MAN01	2.118743E-02	6	5.1450E-10	5.0000E-01
264	PL1MOD12	2.087794E-02	7	5.0698E-10	2.0900E-03
265	PL7MOD12	2.087794E-02	7	5.0698E-10	2.0900E-03
266	CCX-TRNSM	2.087673E-02	2	5.0696E-10	2.0100E-04
267	SWB-MAN02	1.538096E-02	4	3.7350E-10	5.0000E-01
268	PRAAV108LA	1.338252E-02	11	3.2497E-10	1.0900E-03
269	PRBAV108LA	1.338252E-02	11	3.2497E-10	1.0900E-03
270	PRAAV108TM	1.296875E-02	9	3.1492E-10	5.0000E-04
271	PRBAV108TM	1.296875E-02	9	3.1492E-10	5.0000E-04
272	IDAMOD07	1.171786E-02	15	2.8455E-10	2.1900E-02
273	PLMMOD41	1.159895E-02	2	2.8166E-10	6.3500E-04
274	IDDMOD34	1.153525E-02	10	2.8011E-10	4.3200E-05
275	PL10302ASA	1.131824E-02	3	2.7484E-10	1.1600E-03
276	PL70302ASA	1.131824E-02	3	2.7484E-10	1.1600E-03
277	IDDMOD21	1.071349E-02	6	2.6016E-10	1.9200E-04
278	ZON-MAN01	1.032399E-02	7	2.5070E-10	5.0000E-01
279	PL10302BSA	9.007351E-03	2	2.1873E-10	1.1600E-03
280	PL70302BSA	9.007351E-03	2	2.1873E-10	1.1600E-03
281	PMDBH0A2SA	8.971768E-03	10	2.1786E-10	8.0000E-05
282	DG2-LOGIC	7.908168E-03	1	1.9204E-10	5.0000E-03
283	AD2MOD01	4.837467E-03	21	1.1747E-10	5.5400E-02
284	AD2MOD02	4.837467E-03	21	1.1747E-10	5.5400E-02
285	AD3MOD03	4.837467E-03	21	1.1747E-10	5.5400E-02
286	AD3MOD04	4.837467E-03	21	1.1747E-10	5.5400E-02
287	IDABSDD1TM	3.427946E-03	3	8.3242E-11	3.0000E-04
288	IDABSDK1TM	3.427946E-03	3	8.3242E-11	3.0000E-04
289	EC2MOD221	3.265636E-03	3	7.9300E-11	1.6800E-05
290	PRCEP108SA	2.539547E-03	1	6.1669E-11	1.7100E-04
291	PRDEP108SA	2.539547E-03	1	6.1669E-11	1.7100E-04
292	DG1-LOGIC	7.378652E-04	1	1.7918E-11	5.0000E-03
293	IDDMOD22	1.519874E-05	3	3.6908E-13	2.7000E-03
294	IDDMOD23	1.519874E-05	3	3.6908E-13	2.7000E-03
295	IDDMOD35	1.061807E-05	4	2.5784E-13	2.1900E-02

Table 54B-17

CASE 5 LIST OF TOP 200 DOMINANT CUTSETS

Reduced Sum of Cutsets: 4.5640E-06

NUMBER	CUTSET PROB.	PERCENT	BASIC EVENT NAME		EVENT PROB.	IDENTIFIER
1	1.11E-06	24.32	OVERDRAINING OF RCS DURING DRAIN DOWN TO MID-LOOP INITIATING EVENT OPERATOR FAILS TO ISOLATE RNS PIPE RUPTURE IWN-MAN00C		4.44E-06 5.00E-01 5.00E-01	IEV-RCS0D RHN-MAN04 IWN-MAN00C
2	1.11E-06	24.32	OVERDRAINING OF RCS DURING DRAIN DOWN TO MID-LOOP INITIATING EVENT RHN-MAN04-SUCC OPERATOR FAILS TO OPEN TWO IRWST MOVs		4.44E-06 5.00E-01 5.00E-01	IEV-RCS0D RHN-MAN04-SUCC IWN-MAN00
3	2.60E-07	5.70	LOSS OF CCS/SWS WITH RCS FILLED INITIATING EVENT OCCURS COND. PROB. OF REC-MANDAS (FAILURE OF MANUAL DAS ACT. CCF OF ORIFICES OPERATOR FAILS TO RECOGNIZE THE NEED FOR RCS DEPRESSURIZATION		3.75E-03 5.00E-01 2.77E-04 5.00E-01	IEV-CCWD REC-MANDASC CCX-ORY-SF LPM-MAN05
4	1.88E-07	4.12	LOSS OF CCS/SWS WITH RCS FILLED INITIATING EVENT OCCURS COND. PROB. OF REC-MANDAS (FAILURE OF MANUAL DAS ACT. CCF OF PRESSURE TRANSMITTERS OPERATOR FAILS TO RECOGNIZE THE NEED FOR RCS DEPRESSURIZATION		3.75E-03 5.00E-01 2.01E-04 5.00E-01	IEV-CCWD REC-MANDASC CCX-XMTR195 LPM-MAN05
5	1.81E-07	3.97	LOSS OF CCS/SWS WITH RCS DRAINED INITIATING EVENT OCCURS CHECK VALVE 122A FAILS TO OPEN CHECK VALVE 124A FAILS TO OPEN BUS UNAVAILABLE DUE TO TEST OR CORRECTIVE MAINTENANCE		6.02E-04 1.00E-00 1.00E-00 3.00E-04	IEV-CCWD IWACV122AO IWACV124AO IDCBSD01TM
6	1.81E-07	3.97	LOSS OF CCS/SWS WITH RCS DRAINED INITIATING EVENT OCCURS CHECK VALVE 122A FAILS TO OPEN CHECK VALVE 124A FAILS TO OPEN BUS UNAVAILABLE DUE TO TEST OR CORRECTIVE MAINTENANCE		6.02E-04 1.00E-00 1.00E-00 3.00E-04	IEV-CCWD IWACV122AO IWACV124AO IDCBSD01TM
7	1.81E-07	3.97	LOSS OF CCS/SWS WITH RCS DRAINED INITIATING EVENT OCCURS CHECK VALVE 122A FAILS TO OPEN CHECK VALVE 124A FAILS TO OPEN BUS UNAVAILABLE DUE TO TEST OR CORRECTIVE MAINTENANCE		6.02E-04 1.00E-00 1.00E-00 3.00E-04	IEV-CCWD IWACV122AO IWACV124AO IDCBSD01TM
8	1.44E-07	3.16	LOSS OF CCS/SWS WITH RCS DRAINED INITIATING EVENT OCCURS CHECK VALVE 122A FAILS TO OPEN CHECK VALVE 124A FAILS TO OPEN IRWST DISCHARGE LINE "B" STRAINER PLUGGED		6.02E-04 1.00E-00 1.00E-00 2.40E-04	IEV-CCWD IWACV122AO IWACV124AO IWB-PLUG
9	1.30E-07	2.85	LOSS OF CCS/SWS WITH RCS FILLED INITIATING EVENT OCCURS COND. PROB. OF REC-MANDAS (FAILURE OF MANUAL DAS ACT. CCF OF ORIFICES PRN-MAN01 OPERATOR FAILS TO ACTUATE ADS BEFORE CORE DAMAGE		3.75E-03 5.00E-01 2.77E-04 5.00E-01 5.00E-01	IEV-CCWD REC-MANDASC CCX-ORY-SF PRN-MAN01 ADN-MAN01
10	9.66E-08	2.12	LOSS OF CCS/SWS WITH RCS FILLED INITIATING EVENT OCCURS COND. PROB. OF REC-MANDAS (FAILURE OF MANUAL DAS ACT. COCKIN MODE FAILURE OF INPUT LOGIC GROUPS OPERATOR FAILS TO RECOGNIZE THE NEED FOR RCS DEPRESSURIZATION		3.75E-03 5.00E-01 1.03E-04 5.00E-01	IEV-CCWD REC-MANDASC CCX-INPUT-LOGIC LPM-MAN05
11	9.42E-08	2.06	LOSS OF CCS/SWS WITH RCS FILLED INITIATING EVENT OCCURS COND. PROB. OF REC-MANDAS (FAILURE OF MANUAL DAS ACT. CCF OF PRESSURE TRANSMITTERS		3.75E-03 5.00E-01 2.01E-04	IEV-CCWD REC-MANDASC CCX-XMTR195

Table 54B-17

CASE 5 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PROB.	PERCENT	BASIC EVENT NAME	INITIATING EVENT OCCURS	EVENT PROB.	IDENTIFIER
			PRN-MAN01 OPERATOR FAILS	TO ACTUATE ADS	5.00E-01	PRN-MAN01
				BEFORE CORE	5.00E-01	ADN-MAN01
12	6.65E-08	1.46	LOSS OF RNS WITH RCS FILLED COND. PROB. OF REC-MANDAS CCF OF ORIFICES OPERATOR FAILS	INITIATING EVENT OCCURS (FAILURE OF MANUAL DAS ACT.)	9.61E-04	IEV-RNSND
				DEPRESSURIZATION	5.00E-01	REC-MANDASC
					2.77E-04	CCX-ORY-SP
					5.00E-01	LPM-MAN05
13	4.83E-08	1.06	LOSS OF RNS WITH RCS FILLED COND. PROB. OF REC-MANDAS CCF OF PRESSURE TRANSMITTERS OPERATOR FAILS	INITIATING EVENT OCCURS (FAILURE OF MANUAL DAS ACT.)	9.61E-04	IEV-RNSND
				DEPRESSURIZATION	5.00E-01	REC-MANDASC
					2.01E-04	CCX-XMT195
					5.00E-01	LPM-MAN05
14	3.51E-08	.77	LOSS OF CCS/SWS WITH RCS DRAINED CHECK VALVE 122A CHECK VALVE 124A FAILURE OF POWER INTERFACE OUTPUT BOARD	INITIATING EVENT OCCURS FAILS TO OPEN FAILS TO OPEN	6.02E-04	IEV-CCWD
				INTERFACE OUTPUT BOARD	1.00E+00	IWACV122AO
					1.00E+00	IWACV124AO
					5.83E-05	IRAEPI21BSAX
15	2.85E-08	.62	LOSS OF CCS/SWS WITH RCS DRAINED ORIFICE FAILURE DUE TO PLUGGING OPERATOR FAILS	INITIATING EVENT OCCURS	6.02E-04	IEV-CCWD
				IRWST MOVs	9.46E-05	IWI0R170SPX
					5.00E-01	IWN-MAN00
16	2.85E-08	.62	LOSS OF CCS/SWS WITH RCS DRAINED ORIFICE FAILURE DUE TO PLUGGING OPERATOR FAILS	INITIATING EVENT OCCURS	6.02E-04	IEV-CCWD
				IRWST MOVs	9.46E-05	IW20R160SPX
					5.00E-01	IWN-MAN00
17	2.79E-08	.61	LOSS OF CCS/SWS WITH RCS DRAINED CCF OF ACTUATION LOGIC GROUPS	INITIATING EVENT OCCURS	6.02E-04	IEV-CCWD
					4.63E-05	CCX-PMAMOD1X
18	2.58E-08	.57	LOSS OF CCS/SWS WITH RCS DRAINED CCF OF ACTUATION LOGIC GROUPS OPERATOR FAILS	INITIATING EVENT OCCURS	6.02E-04	IEV-CCWD
				IRWST MOVs	8.58E-05	CCX-PMAMOD2X
					5.00E-01	IWN-MAN00
19	2.47E-08	.54	LOSS OF RNS WITH RCS FILLED COND. PROB. OF REC-MANDAS COMMON MODE OPERATOR FAILS	INITIATING EVENT OCCURS (FAILURE OF MANUAL DAS ACT.)	9.61E-04	IEV-RNSND
				LOGIC GROUPS	5.00E-01	REC-MANDASC
				DEPRESSURIZATION	1.03E-04	CCX-INPUT-LOGIC
					5.00E-01	LPM-MAN05
20	2.45E-08	.54	LOSS OF RNS WITH RCS DRAINED CHECK VALVE 122A CHECK VALVE 124A BUS UNAVAILABLE DUE TO TEST OR	INITIATING EVENT OCCURS FAILS TO OPEN FAILS TO OPEN CORRECTIVE MAINTENANCE	8.15E-05	IEV-RNSD
					1.00E+00	IWACV122AO
					1.00E+00	IWACV124AO
					3.00E-04	IDCBSDK1TM
21	2.45E-08	.54	LOSS OF RNS WITH RCS DRAINED CHECK VALVE 122A CHECK VALVE 124A BUS UNAVAILABLE DUE TO TEST OR	INITIATING EVENT OCCURS FAILS TO OPEN FAILS TO OPEN CORRECTIVE MAINTENANCE	8.15E-05	IEV-RNSD
					1.00E+00	IWACV122AO
					1.00E+00	IWACV124AO
					3.00E-04	IDCBSD1TM
22	2.45E-08	.54	LOSS OF RNS WITH RCS DRAINED CHECK VALVE 122A CHECK VALVE 124A BUS UNAVAILABLE DUE TO TEST OR	INITIATING EVENT OCCURS FAILS TO OPEN FAILS TO OPEN CORRECTIVE MAINTENANCE	8.15E-05	IEV-RNSD
					1.00E+00	IWACV122AO
					1.00E+00	IWACV124AO
					3.00E-04	IDCBSD1TM
23	2.29E-08	.50	LOSS OF CCS/SWS WITH RCS DRAINED	INITIATING EVENT OCCURS	6.02E-04	IEV-CCWD

Table 54B-17

CASE 5 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PROB.	PERCENT	BAS.	EVENT NAME	EVENT PROB.	IDENTIFIER	
				CCP OF ADS SQUIB VALVES TO OPERATE	5.80E-05	ADX-EV-SA	
24	2.29E-08	.50	LOSS OF CCS/SWS CCP OF IRWST INJ	WITH RCS DRAINED INITIATING EVENT OCCURS SQUIB VALVES	6.02E-04 3.80E-05	IEV-CCWD IWX-MV-G01	
25	2.06E-08	.45	LOSS OF CCS/SWS LEVEL OPERATOR FAILS	WITH RCS DRAINED TRANSMITTER TO OPEN TWO	INITIATING EVENT OCCURS FAILURE IRWST MOVs	6.02E-04 6.84E-05 5.00E-01	IEV-CCWD IWITL170UFX IWN-MAN00
26	2.06E-08	.45	LOSS OF CCS/SWS LEVEL OPERATOR FAILS	WITH RCS DRAINED TRANSMITTER TO OPEN TWO	INITIATING EVENT OCCURS FAILURE IRWST MOVs	6.02E-04 6.84E-05 5.00E-01	IEV-CCWD IW2TL160UFX IWN-MAN00
27	1.96E-08	.43	LOSS OF RNS CHECK VALVE CHECK VALVE IRWST DISCHARGE	WITH RCS DRAINED 122A 124A LINE "B"	INITIATING EVENT OCCURS FAILS TO OPEN FAILS TO OPEN STRAINER PLUGGED	8.15E-05 1.00E-00 1.00E-00 2.40E-04	IEV-RNSD IWACV122AO IWACV124AO IWB-PLUG
28	1.87E-08	.41	LOSS OF CCS/SWS CCP OF GRAVITY	WITH RCS DRAINED INJECTION CHECK	INITIATING EVENT OCCURS VALVES TO OPEN	6.02E-04 3.10E-05	IEV-CCWD IWX-CV-AO
29	1.62E-08	.35	LOSS OF CCS/SWS FAILURE OF CCP OF THE POWER	WITH RCS FILLED MANUAL DAS INTERFACE OUTPUT BOARDS IN PMS	INITIATING EVENT OCCURS ACTUATION	3.75E-03 5.00E-01 8.62E-06	IEV-CCWID REC-MANDAS CCK-EP-SAM
30	1.55E-08	.34	LOSS OF CCS/SWS COND. PROB. OF COMMON MODE	WITH RCS DRAINED REC-MANDAS FAILURE OF INPUT LOGIC GROUPS	INITIATING EVENT OCCURS (FAILURE OF MANUAL DAS ACT.)	6.02E-04 5.00E-01 1.03E-04	IEV-CCWD REC-MANDASC CCK-INPUT-LOGIC
			OPERATOR FAILS	TO ACTUATE ADS BEFORE CORE	DAMAGE	5.00E-01	ADN-MAN01
31	1.42E-08	.31	LOSS OF CCS/SWS COND. PROB. OF ORIFICE FAILURE	WITH RCS DRAINED REC-MANDAS DUE TO PLUGGING	INITIATING EVENT OCCURS (FAILURE OF MANUAL DAS ACT.)	6.02E-04 5.00E-01 9.46E-05	IEV-CCWD REC-MANDASC IWJOR170SPX
			OPERATOR FAILS	TO ACTUATE ADS BEFORE CORE	DAMAGE	5.10E-01	ADN-MAN01
32	1.42E-08	.31	LOSS OF CCS/SWS COND. PROB. OF ORIFICE FAILURE	WITH RCS DRAINED REC-MANDAS DUE TO PLUGGING	INITIATING EVENT OCCURS (FAILURE OF MANUAL DAS ACT.)	6.02E-04 5.00E-01 9.46E-05	IEV-CCWD REC-MANDASC IW2OR160SPX
			OPERATOR FAILS	TO ACTUATE ADS BEFORE CORE	DAMAGE	5.00E-01	ADN-MAN01
33	1.03E-08	.23	LOSS OF CCS/SWS COND. PROB. OF LEVEL	WITH RCS DRAINED REC-MANDAS TRANSMITTER	INITIATING EVENT OCCURS (FAILURE OF MANUAL DAS ACT.)	6.02E-04 5.00E-01 6.84E-05	IEV-CCWD REC-MANDASC IW2TL160UFX
			OPERATOR FAILS	TO ACTUATE ADS BEFORE CORE	DAMAGE	5.00E-01	ADN-MAN01
34	1.03E-08	.23	LOSS OF CCS/SWS COND. PROB. OF LEVEL	WITH RCS DRAINED REC-MANDAS TRANSMITTER	INITIATING EVENT OCCURS (FAILURE OF MANUAL DAS ACT.)	6.02E-04 5.00E-01 6.84E-05	IEV-CCWD REC-MANDASC IWITL170UFX
			OPERATOR FAILS	TO ACTUATE ADS BEFORE CORE	DAMAGE	5.00E-01	ADN-MAN01
35	8.58E-09	.19	LOSS OF OFFSITE FAILURE TO BATTERY FAILURE OF	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR DB1 UNAVAILABLE PMS OUTPUT	WITH RCS DRAINED LOGIC I/Os	4.44E-03 4.20E-01 2.20E-03 2.09E-03	IEV-LOSPD OTH-R1 ED1MOD03 PMAMOD11

Table 54B-17

CASE 5 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PROB	PERCENT	BASIC EVENT NAME	IDENTIFIER	EVENT PROB
36	8.31E-09	.18	LOSS OF CCS/SWS WITH RCS DRAINED INITIATING EVENT OCCURS CCF OF LOGIC GROUP PROCESSING	TEV-COND CCF-PROA10X	6.02E-04 1.38E-05
37	7.80E-09	.17	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS OFFSITE A: POWER RECOVERED IN 2 HOURS SOFTWARE CCF OF ALL CARDS FAILURE OF MANTEL DAS ACTUATION	TEV-LOSPD SFC-R2S CCF-SFTW REC-MANDAS	1.71E-02 7.60E-01 1.20E-06 5.00E-01
38	7.80E-09	.17	LOSS OF CCS/SWS WITH RCS DRAINED INITIATING EVENT OCCURS CCF OF INPUT LOGIC GROUPS OPERATOR FAILS TO OPEN TWO TRUST MODES	TEV-COND CCF-INPUTS-SURGE TRB-MANDOS	6.02E-04 2.59E-05 5.0E-01
39	7.79E-09	.17	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS FAILURE TO RECOVER AC POWER IN 1 HOUR CCF TO START OF ENGINE-DRIVEN FUEL PUMPS FAILURE OF PMS OUTPUT LOGIC 1/0s	TEV-LOSPD OTR-RI 20K-PD-F7 PRMAD0111	6.44E-03 4.20E-01 2.09E-03 2.09E-03
40	7.22E-09	.16	LOSS OF CCS/SWS WITH RCS DRAINED INITIATING EVENT OCCURS CCF OF STRAINERS IN TRUST TANK	TEV-COND 20K-FL-GP	6.02E-04 3.20E-05
41	6.62E-09	.15	LOSS OF CCS/SWS WITH RCS DRAINED INITIATING EVENT OCCURS SOFTWARE CCF OF OUTPUT LOGIC 1/0s	TEV-COND CCF-PRMAD01-SW	6.02E-04 1.10E-05
42	5.19E-09	.11	LOSS OF CCS/SWS WITH RCS FILLED INITIATING EVENT OCCURS MANTEL DAS HARDWARE CCF OF DRIFICES OPERATOR FAILS TO RECOGNIZE TYPE NEED FOR RCS DEPRESSURIZATION	TEV-COND MDAS CCF-DRY-SP LBN-MANDS	3.75E-03 1.00E-02 2.77E-04 5.00E-01
43	4.74E-09	.10	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS FAILURE TO RECOVER AC POWER IN 1 HOUR BATTERY DBI UNAVAILABLE FAILURE UPON DEMAND OF LOGIC GROUP PROCESSING	TEV-LOSPD OTR-RI 20K-MOD03 PRMAD0310A3	4.44E-03 4.20E-01 2.20E-03 1.16E-03
44	4.74E-09	.10	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS FAILURE TO RECOVER AC POWER IN 1 HOUR UNAVAILABLE DBI FAILURE UPON DEMAND OF LOGIC GROUP PROCESSING	TEV-LOSPD OTR-RI 20K-MOD03 PRMAD0310A3	4.44E-03 4.20E-01 2.20E-03 1.16E-03
45	4.68E-09	.2	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS FAILURE TO RECOVER AC POWER IN 1 HOUR COMMON CAUSE FAILURE FAILURE OF PMS OUTPUT LOGIC 1/0s	TEV-LOSPD OTR-RI 20K-ICB-QD PRMAD0111	4.44E-03 4.20E-01 1.20E-03 2.09E-03
46	4.33E-09	.09	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS FAILURE TO RECOVER AC POWER IN 1 HOUR CCF TO START OF ENGINE-DRIVEN FUEL PUMPS DEMAND OF LOGIC GROUP PROCESSING	TEV-LOSPD OTR-RI 20K-PD-BS PRMAD0310BSA	6.44E-03 4.20E-01 2.09E-03 1.16E-03
47	4.33E-09	.09	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS FAILURE TO RECOVER AC POWER IN 1 HOUR CCF TO START OF ENGINE-DRIVEN FUEL PUMPS DEMAND OF LOGIC GROUP PROCESSING	TEV-LOSPD OTR-RI 20K-PD-BS PRMAD0310BSA	6.44E-03 4.20E-01 2.09E-03 1.16E-03
48	4.14E-09	.09	LOSS OF PMS WITH RCS FILLED INITIATING EVENT OCCURS	TEV-BEND	9.61E-04

Table 54B-17

CASE 5 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PROB.	PERCENT	BASIC EVENT NAME	INITIATING EVENT OCCURS	WITH RCS FILLED	EVENT PROB.	IDENTIFIER
			FAILURE OF CCF OF THE POWER INTERFACE	MANUAL DAS ACTUATION		5.00E-01	REC-MANDAS
				OUTPUT BOARDS IN PMS		8.62E-06	CCX-EP-SAM
49	4.03E-09	.09	LOCA/RMS-V024	OPENS INITIATING EVENT OCCURS		1.58E-05	IEV-LOCA24ND
			CHECK VALVE 122A	FAILS TO OPEN		1.00E+00	IMACV122AO
			CHECK VALVE 124A	FAILS TO OPEN		1.00E+00	IMACV124AO
			IRWST DISCHARGE LINE "B"	STRAINER PLUGGED		2.40E-04	IMS-PLUG
50	3.85E-09	.08	LOSS OF RMS WITH RCS DRAINED	INITIATING EVENT OCCURS		8.15E-05	IEV-RNSD
			ORIFICE FAILURE DUE TO PLUGGING			9.46E-05	IM20R160SPX
			OPERATOR FAILS TO OPEN TWO	IRWST MOVs		5.00E-01	INN-MAN00
51	3.85E-09	.08	LOSS OF RMS WITH RCS DRAINED	INITIATING EVENT OCCURS		8.15E-05	IEV-RNSD
			ORIFICE FAILURE DUE TO PLUGGING			9.46E-05	IM10R170SPX
			OPERATOR FAILS TO OPEN TWO	IRWST MOVs		5.00E-01	INN-MAN00
52	3.77E-09	.08	LOSS OF RMS WITH RCS DRAINED	INITIATING EVENT OCCURS		8.15E-05	IEV-RNSD
			CCF OF ACTUATION LOGIC GROUPS			4.63E-05	CCX-PMAMODIX
53	3.77E-09	.08	LOSS OF CCS/SMS	INITIATING EVENT OCCURS		3.75E-03	IEV-COMND
			WITH RCS FILLED	MANUAL DAS	REACTOR TRIP	1.00E-02	MDAS
			FAILURE OF CCF OF PRESSURE	TRANSMITTERS	HARDWARE	2.01E-04	CCX-EMTR195
			OPERATOR FAILS TO RECOGNIZE THE NEED FOR RCS		DEPRESSURIZATION	5.00E-01	LPM-MAN05
54	3.50E-09	.08	LOSS OF RMS WITH RCS DRAINED	INITIATING EVENT OCCURS		8.15E-05	IEV-RNSD
			CCF OF ACTUATION LOGIC GROUPS			8.58E-05	CCX-PMAMOD2X
			OPERATOR FAILS TO OPEN TWO	IRWST MOVs		5.00E-01	INN-MAN00
55	3.31E-09	.07	LOSS OF CCS/SMS	INITIATING EVENT OCCURS		6.28E-04	IEV-COMND
			WITH RCS DRAINED	FOR INPUT LOGIC	LOGIC GROUPS	1.10E-05	CCX-IN-LOGIC-SM
			CCF OF SOFTWARE			5.00E-01	INN-MAN00
			OPERATOR FAILS TO OPEN TWO	IRWST MOVs			
56	3.31E-09	.07	LOSS OF CCS/SMS	INITIATING EVENT OCCURS		6.02E-04	IEV-COMND
			WITH RCS DRAINED	FOR ACTUATION	LOGIC GROUPS	1.10E-05	CCX-PMAMOD2-SM
			CCF OF SOFTWARE			5.00E-01	INN1-MAN00
			OPERATOR FAILS TO OPEN TWO	IRWST MOVs			
57	3.10E-09	.07	LOSS OF RMS WITH RCS DRAINED	INITIATING EVENT OCCURS		8.15E-05	IEV-RNSD
			CCF OF IRWST INJ SQUIB VALVES			3.80E-05	INX-MV-001
58	3.10E-09	.07	LOSS OF RMS WITH RCS DRAINED	INITIATING EVENT OCCURS		8.15E-05	IEV-RNSD
			CCF OF ADS SQUIB VALVES TO OPERATE			3.80E-05	ADM-EV-SA
59	3.09E-09	.07	LOSS OF OFFSITE SOFTWARE CCF	POWER INITIATING EVENT OCCURS	WITH RCS DRAINED	4.44E-03	IEV-LuSPD
			OFFSITE AC VTR	RECOVERED IN	1 HOUR	5.80E-01	SUC-SIS
			SOFTWARE CCF OF ALL CARDS			1.20E-06	CCX-SFTW
60	2.85E-09	.06	LOSS OF OFFSITE COMMON CAUSE FAILURE	POWER INITIATING EVENT OCCURS	WITH RCS DRAINED	4.44E-03	IEV-LuSPD
			RECOVER AC POWER IN 1 HOUR			4.20E-01	OTH RI
			FAILURE 4KV BREAKER TO CLOSE			7.30E-04	ECX-CB-OC
			PMS OUTPUT LOGIC I/Os			2.09E-03	PMAMODII
61	2.79E-09	.06	LOSS OF RMS WITH RCS DRAINED LEVEL	INITIATING EVENT OCCURS		8.15E-05	IEV-RNSD
			TRANSMITTER FAILURE			6.84E-05	IM2TL160H-X
			OPERATOR FAILS TO OPEN TWO	IRWST MOVs		5.00E-01	INN-MAN00

Table S4B-17

CAGE LIST OF TOP 300 DOMINANT CUTSETS

NUMBER	CUTSET	PROB	PERCENT	BASIC EVENT NAME	INITIATING EVENT	OCCURS	WITH RCS TRAINED	TEV-PRNSD	IDENTIFIER
62	2.79E-09	.06	LOSS OF RNS WITH RCS DRAINED LEVEL TRANSMITTER FAILS TO OPEN TWO	INITIATING EVENT FAILURE TRUST MEWS				8.15E-05	TEV-LOC440 TWLTL1702R TBD-MAN00
63	2.71E-09	.06	LOCAL/PNS-V024 CHECK VALVE FAILURE OF TRUST DISCHARGE	OPENS INITIATING EVENT OCCURS 12AA FAILS TO OPEN LINE "B"				6.84E-05	TEV-LOC440 INACV12240 INACV12440
64	2.60E-09	.06	LOSS OF CCS/SMS FAILURE OF CCF OF ORIFICES PRC-MAN01 OPERATOR FAILS	LITH RCS FILLED MANUAL DAS TO ACTIVATE ADS	INITIATING EVENT FAILS TO OPEN REACTOR TRIP STRAINER PRUDENCE	OCCURS HARDWARE	WITH RCS TRAINED	5.00E-01	TEV-COND MEWS CCK-ORV-SP PRN-MAN01 ADM-MAN01
65	2.60E-09	.06	LOSS OF OFFSITE FAILURE TO COMMON CAUSE FAILURE UPON	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR FAILURE DEMAND OF LOGIC	INITIATING EVENT FAILURES TO OPEN GROUP PROCESSING		WITH RCS TRAINED	3.75E-03	TEV-COND MEWS CCK-ORV-SP PRN-MAN01
66	2.60E-09	.06	LOSS OF OFFSITE FAILURE TO COMMON CAUSE FAILURE UPON	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR FAILURE DEMAND OF LOGIC	INITIATING EVENT FAILURES TO OPEN GROUP PROCESSING		WITH RCS TRAINED	4.44E-03	TEV-LOSD0 OTH-BL BOX-CB-GD PRM030195A
67	2.59E-09	.06	LOSS OF CCS/SMS FAILURE OF POWER CCF OF THE POWER	LOSS OF RNS WITH MANUAL DAS INTERFACE OUTPUT BOARDS IN PNS	INITIATING EVENT FAILURES TO OPEN VALVES TO OPEN		WITH RCS TRAINED	4.20E-01	TEV-LOSD0 RBC-MANDAS CCK-EP-SAM
68	2.53E-09	.06	LOSS OF CCS/SMS CCF OF GRAVITY	LOSS OF RNS WITH RC5 TRAINED TRACTION CHECK	INITIATING EVENT FAILURES TO OPEN VALVES TO OPEN		WITH RCS TRAINED	1.20E-03	TEV-LOSD0 RBC-MANDAS CCK-EP-SAM
69	2.46E-09	.05	LOSS OF OFFSITE SOFTWARE CCF FAILURE OF	LOSS OF CCS/SMS SOFTWARE CCF FAILURE OF MANUAL DAS	INITIATING EVENT FAILURES TO OPEN ALL CARDS MANUAL DAS		WITH RCS TRAINED	3.10E-05	TEV-LOSD0 RBC-MANDAS CCK-EP-SAM
70	2.25E-09	.05	LOSS OF CCS/SMS SOFTWARE CCF FAILURE OF	LOSS OF CCS/SMS SOFTWARE CCF FAILURE OF MANUAL DAS	INITIATING EVENT FAILURES TO OPEN ALL CARDS MANUAL DAS		WITH RCS TRAINED	3.75E-03	TEV-COND CCK-SPMS REC-MANDAS
71	2.24E-09	.05	LOSS OF OFFSITE SOFTWARE CCF FAILURE OF	LOSS OF CCS/SMS SOFTWARE CCF FAILURE OF MANUAL DAS	INITIATING EVENT FAILURES TO OPEN ALL CARDS MANUAL DAS		WITH RCS TRAINED	4.44E-03	TEV-LOSD0 OTH-BL CCK-SPMS REC-MANDAS
72	2.19E-09	.05	LOSS OF CCS/SMS CCF OF ORIFICES	LOSS OF RNS WITH RCS TRAINED INITIATING EVENT FAILURES TO OPEN UNAVAILABLE STATIC SWITCH AND ASSOC.	INITIATING EVENT FAILURES TO OPEN UNAVAILABLE STATIC SWITCH AND ASSOC.		WITH RCS TRAINED	6.20E-05	TEV-COND CCK-SPMS REC-MANDAS
73	2.12E-09	.05	LOSS OF OFFSITE BATTERY FAILURE OF INV... LOSS OF RNS WITH RCS DRAINED	LOSS OF OFFSITE FAILURES TO RECOVER AC POWER IN 1 HOUR INV STATIC SWITCH AND ASSOC.	INITIATING EVENT FAILURES TO OPEN UNAVAILABLE STATIC SWITCH AND ASSOC.		WITH RCS TRAINED	4.44E-03	TEV-LOSD0 OTH-BL ED160003 IDAN0005
74	2.10E-09	.05	LOSS OF CCS/SMS CCF OF ORIFICES	LOSS OF RNS WITH RCS TRAINED INITIATING EVENT FAILURES TO OPEN UNAVAILABLE STATIC SWITCH AND ASSOC.	INITIATING EVENT FAILURES TO OPEN UNAVAILABLE STATIC SWITCH AND ASSOC.		WITH RCS TRAINED	8.15E-05	TEV-LOSD0 CCK-SPMS REC-MANDAS

Table 54B-17

CASE 5 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PROB.	PERCENT	BASIC EVENT NAME	INITIATING EVENT	EVENT OCCURS	EVENT PROB.	IDENTIFIER
			COND. PROB. OF COMMON MODE OPERATOR FAILS	REC-MANDAS FAILURE OF INPUT LOGIC GROUPS TO ACTUATE ADS	(FAILURE OF LOGIC GROUPS BEFORE CORE)	MANUAL DAS ACT. DAMAGE	5.00E-01 1.03E-04 5.00E-01
75	1.93E-09	.04	LOSS OF CCS/SWS COND. PROB. OF COMMON MODE OPERATOR FAILS	WITH RCS FILLED MANUAL DAS FAILURE OF INPUT LOGIC GROUPS TO RECOGNIZE THE NEED FOR ICS	INITIATING EVENT REACTOR TRIP DEPRESSURIZATION	OCURRS HARDWARE	3.75E-03 1.00E-02 1.03E-04 5.00E-01
76	1.93E-09	.04	LOSS OF RNS WITH RCS DRAINED COND. PROB. OF ORIFICE FAILURE OPERATOR FAILS	WITH RCS DRAINED REC-MANDAS DUE TO PLUGGING TO ACTUATE ADS	INITIATING EVENT (FAILURE OF DUE TO PLUGGING BEFORE CORE)	OCURRS MANUAL DAS ACT. DAMAGE	8.15E-05 5.00E-01 9.46E-05 .00E-01
77	1.93E-09	.04	LOSS OF RNS WITH RCS DRAINED COND. PROB. OF ORIFICE FAILURE OPERATOR FAILS	WITH RCS DRAINED REC-MANDAS DUE TO PLUGGING TO ACTUATE ADS	INITIATING EVENT (FAILURE OF DUE TO PLUGGING BEFORE CORE)	OCURRS MANUAL DAS ACT. DAMAGE	8.15E-05 5.00E-01 9.46E-05 5.00E-01
78	1.92E-09	.04	LOSS OF OFFSITE FAILURE TO CCF TO START FAILURE OF INV.,	POWER INITIATING EVENT RECOVER AC POWER IN 1 HOUR OF ENGINE-DRIVEN FUEL PUMPS STATIC SWITCH AND ASSOC.	WITH RCS DRAINED	4.44E-03 4.20E-01 2.00E-03 5.16E-04	
79	1.92E-09	.04	LOSS OF OFFSITE FAILURE TO PUMP MP 018 D/G FAILS TO FAILURE OF	POWER INITIATING EVENT RECOVER AC POWER IN 1 HOUR SEGMENT HARDWARE FAILURE OR START & RUN OR PMS OUTPUT	WITH RCS DRAINED DIVERTED FLOW BKR 162 FAILS TO CLOSE LOGIC I/Os	4.44E-03 4.20E-01 2.44E-02 2.02E-02 2.09E-03	
80	1.88E-09	.04	LOSS OF CCS/SWS FAILURE OF CCF OF PRESSURE PRN-MAN01	WITH RCS FILLED MANUAL DAS TRANSMITTERS	INITIATING EVENT REACTOR TRIP	3.75E-03 1.00E-02 2.01E-04 5.00E-01 5.00E-01	
81	1.84E-09	.04	LOSS OF CCS/SWS CHECK VALVE CHECK VALVE CHECK VALVE CHECK VALVE	WITH RCS DRAINED 122A 124A 122B 124B	INITIATING EVENT FAILS TO OPEN FAILS TO OPEN FAILS TO OPEN FAILS TO OPEN	6.02E-04 1.00E+00 1.00E+00 1.75E-03 1.75E-03	
82	1.81E-09	.04	LOCA/RNS PIPE OPERATOR FAILS CHECK VALVE CHECK VALVE IRWST DISCHARGE LINE "B"	RUPTURE WITH RCS FILLED INIT. TO ISOLATE 122A 124A STRAINER	EVENT OCCURS RNS PIPE RUPTURE FAILS TO OPEN FAILS TO OPEN PLUGGED	1.51E-05 5.00E-01 1.00E+00 1.00E+00 2.40E-04	
83	1.77E-09	.04	LOSS OF CCS/SWS CCF OF THE POWER	WITH RCS DRAINED INTERFACE OUTPUT BOARDS IN PMS	INITIATING EVENT OCURRS	6.02E-04 2.94E-06	
84	1.71E-09	.04	LOSS OF OFFSITE FAILURE TO COMMON CAUSE	POWER INITIATING EVENT RECOVER AC POWER IN 1 HOUR FAILURE	WITH RCS DRAINED STANDBY DG TO RUN	4.87E-01 4.10E-01 4.4 4	

Table 5.4B-17

CASE 5 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PRIOR	PERCENT	BASIC EVENT NAME		PMS OUTPUT	LOGIC I/O'S	EVENT PROB	IDENTIFIER
			FAILURE OF	POWER INITIATING EVENT OCCURS				
85	1.59E-09	.03	LOSS OF OFFSITE FAILURE TO D/G FAILS TO D/G FAILS TO FAILURE OF	RECOVER AC POWER IN 1 HOUR START & RUN OR BTR 102 FAILS TO CLOSE START & RUN OR BTR 202 FAILS TO CLOSE PMS C/P/T/P	WITH RCS TRAINED	4.44E-03 4.20E-01 2.02E-02 2.02E-02	.098-03 0TH-B1 ED1M0011 ED1M0011	TEV-CMD CCK-MOTOR TEV-LOSBD
86	1.58E-09	.03	LOSS OF CCS/SMS OCF OF PRESSURE TRANSITERS	WITH RCS TRAINED	6.02E-04	6.02E-06	6.02E-06	TEV-CMD CCK-MOTOR
87	1.58E-09	.03	LOSS OF OFFSITE FAILURE TO COMMON CAUSE FAILURE UPON FAILURE UPON	RECOVER AC POWER IN 1 HOUR 4PV BREAKER TO CLOSE DEMAND OF LOGIC GROUP PROCESSING	WITH RCS TRAINED	4.44E-03 4.20E-01 7.30E-04 1.16E-03	.098-03 0TH-B1 CCK-CB-GC PHM030103A	TEV-LOSBD 0TH-B1 CCK-CB-GC PHM030103A
88	1.58E-09	.03	LOSS OF OFFSITE FAILURE TO COMMON CAUSE FAILURE UPON FAILURE UPON	RECOVER AC POWER IN 1 HOUR 4PV BREAKER TO CLOSE DEMAND OF LOGIC GROUP PROCESSING	WITH RCS TRAINED	4.44E-03 4.20E-01 7.30E-04 1.16E-03	.098-03 0TH-B1 CCK-CB-GC PHM030103A	TEV-LOSBD 0TH-B1 CCK-CB-GC PHM030103A
89	1.39E-09	.03	LOSS OF RCS WITH RCS TRAINED COND. PROB. OF RCS-MANDS LEVEL, OPERATOR FAILS	RECOVER AC POWER IN 1 HOUR 4PV BREAKER TO CLOSE BEFORE CORE	INITIATING EVENT OCCURS FAILURE OF MANUAL DAS ACT.	8.15E-05 5.00E-01 6.84E-05 5.00E-01	REC-MANDASC TWLTLJ040PK ADM-MAN01	TEV-BSBD REC-MANDASC TWLTLJ040PK ADM-MAN01
90	1.39E-09	.03	LOSS OF RCS WITH RCS TRAINED COND. PROB. OF RCS-MANDS LEVEL, OPERATOR FAILS	RECOVER AC POWER IN 1 HOUR 4PV BREAKER TO CLOSE BEFORE CORE	INITIATING EVENT OCCURS FAILURE OF MANUAL DAS ACT.	8.15E-05 5.00E-01 6.84E-05 5.00E-01	REC-MANDASC TWLTLJ040PK ADM-MAN01	TEV-BSBD REC-MANDASC TWLTLJ040PK ADM-MAN01
91	1.33E-09	.03	LOSS OF RCS WITH RCS FILLED OCF OF OFFICES OPERATOR FAILS	RECOVER AC POWER IN 1 HOUR 4PV BREAKER AND SPURIOUSLY LOSS OF DIST. BATTERY	INITIATING EVENT OCCURS REACTOR TRIP HARDWARE DEPRESSURIZATION	9.61E-04 1.00E-02 2.77E-04 5.00E-01	REC-MANDASC TWLTLJ040PK ADM-MAN03	TEV-BSBD REC-MANDASC TWLTLJ040PK ADM-MAN03
92	1.30E-09	.03	LOSS OF OFFSITE FAILURE TO BATTERY	RECOVER AC POWER IN 1 HOUR DB1 PANEL OR BREAKER AND UNAVAILABLE	WITH RCS TRAINED OPENS	4.44E-03 4.20E-01 2.20E-03	0TH-B1 ED1M0003	TEV-LOSBD 0TH-B1 ED1M0003
93	1.24E-09	.03	LOSS OF OFFSITE FAILURE TO FIXED FAILURE OF	RECOVER AC POWER IN 1 HOUR COMPONENTS FAILURE PMS OUTPUT	WITH RCS TRAINED	4.44E-03 4.20E-01 3.17E-04 2.09E-03	0TH-B1 ED1M0011 PHM03011	TEV-LOSBD 0TH-B1 ED1M0011 PHM03011
94	1.24E-09	.03	LOSS OF OFFSITE FAILURE TO FIXED FAILURE OF	RECOVER AC POWER IN 1 HOUR COMPONENTS FAILURE PMS OUTPUT	WITH RCS TRAINED	4.44E-03 4.20E-01 3.17E-04 2.09E-03	0TH-B1 ED1M0011 PHM03011	TEV-LOSBD 0TH-B1 ED1M0011 PHM03011
95	1.23E-09	.03	LOSS OF OFFSITE FAILURE TO BATTERY	RECOVER AC POWER IN 1 HOUR UNAVAILABLE	WITH RCS TRAINED	4.44E-03 4.20E-01 2.20E-03	0TH-B1 ED1M0011 PHM03011	TEV-LOSBD 0TH-B1 ED1M0011 PHM03011

Table 54B-17

CASE 5 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PROB.	PERCENT	BASIC EVENT NAME		EVENT PROB.	IDENTIFIER
			BUS UNAVAILABLE DUE TO TEST OR CORRECTIVE	MAINTENANCE	3.00E-04	IDABSDS1TM
96	1.20E-09	.03	LOSS OF OFFSITE FAILURE TO PUMP 01B FAILS & D/G FAILS TO FAILURE OF	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR ST CK V007B & C B FTC & RE FTC & CB ECS221 SPO START & RUN OR BKR 102 FAILS TO CLOSE PMS OUTPUT LOGIC I/Os	WITH RCS DRAINED 4.44E-03 4.20E-01 1.53E-02 2.02E-02 2.09E-03	IEV-LOSPD OTH-R1 RNBMOD07S Z0IMOD01 PMAMOD11
97	1.18E-09	.03	LOSS OF OFFSITE FAILURE TO CCF TO START LOSS OF DIST.	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR OF ENGINE-DRIVEN FUEL PUMPS PANEL OR BREAKER A07 SPURIOUSLY	WITH RCS DRAINED 4.44E-03 4.20E-01 2.00E-03 3.17E-04	IEV-LOSPD OTH-R1 Z0X-PD-ES IDAMOD04
98	1.17E-09	.03	LOSS OF OFFSITE FAILURE TO PUMP MP 01B BREAKER 100 FAILURE OF	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR SEGMENT HARDWARE FAILURE OR FAILS TO OPEN PMS OUTPUT	WITH RCS DRAINED 4.44E-03 4.20E-01 2.44E-02 [#3, 5] 2.09E-03	IEV-LOSPD OTH-R1 SWBMOD02 EC1CB100V0 PMAMOD11
99	1.16E-09	.03	LOCA/RNS-V024 CCF OF ORIFICES COND. PROB. OF OPERATOR FAILS	OPENS INITIATING EVENT OCCURS REC-MANDAS TO ACTUATE ADS	WITH RCS FILLED 1.68E-05 2.77E-04 5.00E-01 5.00E-01	IEV-LOCA24ND CCX-ORY-SP REC-MANDASC ADM-MAN01
100	1.16E-09	.03	LOCA/RNS-V024 CCF OF ORIFICES COND. PROB. OF OPERATOR FAILS	OPENS INITIATING EVENT OCCURS REC-MANDAS TO RECOGNIZE THE NEED FOR RCS	WITH RCS FILLED 1.68E-05 2.77E-04 5.00E-01 5.00E-01	IEV-LOCA24ND CCX-ORY-SP REC-MANDASC LPM-MANDS
101	1.15E-09	.03	LOSS OF OFFSITE FAILURE TO COMMON CAUSE FAILURE OF INV.	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR FAILURE 4KV BREAKERS TO STATIC SWITCH AND ASSOC.	WITH RCS DRAINED 4.44E-03 4.20E-01 1.20E-03 5.16E-04	IEV-LOSPD OTH-R1 CCX-CB-G0 IDAMOD05
102	1.12E-09	.02	LOSS OF RNS WITH RCS DRAINED CCF OF LOGIC	INITIATING EVENT OCCURS GROUP PROCESSING	8.15E-05 1.38E-05	IEV-RNSD CCX-PMA030X
103	1.12E-09	.02	LOSS OF OFFSITE FAILURE TO CCF TO START BUS UNAVAILABLE	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR OF ENGINE-DRIVEN FUEL PUMPS DUE TO TEST OR CORRECTIVE	WITH RCS DRAINED 4.44E-03 4.20E-01 2.00E-03 3.00E-04	IEV-LOSPD OTH-R1 Z0X-PD-ES IDABSDS1TM
104	1.09E-09	.02	LOSS OF OFFSITE FAILURE TO COMMON CAUSE FAILURE OF	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR FAILURE STANDBY DG TO PMS OUTPUT	WITH RCS DRAINED 4.44E-03 4.20E-01 2.80E-04 2.09E-03	IEV-LOSPD OTH-R1 Z0X-DG-DS PMAMOD11
105	1.07E-09	.02	LOSS OF OFFSITE FAILURE TO PUMP MP 01B D/G FAILS TO FAILURE UPON	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR SEGMENT HARDWARE FAILURE OR START & RUN OR BKR 102 FAILS TO CLOSE DEMAND OF LOGIC GROUP PROCESSING	WITH RCS DRAINED 4.44E-03 4.20E-01 2.44E-02 2.02E-02 1.16E-03	IEV-LOSPD OTH-R1 SWBMOD02 Z0IMOD01 PMA0301BSA
106	1.07E-09	.02	LOSS OF OFFSITE	POWER INITIATING EVENT OCCURS	WITH RCS DRAINED 6.1E-03	IEV-LOSPD

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CASE 5 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PROB.	PERCENT	BASIC EVENT NAME		EVENT PROB.	IDENTIFIER
			FAILURE TO PUMP MP 01B D/G FAILS TO FAILURE UPON	RECOVER AC POWER IN 1 HOUR SEGMENT HARDWARE FAILURE OR START & RUN OR BKR 102 FAILS TO CLOSE DEMAND OF LOGIC GROUP PROCESSING	4.20E-01 2.44E-02 2.02E-02 1.16E-03	OTH-R1 SWBMOD02 Z01MOD01 PMA0301ASA
107	1.06E-09	.02	LOSS OF CCS/SWS FAILURE OF BUS UNAVAILABLE	WITH RCS DRAINED INITIATING EVENT OCCURS PMS OUTPUT LOGIC I/Os DUE TO UNSCHEDULED MAINTENANCE	6.02E-04 6.53E-04 2.70E-03	IEV-COMD PMAMOD11X EC1BS012TM
108	1.06E-09	.02	LOSS OF CCS/SWS FAILURE OF BUS UNAVAILABLE	WITH RCS DRAINED INITIATING EVENT OCCURS PMS OUTPUT LOGIC I/Os DUE TO UNSCHEDULED MAINTENANCE	6.02E-04 6.53E-04 2.70E-03	IEV-COMD PMAMOD11X EC1BS121TM
109	1.06E-09	.02	LOSS OF CCS/SWS FAILURE OF UNAVAILABILITY	WITH RCS DRAINED INITIATING EVENT OCCURS PMS OUTPUT LOGIC I/Os OF BUS ECS ES 1 DUE TO UNSCHEDUL MAINTENANCE	6.02E-04 6.53E-04 2.70E-03	IEV-COMD PMAMOD11X EC1BS001TM
110	1.06E-09	.02	LOSS OF RNS WITH RCS DRAINED CCF OF INPUT OPERATOR FAILS	INITIATING EVENT OCCURS LOGIC GROUPS TO OPEN TWO IRNST MOVs	8.15E-05 2.59E-05 5.00E-01	IEV-RNSD CCX-INPUT-LOGICK INN-MAN00
111	1.05E-09	.02	LOCA/RNS PIPE COND. PROB. OF CCF OF ORIFICES OPERATOR FAILS	RUPTURE WITH RCS FILLED INIT. REC-MANDAS (FAILURE OF MANUAL DAS ACT.) TO RECOGNIZE THE NEED FOR RCS DEPRESSURIZATION	1.51E-05 5.00E-01 2.77E-04 5.00E-01	IEV-LOCAPRND REC-MANDASC CCX-ORY-SP LPM-MAN05
112	9.86E-10	.02	LOSS OF OFFSITE FAILURE TO BATTERY CHECK VALVE CHECK VALVE IPWGT DISCHARGE	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR DB1 UNAVAILABLE 122A FAILS TO OPEN 124A FAILS TO OPEN LINE "B" STRAINER PLUGGED	4.44E-03 4.20E-01 2.20E-03 1.00E+00 1.00E+00 2.40E-04	IEV-LOSPD OTH-R1 ED1MOD03 IWACV122AO IWACV124AO INB-PLUG
113	9.78E-10	.02	LOSS OF PNS WITH RCS DRAINED CCF OF STRAINERS IN IRNST TANK	INITIATING EVENT OCCURS	8.15E-05 1.20E-05	IEV-RNSD INX-FL-GP
114	9.68E-10	.02	LOSS OF OFFSITE FAILURE TO BREAKER 100 D/G FAILS TO FAILURE OF	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR FAILS TO OPEN START & RUN OR BKR 202 FAILS TO CLOSE PMS OUTPUT LOGIC I/Os	4.44E-03 4.20E-01 1.23E-02 2.02E-02 2.09E-03	IEV-LOSPD OTH-R1 EC1CB100VO Z02MOD01 PMAMOD11
115	9.68E-10	.02	LOSS OF OFFSITE FAILURE TO D/G FAILS TO BREAKER 100 FAILURE OF	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR FAILS TO OPEN START & RUN OR BKR 102 FAILS TO CLOSE PMS OUTPUT LOGIC I/Os	4.74E-03 4.20E-01 2.02E-02 1.23E-02 2.09E-03	IEV-LOSPD OTH-R1 Z01MOD01 EC2CB20070 PMAMOD11
116	9.66E-10	.02	LOSS OF RNS WITH RCS FILLED FAILURE OF CCF OF PRESSURE OPERATOR FAILS	INITIATING EVENT OCCURS MANUAL DAS REACTOR TRIP HARDWARE TRANSMITTERS	9.61E-04 1.00E-02 2.01E-04	IEV-RNSND MDAS CCX-XMTR195
117	9.52E-10	.02	LOSS OF OFFSITE	POWER INITIATING EVENT OCCURS	5.00E-01	LPM-MAN05
				WITH RCS DRAINED	4.44E-03	IEV-LOSPD

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CASE 5 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PROB.	PERCENT	BASIC EVENT NAME	INITIATING EVENT	EVENT PROB.	IDENTIFIER
			FAILURE TO COMMON CAUSE FAILURE UPON	RECOVER AC POWER IN 1 HOUR STANDBY DG TO RUN DEMAND OF LOGIC GROUP PROCESSING	4.20E-01 4.40E-04 1.16E-03	OTH-R1 ZOK-DG-DR PMA0301ASA
118	9.52E-10	.02	LOSS OF OFFSITE FAILURE TO COMMON CAUSE FAILURE UPON	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR STANDBY DG TO RUN DEMAND OF LOGIC GROUP PROCESSING	4.44E-03 4.20E-01 4.40E-04 1.16E-03	IEV-LOSPD OTH-R1 ZOK-DG-DR PMA0301BSA
119	9.43E-10	.02	LOSS OF CCS/SWS PMAMOD21X OPERATOR FAILS BUS UNAVAILABLE	WITH RCS DRAINED INITIATING EVENT OCCURS TO OPEN TWO IRWST MOVES DUE TO UNSCHEDULED MAINTENANCE	6.02E-04 1.16E-03 5.00E-01 2.70E-03	IEV-COMD PMAMOD21X IWN-MAN00 BC1BS012TM
120	9.43E-10	.02	LOSS OF CCS/SWS PMAMOD21X OPERATOR FAILS UNAVAILABILITY	WITH RCS DRAINED INITIATING EVENT OCCURS TO OPEN TWO IRWST MOVES OF BUS BCS ES 1 DUE TO UNSCHEDUL MAINTENANCE	6.02E-04 1.16E-03 5.00E-01 2.70E-03	IEV-COMD PMAMOD21X IWN-MAN00 BC1BS001TM
121	9.43E-10	.02	LOSS OF CCS/SWS PMAMOD21X OPERATOR FAILS BUS UNAVAILABLE	WITH RCS DRAINED INITIATING EVENT OCCURS TO OPEN TWO IRWST MOVES DUE TO UNSCHEDULED MAINTENANCE	6.02E-04 1.16E-03 5.00E-01 2.70E-03	IEV-COMD PMAMOD21X IWN-MAN00 BC1BS121TM
122	8.97E-10	.02	LOSS OF RNS WITH RCS DRAINED SOFTWARE CCF OF OUTPUT LOGIC	INITIATING EVENT OCCURS I/Os	8.15E-05 1.10E-05	IEV-RNSD CCX-PMAMOD1-SW
123	8.83E-10	.02	LOSS OF OFFSITE FAILURE TO D/G FAILS TO D/G FAILS TO FAILURE UPON	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR START & RUN OR BBR 102 FAILS TO CLOSE START & RUN OR BBR 202 FAILS TO CLOSE DEMAND OF LOGIC GROUP PROCESSING	4.44E-03 4.20E-01 2.02E-02 2.02E-02 1.16E-03	IEV-LOSPD OTH-R1 Z01M0D01 Z02M0D01 PMA0301BSA
124	8.83E-10	.02	LOSS OF OFFSITE FAILURE TO D/G FAILS TO D/G FAILS TO FAILURE UPON	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR START & RUN OR BBR 102 FAILS TO CLOSE START & RUN OR BBR 202 FAILS TO CLOSE DEMAND OF LOGIC GROUP PROCESSING	4.44E-03 4.20E-01 2.02E-02 2.02E-02 1.16E-03	IEV-LOSPD OTH-R1 Z01M0D01 Z02M0D01 PMA0301ASA
125	8.44E-10	.02	LOCA/RNS-V024 CCF OF PRESSURE COND. PROB. OF OPERATOR FAILS	OPENS INITIATING EVENT OCCURS TRANSMITTERS REC-MANDAS (FAILURE OF TO RECOGNIZE THE NEED FOR RCS DEPRESSURIZATION	1.68E-05 2.01E-04 5.00E-01 5.00E-01	IEV-LOCA24ND CCX-XMTR195 REC-MANDASC LPM-MAN05
126	8.44E-10	.02	LOCA/RNS-V024 CCF OF PRESSURE COND. PROB. OF OPERATOR FAILS	OPENS INITIATING EVENT OCCURS TRANSMITTERS REC-MANDAS (FAILURE OF TO ACTUATE ADS BEFORE CORE DAMAGE	1.68E-05 2.01E-04 5.00E-01 5.00E-01	IEV-LOCA24ND CCX-XMTR195 REC-MANDASC ADN-MAN01
127	8.39E-10	.02	LOSS OF CCS/SWS FAILURE OF INV. BUS UNAVAILABLE	WITH RCS DRAINED INITIATING EVENT OCCURS STATIC SWITCH AND ASSOC. DUE TO UNSCHEDULED MAINTENANCE	6.02E-04 5.16E-04 2.70E-03	IEV-COMD IDAMOD05 BC1BS121TM
128	8.39E-10	.02	LOSS OF CCS/SWS	WITH RCS DRAINED INITIATING EVENT OCCURS	6.02E-02	IEV-COMD

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CASE 5 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PROB	PERCENT	BASIC EVENT NAME		EVENT PROB.	IDENTIFIER	
			FAILURE OF INV., STATIC SWITCH AND ASSOC. BUS UNAVAILABLE DUE TO	BREAKERS UNSCHEDULED MAINTENANCE	5.16E-04 2.70E-03	IDAMOD05 EC1BS012TM	
129	8.39E-10	.02	LOSS OF CCS/SWS WITH RCS DRAINED INITIATING EVENT OCCURS FAILURE OF INV., STATIC SWITCH AND ASSOC. UNAVAILABILITY OF BUS RCS ES 1 DUE TO UNSCHEDUL	MAINTENANCE	6.02E-04 5.16E-04 2.70E-03	IEV-CWHD IDAMOD05 EC1BS001TM	
130	8.19E-10	.02	LOSS OF OFFSITE FAILURE TO PUMP SUBLOOP B D/G FAILS TO FAILURE OF	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR HARDWARE FAILURE OR DIVERTED FLOW START & RUN OR BKR 102 FAILS TO CLOSE PMS OUTPUT	WITH RCS DRAINED	4.44E-03 4.20E-1 1.04E-02 2.02E-02 2.09E-03	IEV-LOSPD OTH-R1 CCBMOD01S Z0IMOD001 PMAMOD11
131	7.59E-10	.02	LOCA/RNS PIPE COND. PROB. OF C/C OF PRESSURE GENERATOR FAILS	RUPTURE WITH RCS FILLED INIT. REC-MANDAS TRANSMITTERS TO RECOGNIZE THE NEED FOR RCS	EVENT OCCURS MANUAL DAS ACT. DEPRESSURIZATION	1.51E-05 5.00E-01 2.01E-04 5.00E-01	IEV-LOCAPND REC-MANDASC CCX-XMTR195 LPM-MAN05
132	7.33E-10	.02	LOSS OF OFFSITE FAILURE TO PUMP 01B FAILS & BREAKER 100 FAILURE OF	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR ST CK V007B & C B FTC & RE FTC & CB ECS221 SPO FAILS TO OPEN PMS OUTPUT	WITH RCS DRAINED (#3.5)	4.44E-03 4.20E-01 1.52E-02 1.23E-02 2.09E-03	IEV-LOSPD OTH-R1 RNBMOD07S EC1CB100V0 PMAMOD11
133	7.22E-10	.02	LOSS OF CCS/SWS SOFTWARE CCF	WITH RCS DRAINED INITIATING EVENT OCCURS OF ALL CARDS		6.02E-04 1.20E-06	IEV-CWHD CCX-SFTW
134	7.09E-10	.02	LOSS OF OFFSITE COMMON CAUSE LOSS OF DIST.	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR FAILURE 4KV BREAKERS TO OPEN PANEL OR BREAKER A07 SPURIOUSLY	WITH RCS DRAINED	4.44E-03 4.20E-01 1.20E-03 3.17E-04	IEV-LOSPD OTH-R1 ECX-CB-G0 IDAMOD04
135	7.02E-10	.02	LOSS OF OFFSITE COMMON CAUSE FAILURE OF INV.,	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR FAILURE 4KV BREAKER TO CLOSE BREAKERS	WITH RCS DRAINED	4.44E-03 4.20E-01 7.30E-04 5.16E-04	IEV-LOSPD OTH-R1 ECX-CB-GC IDAMOD05
136	6.86E-10	.02	LOSS OF OFFSITE FIXED FAILURE UPON	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR FAILURE DEMAND OF LOGIC GROUP PROCESSING	WITH RCS DRAINED	4.44E-03 4.20E-01 3.17E-04 1.16E-03	IEV-LOSPD OTH-R1 ED1MOD113 PMA0301ASA
137	6.86E-10	.02	LOSS OF OFFSITE FIXED FAILURE UPON	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR FAILURE DEMAND OF LOGIC GROUP PROCESSING	WITH RCS DRAINED	4.44E-03 4.20E-01 3.17E-04 1.16E-03	IEV-LOSPD OTH-R1 ED1MOD11 PMA0301BSA
138	6.86E-10	.02	LOSS OF OFFSITE FIXED FAILURE UPON	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR FAILURE DEMAND OF LOGIC GROUP PROCESSING	WITH RCS DRAINED	4.44E-03 4.20E-01 3.17E-04 1.16E-03	IEV-LOSPD OTH-R1 ED1MOD113 PMA0301BSA
139	6.86E-10	.02	LOSS OF OFFSITE FAILURE TO	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR	WITH RCS DRAINED	4.44E-03 4.20E-01	IEV-LOSPD OTH-R1

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CASE 5 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PROB.	PERCENT	BASIC EVENT NAME				EVENT PROB.	IDENTIFIER
			FIXED FAILURE UPON	COMPONENTS DEMAND OF LOGIC	FAILURE GROUP PROCESSING			
							3.17E-04 1.16E-03	ED1MOD11 PMA0301ASA
140	6.71E-10	.01	LOSS OF OFFSITE FAILURE TO COMMON CAUSE BUS UNAVAILABLE	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR FAILURE 4KV BREAKERS TO OPEN DUE TO TEST OR CORRECTIVE MAINTENANCE	WITH RCS DRAINED		4.44E-03 4.20E-01 1.20E-03 3.00E-04	IEV-LOSPD OTH-R1 ECK-CB-GO IDABSDSITM
141	6.69E-10	.01	LOSS OF OFFSITE FAILURE TO PUMP 01B FAILS & D/G FAILS TO FAILURE UPON	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR ST CK V007B & C B FTC & RE FTC & CB ECS221 SPO START & RUN OR BKR 102 FAILS TO CLOSE DEMAND OF LOGIC GROUP PROCESSING	WITH RCS DRAINED		4.44E-03 4.20E-01 1.53E-02 2.02E-02 1.16E-03	IEV-LOSPD OTH-R1 RNBMOD07S Z01MOD01 PMA0301ASA
142	6.69E-10	.01	LOSS OF OFFSITE FAILURE TO PUMP 01B FAILS & D/G FAILS TO FAILURE UPON	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR ST CK V007B & C B FTC & RE FTC & CB ECS221 SPO START & RUN OR BKR 102 FAILS TO CLOSE DEMAND OF LOGIC GROUP PROCESSING	WITH RCS DRAINED		4.44E-03 4.20E-01 1.53E-02 2.02E-02 1.16E-03	IEV-LOSPD OTH-R1 RNBMOD07S Z01MOD01 PMA0301BSA
143	6.49E-10	.01	LOSS OF OFFSITE FAILURE TO PUMP MP 01B BREAKER 100 FAILURE UPON	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR SEGMENT HARDWARE FAILURE OR FAILS TO OPEN DEMAND OF LOGIC GROUP PROCESSING	WITH RCS DRAINED DIVERTED FLOW	[#3.5]	4.44E-03 4.20E-01 2.44E-02 1.23E-02 1.16E-03	IEV-LOSPD OTH-R1 SWBMOD02 BC1CB100VO PMA0301ASA
144	6.49E-10	.01	LOSS OF OFFSITE FAILURE TO PUMP MP 01B BREAKER 100 FAILURE UPON	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR SEGMENT HARDWARE FAILURE OR FAILS TO OPEN DEMAND OF LOGIC GROUP PROCESSING	WITH RCS DRAINED DIVERTED FLOW	[#3.5]	4.44E-03 4.20E-01 2.44E-02 1.23E-02 1.16E-03	IEV-LOSPD OTH-R1 SWBMOD02 BC1CB100V PMA0301RSA
145	6.11E-10	.01	LOSS OF CCS/SWS CHECK VALVE 122A CHECK VALVE 124A CHECK VALVE 122B CHECK VALVE 125B	WITH RCS DRAINED INITIATING EVENT OCCURS FAILS TO OPEN FAILS TO OPEN FAILS TO OPEN FAILS TO OPEN			6.02E-04 1.00E+00 1.00E+00 1.75E-03 5.80E-04	IEV-CWMD IWACV122AO IWACV124AO IWBCV122AO IWBCV125AO
146	6.11E-10	.01	LOSS OF CCS/SWS CHECK VALVE 122A CHECK VALVE 124A CHECK VALVE 123B CHECK VALVE 124B	WITH RCS DRAINED INITIATING EVENT OCCURS FAILS TO OPEN FAILS TO OPEN FAILS TO OPEN FAILS TO OPEN			6.02E-04 1.00E+00 1.00E+00 5.80E-04 1.75E-03	IEV-CWMD IWACV122AO IWACV124AO IWBCV123AO IWBCV124AO
147	6.06E-10	.01	LOSS OF OFFSITE FAILURE TO COMMON CAUSE FAILURE UPON	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR FAILURE STANDBY DG TO START DEMAND OF LOGIC GROUP PROCESSING	WITH RCS DRAINED		4.44E-03 4.20E-01 2.80E-04 1.16E-03	IEV-LOSPD OTH-R1 Z0X-DG-DS PMA0301ASA
148	6.06E-10	.01	LOSS OF OFFSITE FAILURE TO COMMON CAUSE FAILURE UPON	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR FAILURE STANDBY DG TO START DEMAND OF LOGIC GROUP PROCESSING	WITH RCS DRAINED		4.44E-03 4.20E-01 2.80E-04 1.16E-03	IEV-LOSPD OTH-R1 Z0X-DG-DS PMA0301BSA

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CASE 5 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PROB	PERCENT	BASIC EVENT NAME		EVENT PROB.	IDENTIFIER
149	5.90E-10	.01	LOSS OF OFFSITE FAILURE TO RECOVER AC POWER IN 1 HOUR BREAKER 100 FAILS TO OPEN BREAKER 200 FAILS TO OPEN FAILURE OF PMS OUTPUT	POWER INITIATING EVENT OCCURS WITH RCS DRAINED [#3,5] [#5,3] LOGIC I/Os	4.44E-03 4.20E-01 1.23E-02 1.23E-02 2.09E-03	IEV-LOSPD OTH-R1 EC1CB100V0 EC2CB200V0 PMAMOD11
150	5.79E-10	.01	LOSS OF OFFSITE FAILURE TO RECOVER AC POWER IN 1 HOUR BATTERY DB1 UNAVAILABLE CCF OF OUTPUT	POWER INITIATING EVENT OCCURS WITH RCS DRAINED LOGIC I/O BOARDS	4.44E-03 4.20E-01 2.20E-03 1.41E-04	IEV-LOSPD OTH-R1 EDIMOD03 CCK-PMAMOD1
151	5.77E-10	.01	LOSS OF RNS WITH SOFTWARE CCF OF ALL CARDS FAILURE OF MANUAL DAS	INITIATING EVENT OCCURS ACTUATION	9.61E-04 1.20E-06 5.00E-01	IEV-RNSND CCK-SFTW REC-MANDAS
152	5.50E-10	.01	LOSS OF OFFSITE FAILURE TO RECOVER AC POWER IN 1 HOUR FAILURE OF PLS OUTPUT CCF OF OUTPUT	POWER INITIATING EVENT OCCURS WITH RCS DRAINED LOGIC I/Os	4.44E-03 4.20E-01 2.09E-03 1.41E-04	IEV-LOSPD OTH-R1 PLSMOD11 CCK-PMAMOD1
153	5.37E-10	.01	LOSS OF OFFSITE FAILURE TO RECOVER AC POWER IN 1 HOUR BREAKER 100 FAILS TO OPEN D/G FAILS TO START & RUN OR FAILURE UPON DEMAND OF LOGIC	POWER INITIATING EVENT OCCURS WITH RCS DRAINED [#3,5] BKR 202 FAILS TO CLOSE GROUP PROCESSING	4.44E-03 4.20E-01 1.23E-02 2.02E-02 1.16E-03	IEV-LOSPD OTH-R1 EC1CB100V0 Z02M0D01 PMAB301ASA
154	5.37E-10	.01	LOSS OF OFFSITE FAILURE TO RECOVER AC POWER IN 1 HOUR BREAKER 100 FAILS TO OPEN D/G FAILS TO START & RUN OR FAILURE UPON DEMAND OF LOGIC	POWER INITIATING EVENT OCCURS WITH RCS DRAINED [#3,5] BKR 202 FAILS TO CLOSE GROUP PROCESSING	4.44E-03 4.20E-01 1.23E-02 2.02E-02 1.16E-03	IEV-LOSPD OTH-R1 EC1CB100V0 Z02M0D01 PMAB301BSA
155	5.37E-10	.01	LOSS OF OFFSITE FAILURE TO RECOVER AC POWER IN 1 HOUR D/G FAILS TO START & RUN OR BREAKER 200 FAILS TO OPEN FAILURE UPON DEMAND OF LOGIC	POWER INITIATING EVENT OCCURS WITH RCS DRAINED BKR 1P2 FAILS TO CLOSE [#5,3] GROUP PROCESSING	4.44E-03 4.20E-01 2.02E-02 1.23E-02 1.16E-03	IEV-LOSPD OTH-R1 Z01M0D01 EC2CB200V0 PMAB301BSA
156	5.37E-10	.01	LOSS OF OFFSITE FAILURE TO RECOVER AC POWER IN 1 HOUR D/C FAILS TO START & RUN OR BREAKER 200 FAILS TO OPEN FAILURE UPON DEMAND OF LOGIC	POWER INITIATING EVENT OCCURS WITH RCS DRAINED BKR 102 FAILS TO CLOSE [#5,3] GROUP PROCESSING	4.44E-03 4.20E-01 2.02E-02 1.23E-02 1.16E-03	IEV-LOSPD OTH-R1 Z01M0D01 EC2CB200V0 PMAB301ASA
157	5.34E-10	.01	LOCA/RNS-V024 ORIFICE FAILURE OPERATOR FAILS	OPENS INITIATING EVENT OCCURS DUE TO PLUGGING TO OPEN TWO IRWST MOVs	1.13E-05 9.46E-05 5.00E-01	IEV-LOCA24D IN10R170SPX INN-MAN00
158	5.34E-10	.01	LOCA/RNS-V024 ORIFICE FAILURE OPERATOR FAILS	OPENS INITIATING EVENT OCCURS DUE TO PLUGGING TO OPEN TWO IRWST MOVs	1.13E-05 9.46E-05 5.00E-01	IEV-LOCA24D IN20R160SPX INN-MAN00
159	5.33E-10	.01	OVERDRAINING OF OPERATOR FAILS	RCS DURING DRAIN DOWN TO MID-LOOP TO ISOLATE RMS PIPE RUPTURE	4.44E-06 5.00E-01	IEV-RCS0D RHM-MAN04

Table 54B-17

CASE 5 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PROB.	PERCENT	BASIC EVENT NAME		EVENT PROB.	IDENTIFIER	
			CHECK VALVE 122A	FAILS TO OPEN	1.00E+00	IWACV122AO	
			CHECK VALVE 124A	FAILS TO OPEN	1.00E+00	IWACV124AO	
			IRWST DISCHARGE LINE "B"	STRAINER PLUGGED	2.40E-04	IWB-PLUG	
160	5.33E-10	.01	OVERDRAINING OF RCS DURING DRAIN DOWN TO MID-LOOP INITIATING EVENT RHN-MAN04-SUCC		4.44E-06	IEV-RCSOD	
			CHECK VALVE 122A	FAILS TO OPEN	5.00E-01	RHN-MAN04-SUCC	
			CHECK VALVE 124A	FAILS TO OPEN	1.00E+00	IWACV122AO	
			IRWST DISCHARGE LINE "B"	STRAINER PLUGGED	2.40E-04	IWB-PLUG	
161	5.26E-10	.01	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS FAILURE TO RECOVER AC POWER IN 1 HOUR CCF TO START OF ENGINE-DRIVEN FUEL PUMPS CCF OF OUTPUT LOG I/O BOARDS	WITH RCS DRAINED	4.44E-03	IEV-LOSPD	
					4.20E-01	OTH-R1	
					2.00E-03	ZOK-PD-ES	
					1.41E-04	CCX-PMA001	
162	5.23E-10	.01	LOCA/RNS-V024 CCF OF ACTUATION LOGIC GROUPS	OPENS INITIATING EVENT OCCURS	1.13E-05	IEV-LOCA24D	
				WITH RCS DRAINED	4.63E-05	CCX-PMA001X	
163	5.23E-10	.01	LOCA/RNS PIPE OPERATOR FAILS CCF OF ORIFICES COND. PROB. OF OPERATOR FAILS	RUPTURE WITH RCS FILLED INIT. TO ISOLATE RNS PIPE RUPTURE REC-MANDAS TO ACTUATE ADS	EVENT OCCURS (FAILURE OF BEFORE CORE)	1.51E-05	IEV-LOCAPRD
					5.00E-01	RHN-MAN04	
					2.77E-04	CCX-ORY-SP	
					5.00E-01	REC-MANDASC	
					5.00E-01	ADN-MAN01	
164	5.21E-10	.01	LOCA/RNS-V024 CCF OF GRAVITY	OPENS INITIATING EVENT OCCURS INJECTION CHECK VALVES TO OPEN	1.68E-05	IEV-LOCA24D	
				WITH RCS FILLED	3.10E-05	INX-CV-AO	
165	5.15E-10	.01	LOSS OF CCS/SWS LOSS OF DIST. UNAVAILABILITY	WITH RCS DRAINED INITIATING EVENT OCCURS PANEL OR BREAKER A07 SPURIOUSLY OPENS OF BUS ECS ES 1 DUE TO UNSCHEDULED MAINTENANCE	6.02E-04	IEV-COND	
					3.17E-04	IDAM004	
					2.70E-03	EC1BS001TM	
166	5.15E-10	.01	LOSS OF CCS/SWS LOSS OF DIST. BUS UNAVAILABLE	WITH RCS DRAINED INITIATING EVENT OCCURS PANEL OR BREAKER A07 SPURIOUSLY OPENS DUE TO UNSCHEDULED MAINTENANCE	6.02E-04	IEV-COND	
					3.17E-04	IDAM004	
					2.70E-03	EC1BS121TM	
167	5.15E-10	.01	LOSS OF CCS/SWS LOSS OF DIST. BUS UNAVAILABLE	WITH RCS DRAINED INITIATING EVENT OCCURS PANEL OR BREAKER A07 SPURIOUSLY OPENS DUE TO UNSCHEDULED MAINTENANCE	6.02E-04	IEV-COND	
					3.17E-04	IDAM004	
					2.70E-03	EC1BS012TM	
168	5.07E-10	.01	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS FAILURE TO RECOVER AC POWER IN 1 HOUR CCF TO RUN OF ENGINE-DRIVEN FUEL PUMPS FAILURE OF PMS OUTPUT LOGIC I/Os	WITH RCS DRAINED	4.44E-03	IEV-LOSPD	
					4.20E-01	OTH-R1	
					1.30E-04	ZOK-PD-ES	
					2.09E-03	PMA0011	
169	4.99E-10	.01	LOSS OF OFFSITE FAILURE TO PUMP SUBLOOP B BREAKER 100 FAILURE OF	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR HARDWARE FAILURE OR DIVERTED FLOW FAILS TO OPEN PMS OUTPUT	4.44E-03	IEV-LOSPD	
					4.20E-01	OTH-R1	
					1.04E-02	CCBMOD01S	
					1.23E-02	EC1CB100V0	
					2.09E-03	PMA0011	
170	4.95E-10	.01	LOSS OF RNS WITH RCS FILLED FAILURE OF COMMON MODE OPERATOR FAILS	INITIATING EVENT OCCURS REACTOR TRIP HARDWARE FAILURE OF INPUT LOGIC GROUPS TO RECOGNIZE THE NEED FOR RCS	9.61E-04	IEV-RNSND	
					1.00E-02	MDAS	
					1.03E-04	CCX-INPUT-LOGIC	
					5.00E-01	LPM-MAN05	

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Table 54B-17

CASE 5 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PROB.	PERCENT	BASIC EVENT NAME	INITIATING EVENT OCCURS	EVENT PROB.	IDENTIFIER	
171	4.88E-10	.01	LOSS OF CCS/SWS BUS UNAVAILABLE BUS UNAVAILABLE	WITH RCS DRAINED DUE TO TEST OR DUE TO	INITIATING EVENT OCCURS CRECTIVE MAINTENANCE UNSCHEDULED MAINTENANCE	6.02E-04 3.00E-04 2.70E-03	IEV-COMD IDABSDS1TM EC1BS121TM
172	4.88E-10	.01	LOSS OF CCS/SWS BUS UNAVAILABLE BUS UNAVAILABLE	WITH RCS DRAINED DUE TO TEST OR DUE TO	INITIATING EVENT OCCURS CRECTIVE MAINTENANCE UNSCHEDULED MAINTENANCE	6.02E-04 3.00E-04 2.70E-03	IEV-COMD IDABSDS1TM EC1BS012TM
173	4.88E-10	.01	LOSS OF CCS/SWS BUS UNAVAILABLE UNAVAILABILITY	WITH RCS DRAINED DUE TO TEST OR OF BUS ECS ES 1	INITIATING EVENT OCCURS CRECTIVE MAINTENANCE DUE TO UNSCHEDUL MAINTENANCE	6.02E-04 3.00E-04 2.70E-03	IEV-COMD IDABSDS1TM EC1BS001TM
174	4.85E-10	.01	LOCA/RNS-V024 CCF OF ACTUATION OPERATOR FAILS	OPENS LOGIC GROUPS TO OPEN TWO	INITIATING EVENT OCCURS WITH RCS DRAINED IRWST MOVs	1.13E-05 8.58E-05 5.00E-01	IEV-LOCA24D CCX-PMANOD2X IWN-MAN00
175	4.74E-10	.01	LOSS OF OFFSITE FAILURE TO PUMP MP 01B D/G FAILS TO FAILURE OF INV..	POWER RECOVER AC POWER IN 1 HOUR SEGMENT HARDWARE FAILURE OR START & RUN OR STATIC SWITCH AND ASSOC.	INITIATING EVENT OCCURS WITH RCS DRAINED DIVERTED FLOW BKR 102 FAILS TO CLOSE BREAKERS	4.44E-03 4.20E-01 2.44E-02 2.02E-02 5.16E-04	IEV-LOSPD OTH-R1 SBBM0002 Z01M0001 IDAM0005
176	4.54E-10	.01	LOSS OF OFFSITE FAILURE TO PUMP SUBLOOP B D/G FAILS TO FAILURE UPON	POWER RECOVER AC POWER IN 1 HOUR HARDWARE FAILURE OR DIVERTED FLOW START & RUN OR DEMAND OF LOGIC GROUP PROCESSING	INITIATING EVENT OCCURS WITH RCS DRAINED DIVERTED FLOW BKR 102 FAILS TO CLOSE DEMAND OF LOGIC GROUP PROCESSING	4.44E-03 4.20E-01 1.04E-02 2.02E-02 1.16E-03	IEV-LOSPD OTH-R1 CCBM0001S Z01M0001 PMAG301BSA
177	4.54E-10	.01	LOSS OF OFFSITE FAILURE TO PUMP SUBLOOP B D/G FAILS TO FAILURE UPON	POWER RECOVER AC POWER IN 1 HOUR HARDWARE FAILURE OR DIVERTED FLOW START & RUN OR DEMAND OF LOGIC GROUP PROCESSING	INITIATING EVENT OCCURS WITH RCS DRAINED DIVERTED FLOW BKR 102 FAILS TO CLOSE DEMAND OF LOGIC GROUP PROCESSING	4.44E-03 4.20E-01 1.04E-02 2.02E-02 1.16E-03	IEV-LOSPD OTH-R1 CCBM0001S Z01M0001 PMAG301ASA
178	4.48E-10	.01	LOSS OF RNS WITH CCF OF SOFTWARE OPERATOR FAILS	WITH RCS DRAINED FOR INPUT LOGIC TO OPEN TWO	INITIATING EVENT OCCURS LOGIC GROUPS IRWST MOVs	8.15E-05 1.10E-05 5.00E-01	IEV-RNSD CCX-IN-LOGIC-SW IWN-MAN00
179	4.48E-10	.01	LOSS OF RNS WITH CCF OF SOFTWARE OPERATOR FAILS	WITH RCS DRAINED FOR ACTUATION TO OPEN TWO	INITIATING EVENT OCCURS LOGIC GROUPS IRWST MOVs	8.15E-05 1.10E-05 5.00E-01	IEV-RNSD CCX-PMAN02-SW IWN-MAN00
180	4.33E-10	.01	LOCA/RNS-V024 COND. PROB. OF COMMON MODE OPERATOR FAILS	OPENS REC-MANDAS (FAILURE OF FAILURE OF INPUT LOGIC GROUPS TO RECOGNIZE THE NEED FOR RCS	INITIATING EVENT OCCURS WITH RCS FILLED MANUAL DAS ACT. DEPRESSURIZATION	1.68E-05 5.00E-01 1.03E-04 5.00E-01	IEV-LOCA24ND REC-MANDASC CCX-INPUT-LOGIC LPM-MAN05
181	4.33E-10	.01	LOCA/RNS-V024 COND. PROB. OF COMMON MODE OPERATOR FAILS	OPENS REC-MANDAS (FAILURE OF FAILURE OF INPUT LOGIC GROUPS TO ACTUATE ADS BEFORE CORE	INITIATING EVENT OCCURS WITH RCS FILLED MANUAL DAS ACT. DAMAGE	1.68E-05 5.00E-01 1.03E-04 5.00E-01	IEV-LOCA24ND REC-MANDASC CCX-INPUT-LOGIC ADN-MAN01
182	4.32E-10	.01	LOSS OF OFFSITE FAILURE TO	POWER RECOVER AC POWER IN 1 HOUR	INITIATING EVENT OCCURS WITH RCS DRAINED	4.44E-03 4.20E-01	IEV-LOSPD OTH-R1

Table 54B-17

CASE 5 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET PROB.	PERCENT	BASIC EVENT NAME	EVENT PROB.	IDENTIFIER		
			COMMON CAUSE LOSS OF DIST.	FAILURE PANEL OR BREAKER ACT SPURIOUSLY	4KV BREAKER TO CLOSE OPENS	7.30E-04 3.17E-04	ECK-CB-GC IDAMOD04
183	4.29E-10	.01	LOCA/RNS-V024	OPENS INITIATING EVENT OCCURS CCF OF ADS SQUIB VALVES TO OPERATE	WITH RCS DRAINED	1.13E-05 3.80E-05	IEV-LOCA24D ADK-EV-SA
184	4.29E-10	.01	LOCA/RNS-V024	OPENS INITIATING EVENT OCCURS CCF OF IRWST INJ SQUIB VALVES	WITH RCS DRAINED	1.13E-05 3.80E-05	IEV-LOCA24D INX-MV-G01
185	4.23E-10	.01	L-5 OF OFFSITE COMMON CAUSE FAILURE OF INV.	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR FAILURE STANDBY DG TO FAILURE OF INV., STATIC SWITCH AND ASSOC.	WITH RCS DRAINED RUN BREAKERS	4.44E-03 4.20E-01 4.40E-04 5.16E-04	IEV-LOSPD OTH-R1 EOK-DG-DR IDAMOD05
186	4.08E-10	.01	LOSS OF OFFSITE FAILURE TO COMMON CAUSE BUS UNAVAILABLE	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR FAILURE 4KV BREAKER TO DUE TO TEST OR CORRECTIVE	WITH RCS DRAINED CLOSE MAINTENANCE	4.44E-03 4.20E-01 7.30E-04 3.00E-04	IEV-LOSPD OTH-R1 ECK-CB-GC IDABSDS1TH
187	4.07E-10	.01	LOSS OF OFFSITE FAILURE TO PUMP GIB FAILS & BREAKER 100 FAILURE UPON	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR ST CK V007B & C B FTC & RE FTC & CB EGS221 SPO FAILS TO OPEN DEMAND OF LOGIC GROUP PROCESSING	WITH RCS DRAINED [#3.51]	4.44E-03 4.20E-01 1.53E-02 1.23E-02 1.16E-03	IEV-LOSPD OTH-R1 RNBMOD07S EC1CB100V0 PMA0301ASA
188	4.07E-10	.01	LOSS OF OFFSITE FAILURE TO PUMP GIB FAILS & BREAKER 100 FAILURE UPON	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR ST CK V007B & C B FTC & RE FTC & CB EGS221 SPO FAILS TO OPEN DEMAND OF LOGIC GROUP PROCESSING	WITH RCS DRAINED [#3.51]	4.44E-03 4.20E-01 1.53E-02 1.23E-02 1.16E-03	IEV-LOSPD OTH-R1 RNBMOD07S EC1CB100V0 PMA0301BSA
189	4.05E-10	.01	LOSS OF CCS/SWS PMAMOD22X PMAMOD21X OPERATOR FAILS	WITH RCS DRAINED INITIATING EVENT OCCURS TO OPEN TWO IRWST MOVES		6.02E-04 1.16E-03 1.16E-03 5.00E-01	IEV-COHD PMAMOD22X PMAMOD21X INN-MAN00
190	3.98E-10	.01	LOSS OF OFFSITE FAILURE TO BATTERY CCF OF LOGIC	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR DB1 UNAVAILABLE GROUP PROCESSING	WITH RCS DRAINED	4.44E-03 4.20E-01 2.20E-03 9.59E-05	IEV-LOSPD OTH-R1 EDIMOD03 OCE-PMA030
191	3.93E-10	.01	LOSS OF OFFSITE FAILURE TO D/G FAILS TO D/G FAILS TO FAILURE OF INV.	POWER INITIATING EVENT OCCURS RECOVER AC POWER IN 1 HOUR START & RUN OR BKR 102 FAILS TO CLOSE START & RUN OR BKR 202 FAILS TO CLOSE STATIC SWITCH AND ASSOC.	WITH RCS DRAINED BREAKERS	4.44E-03 4.20E-01 2.02E-02 2.02E-02 5.16E-04	IEV-LOSPD OTH-R1 Z01MOD01 Z02MOD01 IDAMOD05
192	3.89E-10	.01	LOCA/RNS PIPE COND. PROB. OF COMMON MODE OPERATOR FAILS	RUPTURE WITH RCS FILLED INIT. REC-MANDAS (FAILURE OF FAILURE OF INPUT LOGIC GROUPS TO RECOGNIZE THE NEED FOR RCS	EVENT OCCURS MANUAL DAS ACT.	1.51E-05 5.00E-01 1.03E-04 5.00E-01	IEV-LOCAPRND REC-MANDASC OCE-INPUT-LOGIC LPM-MAN05
193	3.86E-10	.01	LOCA/RNS-V024 LEVEL	OPENS INITIATING EVENT OCCURS TRANSMITTER FAILURE	WITH RCS DRAINED	1.13E-05 6.84E-05	IEV-LOCA24D IWITL170UEX

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Table 54B-17

CASE 5 LIST OF TOP 200 DOMINANT CUTSETS

NUMBER	CUTSET	PROB	PERCENT	BASIC EVENT NAME	INITIATING EVENT	PROB	IDENTIFIER
194	3.86E-10	.01	1.75E-03	OPERATOR FAILS TO OPEN TWO INERT MDOVS	WITH RCS DRAINED	5.00E-01	TBN-MAND00
195	3.78E-10	.01	1.75E-03	LEVEL OPEN/BN5-V024 OPERATOR FAILS TO OPEN TWO TRANSMITTER FAILURE	INERT MDOVS	1.13E-05 6.84E-05 5.00E-01	TEU-LOCATE24D INCFL1600PX TBN-MAND00
196	3.75E-10	.01	1.75E-03	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS FAILURE TO RECOVER AC POWER IN 1 HOUR	WITH RCS DRAINED	4.44E-03 4.20E-01 2.09E-03	TEU-LOSPO OTH-R1 PLSMOD11 CCX-PWA010
197	3.61E-10	.01	1.75E-03	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS FAILURE TO RECOVER AC POWER IN 1 HOUR FAILURE OF PLS OUTPUT PCM OUTPUT STANDBY DC UNAVAILABLE DUE TO TEST AND	WITH RCS DRAINED	4.44E-03 4.20E-01 2.09E-03 2.09E-03	TEU-LOSPO OTH-R1 PLSMOD11 PCMMD011 20110620117W
198	3.51E-10	.01	1.75E-03	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS FAILURE TO RECOVER AC POWER IN 1 HOUR OF ENGINE-DRIVEN FUEL PUMPS GROUP PROCESSING	WITH RCS DRAINED	4.44E-03 4.20E-01 2.09E-03 9.99E-05	TEU-LOSPO OTH-R1 ZDR-ITD-EG CCX-PWA010
199	3.50E-10	.01	1.75E-03	LOSS OF RNS WITH RCS DRAINED FAILURE OF MANUAL DAS COF OF THE POWER INTERFACE OUTPUT BOARDS IN EMS	INITIATING EVENT OCCURS ACTORITION	8.15E-05 5.00E-01 8.62E-06	TEU-RHSD RBC-MANDAS CCX-EP-SAM
200	3.43E-10	.01	1.75E-03	LOSS OF OFFSITE POWER INITIATING EVENT OCCURS FAILURE TO RECOVER AC POWER IN 1 HOUR D/G FAILS TO START & RUN OR UNDERVOLTAGE PCM OUTPUT	WITH RCS DRAINED INJECTION CHECK VALVES TO OPEN	1.13E-05 3.10E-05 4.44E-03 2.20E-01 2.02E-02 4.36E-03 2.09E-03	TEU-LOCATE24D TBN-CV-AD TEU-LOSPO OTH-R1 201106011 EC1RSO2G1A PCMMD011

Table 54B-18

BASIC EVENT IMPORTANCE - CASE 5

SYSTEM UNAVAILABILITY (Q) = 4.565E-06
 NUMBER OF BASIC EVENTS = 259
 NUMBER OF CUTSETS = 2465

BASIC EVENT	IMPORTANCE (%DECREASE)	NUMBER OF CUTSETS	DECREASE IN SYSTEM UNAVAILABILITY	BASIC EVENT PROBABILITY
1 IEV-RCSBD	48.69	118	2.2226E-06	4.4400E-06
2 IWN-MAN00	27.88	26	1.2727E-06	5.0000E-01
3 RHN-MAN04	24.40	66	1.1139E-06	5.0000E-01
4 RHN-MAN04-SUCC	24.35	90	1.1114E-06	5.0000E-01
5 IWN-MAN00C	24.32	3	1.1100E-06	5.0000E-01
6 IEV-CCWD	23.45	272	1.0704E-06	6.0200E-04
7 REC-MANDASC	21.74	46	9.9237E-07	5.0000E-01
8 IWACV122AO	18.19	74	8.3019E-07	1.0000E+00
9 IWACV124AO	18.19	74	8.3019E-07	1.0000E+00
10 IEV-CCWND	17.59	69	8.0307E-07	3.7500E-03
11 LPM-MAN05	15.42	37	7.0373E-07	5.0000E-01
12 CCX-OFY-SP	10.29	18	4.6959E-07	2.7700E-04
13 CCX-XMTR195	7.44	16	3.3961E-07	2.0100E-04
14 ADN-MAN01	6.76	58	3.0853E-07	5.0000E-01
15 PRN-MAN01	5.01	4	2.2868E-07	5.0000E-01
16 IDCBSDD1TM	4.51	30	2.0600E-07	3.0000E-04
17 IDCBSDK1TM	4.51	30	2.0600E-07	3.0000E-04
18 IDCBSDB1TM	4.51	30	2.0600E-07	3.0000E-04
19 IWB-PLUG	3.83	131	1.7469E-07	2.4000E-04
20 IEV-RNSND	3.22	46	1.4712E-07	9.6100E-04
21 IEV-LOSPD	3.19	1474	1.4539E-07	4.4400E-05
22 CCX-INPUT-LOGIC	3.14	26	1.4331E-07	1.0300E-04
23 OTH-R1	3.07	1331	1.4002E-07	4.2000E-01
24 IEV-RNSD	3.06	183	1.3979E-07	8.1500E-05
25 IW1OR170SPX	1.09	15	4.9667E-08	9.4600E-05
26 IW2OR160SPX	1.09	15	4.9667E-08	9.4600E-05
27 PMAMOD11	1.02	76	4.6407E-08	2.0900E-03
28 REC-MANDAS	.81	34	3.6920E-08	5.0000E-01
29 IW1TL170UFX	.79	15	3.5938E-08	6.8400E-05
30 IW2TL160UFX	.79	11	3.5938E-08	6.8400E-05
31 IRAEP121BSAX	.77	13	3.5188E-08	5.8300E-05
32 CCX-PMAMOD1X	.71	7	3.2563E-08	4.6300E-05
33 CCX-PMAMOD2X	.65	4	2.9788E-08	8.5800E-05
34 IWX-MV-G01	.65	266	2.9685E-08	3.8000E-05
35 ADX-EV-SA	.65	290	2.9497E-08	3.8000E-05
36 ED1MOD03	.58	33	2.6250E-08	2.2020E-03
37 PMA0301ASA	.55	55	2.5161E-08	1.1600E-03
38 PMA0301BSA	.55	55	2.5161E-08	1.1600E-03
39 CCX-EP-SAM	.54	174	2.4724E-08	8.6200E-06
40 Z01MOD01	.54	299	2.4606E-08	2.0200E-02
41 IWX-CV-AO	.52	74	2.3729E-08	3.1000E-05
42 ZOX-PD-ES	.50	27	2.2888E-08	2.0000E-03
43 MDAS	.45	77	2.0582E-08	1.0000E-02
44 CCX-SPTW	.43	26	1.9545E-08	1.2000E-06
45 EC1CB100VO	.30	228	1.3865E-08	1.2300E-02
46 ECX-CB-G0	.30	25	1.3717E-08	1.2000E-03
47 IDAMOD05	.30	58	1.3605E-08	5.1600E-04
48 IEV-LOCA24ND	.26	121	1.1772E-08	1.6800E-05
49 IEV-LOSPND	.24	40	1.0762E-08	1.7100E-02
50 CCX-PMA030X	.21	5	9.6472E-09	1.3800E-05
51 IWX-FL-GP	.21	168	9.5232E-09	1.2000E-05
52 SWBMOD02	.20	70	9.3493E-09	2.4400E-02
53 CCX-INPUT-LOGICX	.19	3	8.8608E-09	2.5900E-05
54 IEV-LOCA24D	.19	103	8.8289E-09	1.1300E-05
55 ECX-CB-GC	.18	27	8.3197E-09	7.3000E-04
56 IDAMOD04	.18	56	8.3115E-09	3.1700E-04
57 Z02MOD01	.18	112	8.1154E-09	2.0200E-02
58 SUC-R2S	.18	9	8.0530E-09	7.6000E-01
59 CCX-PMAMOD1-SW	.17	8	7.8189E-09	1.1000E-05
60 IDABSDS1TM	.17	47	7.5873E-09	3.0000E-04
61 RNBMOD07S	.13	84	5.9925E-09	1.5300E-02
62 SUC-R1S	.12	143	5.3714E-09	5.8000E-01
63 EC1BS001TM	.11	49	5.2363E-09	2.7000E-03
64 EC1BS012TM	.11	49	5.2363E-09	2.7000E-03
65 EC1BS121TM	.11	49	5.2363E-09	2.7000E-03
66 IEV-LOCAPRND	.11	59	5.0432E-09	1.5100E-05

67	ZOX-DG-DR	.11	20	4.9841E-09	4.4000E-04
68	CCX-PMAMOD1	.11	35	4.9302E-09	1.4100E-04
69	EC2CB200VO	.10	92	4.6784E-09	1.2300E-02
70	PMAMOD11X	.10	38	4.3641E-09	6.5300E-04
71	CCX-IN-LOGIC-SW	.08	2	3.7580E-09	1.1000E-05
72	CCX-PMAMOD2-SW	.08	2	3.7580E-09	1.1000E-05
73	CCBMOD01S	.08	47	3.7410E-09	1.0400E-02
74	ED1MOD11	.08	23	3.5670E-09	3.1700E-04
75	ED1MOD113	.08	23	3.5670E-09	3.1700E-04
76	PL5MOD11	.07	38	3.4029E-09	2.0900E-03
77	PMAMOD21X	.07	7	3.2376E-09	1.1600E-03
78	ZOX-DG-DS	.07	18	3.1680E-09	2.8000E-04
79	CCX-PMA030	.07	25	3.1019E-09	9.6900E-05
80	ZO1DG001TM	.06	63	2.9435E-09	4.6000E-02
81	IWBCV122AO	.06	66	2.8907E-09	1.7500E-03
82	IWBCV124AO	.06	66	2.8907E-09	1.7500E-03
83	OTH-R2	.06	29	2.7091E-09	2.4000E-01
84	CCX-ORY-SPX	.06	112	2.7053E-09	3.6300E-06
85	CCX-EP-SAMX	.05	5	2.0563E-09	2.9400E-06
86	RN23MOD5S	.04	105	2.0401E-09	1.0000E+00
87	CCX-XMTRX	.04	97	1.9520E-09	2.6300E-06
88	PL50301ASA	.04	29	1.6956E-09	1.1600E-03
89	PL50301BSA	.04	29	1.6956E-09	1.1600E-03
90	RHN-MAN03	.03	36	1.4668E-09	5.0000E-01
91	EC1REDO2GA	.03	41	1.4490E-09	4.3600E-03
92	PMAX800ASA	.03	14	1.4165E-09	8.0000E-05
93	ZOX-PD-ER	.03	14	1.3874E-09	1.3000E-04
94	RNX-PM-FS	.03	36	1.3299E-09	7.7000E-04
95	ED2MOD03	.03	60	1.2529E-09	2.7000E-03
96	PMA0301ASAX	.02	27	1.0818E-09	1.6500E-04
97	CCX-BY-PN	.02	124	1.0627E-09	4.7000E-05
98	PMA0301BSAX	.02	23	1.0542E-09	1.6500E-04
99	RNX-KV-GO	.02	34	1.0239E-09	6.1000E-04
100	IWBCV123AO	.02	66	9.5958E-10	5.8000E-04
101	IWBCV125AO	.02	66	9.5958E-10	5.8000E-04
102	ZO1MOD04	.02	73	7.5490E-10	1.2500E-03
103	RNAMOD06S	.02	76	7.1725E-10	1.5300E-02
104	CCB-MAN01	.01	6	6.6190E-10	5.0000E-01
105	ED3MOD03	.01	27	6.5241E-10	2.2020E-03
106	PMAMOD12X	.01	20	6.3594E-10	6.5300E-04
107	ED1MOD01	.01	16	6.2987E-10	5.0400E-04
108	PL4MOD11	.01	37	6.1641E-10	2.0900E-03
109	PL1MOD11	.01	30	6.1447E-10	2.0900E-03
110	PL7MOD11	.01	30	6.1447E-10	2.0900E-03
111	PMAX800ASAX	.01	29	5.8206E-10	8.0000E-05
112	ZOX-BL-ES	.01	11	5.6846E-10	6.0000E-05
113	SWBMOD09P	.01	25	5.4329E-10	1.8500E-03
114	CCX-BY-PN1	.01	32	5.4129E-10	5.7000E-05
115	DAS	.01	4	5.3345E-10	1.0000E-02
116	CCX-AV-LA	.01	5	5.2224E-10	6.1000E-05
117	IWACV123AO	.01	74	4.8180E-10	5.8000E-04
118	IWACV125AO	.01	74	4.8180E-10	5.8000E-04
119	CCNTF101RI	.01	5	4.7057E-10	5.2300E-03
120	SWNTP001RI	.01	5	4.7057E-10	5.2300E-03
121	SWB-MAN02	.01	4	4.7050E-10	5.0000E-01
122	CMX-CV-GO	.01	4	4.3656E-10	5.1000E-05
123	CCX-IV-XR	.01	28	4.1616E-10	2.4000E-05
124	PMAMOD22X	.01	1	4.0500E-10	1.1600E-03
125	RC1OR195SP	.01	4	3.3587E-10	7.2200E-03
126	CMX-VS-FA	.01	7	3.2865E-10	3.8400E-05
127	ZON-MAN01	.01	7	3.2320E-10	5.0000E-01
128	IDAMOD08	.01	18	3.0846E-10	3.1700E-04
129	ED1MOD13	.01	12	2.9225E-10	3.1700E-04
130	ZO2MOD04	.01	39	2.8719E-10	1.2500E-03
131	ED1MOD07	.01	12	2.8105E-10	3.0500E-04
132	IDBBSSD1TM	.01	43	2.5983E-10	3.0000E-04
133	IDBBSDK1TM	.01	43	2.5983E-10	3.0000E-04
134	IDBBBSDS1TM	.01	43	2.5983E-10	3.0000E-04
135	PL40301ASA	.01	25	2.5694E-10	1.1600E-03
136	PL40301BSA	.01	22	2.5658E-10	1.1600E-03
137	PL10301ASA	.01	21	2.5620E-10	1.1600E-03
138	PL70301ASA	.01	21	2.5620E-10	1.1600E-03
139	PL10301BSA	.01	20	2.5610E-10	1.1600E-03
140	PL70301BSA	.01	20	2.5610E-10	1.1600E-03
141	RC1TL195UF	.01	3	2.3779E-10	5.2300E-03
142	CCX-PMAMOD4	.01	8	2.3513E-10	4.9800E-05
143	IWA-PLUG	.00	58	2.0904E-10	2.4000E-04
144	SWAMOD07	.00	39	1.8637E-10	7.1200E-03
145	PMA0302ASAX	.00	12	1.4067E-10	1.6500E-04
146	CCX-PL4MOD1	.00	14	1.1784E-10	1.4100E-04
147	PMA0302BSAX	.00	8	1.1302E-10	1.6500E-04

148	CCAMOD02	.00	37	1.1131E-10	7.1000E-03
149	EC1EPMB1SA	.00	8	8.7669E-11	1.7100E-04
150	PCX-AV-LA	.00	57	8.3091E-11	6.1000E-05
151	EC1MOD12	.00	19	7.3878E-11	4.8000E-05
152	CCX-PL1MOD1	.00	8	7.2306E-11	1.4100E-04
153	CCX-PL7MOD1	.00	8	7.2306E-11	1.4100E-04
154	IDAMOD02	.00	7	7.0100E-11	4.7000E-03
155	IDAMOD03	.00	7	7.0100E-11	4.7000E-03
156	ED3MOD07	.00	26	6.4948E-11	3.0500E-04
157	IDAMOD06	.00	16	6.4567E-11	4.3200E-05
158	PL1MOD51	.00	2	6.2000E-11	8.7400E-04
159	CCX-PL403	.00	12	4.9853E-11	9.6900E-05
160	CCX-PMAMOD4-SW	.00	2	4.8800E-11	1.1000E-05
161	IRAEPI21ASAX	.00	16	4.7810E-11	5.8300E-05
162	EC1REDG1GA	.00	37	4.7551E-11	4.3600E-03
163	ED3MOD01	.00	10	4.3471E-11	5.0400E-04
164	DG1-LOGIC	.00	1	4.0700E-11	5.0000E-03
165	IDABSDS1LF	.00	6	2.6580E-11	4.8000E-06
166	ZD2DG002TM	.00	41	2.6099E-11	4.6000E-02
167	CCX-LS-FA	.00	17	2.5401E-11	5.3700E-06
168	EC1MOD121	.00	9	2.3810E-11	1.6800E-05
169	RNX-CV-GO	.00	11	2.2157E-11	5.1000E-05
170	CCX-PL103	.00	6	1.8601E-11	9.6900E-05
171	CCX-PL703	.00	6	1.8601E-11	9.6900E-05
172	ED2MOD01	.00	1	1.7900E-11	5.0400E-04
173	CCX-PMAEHDX	.00	2	1.7900E-11	4.0300E-06
174	PMAMOD41	.00	8	1.6372E-11	6.3500E-04
175	PL5XS00ASA	.00	6	1.5354E-11	8.0000E-05
176	IDAMOD07	.00	9	1.4577E-11	2.1900E-02
177	SWAMOD09P	.00	22	1.3491E-11	1.8500E-03
178	AD2MOD01	.00	21	8.7184E-12	5.5400E-02
179	AD2MOD02	.00	21	8.7184E-12	5.5400E-02
180	AD3MOD03	.00	21	8.7184E-12	5.5400E-02
181	AD3MOD04	.00	21	8.7184E-12	5.5400E-02
182	IDBFDO13RQ	.00	7	8.5141E-12	1.2000E-05
183	IDBFDO14RQ	.00	7	8.5141E-12	1.2000E-05
184	IDCFD007RQ	.00	4	8.2401E-12	1.2000E-05
185	IDCFD00BRQ	.00	4	8.2401E-12	1.2000E-05
186	ALL-IND-FATL	.00	18	7.7690E-12	1.0000E-06
187	RNX-PM-ER	.00	10	6.8751E-12	1.6000E-05
188	CCX-PM-ER	.00	10	6.0156E-.2	1.4000E-05
189	SWX-PM-ER	.00	10	6.0156E-12	1.4000E-05
190	ED2MOD11	.00	20	5.3288E-12	3.1700E-04
191	EC1BS001LF	.00	4	5.1631E-12	4.8000E-06
192	ZANMOD01	.00	6	4.8270E-12	8.4000E-05
193	CCX-IV-XR1	.00	6	4.6030E-12	2.4000E-05
194	CCX-PL4MOD1-SW	.00	8	4.5841E-12	1.1000E-05
195	CCX-EP-SA	.00	8	3.5885E-12	8.6200E-06
196	PL4MOD12	.00	16	3.4699E-12	2.0900E-03
197	IDBBSD1LF	.00	7	3.4044E-12	4.8000E-06
198	IDBBSD1LF	.00	7	3.4044E-12	4.8000E-06
199	IDBBSDS1LF	.00	7	3.4044E-12	4.8000E-06
200	IDCBSD1LF	.00	4	3.2949E-12	4.8000E-06
201	IDCBSD1LF	.00	4	3.2949E-12	4.8000E-06
202	IDCBSDS1LF	.00	4	3.2949E-12	4.8000E-06
203	EC1MOD01	.00	16	3.2830E-12	2.0200E-04
204	EC2MG001	.00	14	2.5059E-12	2.0200E-04
205	CCX-PL1MOD1-SW	.00	4	1.9811E-12	1.1000E-05
206	CCX-PL7MOD1-SW	.00	4	1.9811E-12	1.1000E-05
207	RNAEPRNPSA	.00	9	1.7508E-12	1.7100E-04
208	RNBEPRNPSA	.00	9	1.7508E-12	1.7100E-04
209	SW7EPSPBASA	.00	7	1.4734E-12	1.7100E-04
210	PMAEH0A1SAX	.00	3	1.4398E-12	8.0000E-05
211	PL1MOD12	.00	7	1.4055E-12	2.0900E-03
212	PL7MOD12	.00	7	1.4055E-12	2.0900E-03
213	PMAMOD42	.00	2	1.3419E-12	6.3500E-04
214	PL4J302ASA	.00	7	1.1774E-12	1.1600E-03
215	CC1EPSBPASA	.00	6	1.0401E-12	1.7100E-04
216	ADX-MV-GO	.00	4	1.0300E-12	1.1000E-03
217	ZD1MOD03	.00	8	1.0089E-12	1.0000E-04
218	SW7EPSPBASA	.00	5	8.7430E-13	1.7100E-04
219	CC1EPSBPASA	.00	5	8.7408E-13	1.7100E-04
220	PL4J302BSA	.00	4	8.1801E-13	1.1600E-03
221	SW7EPCTFASA	.00	4	7.8804E-13	1.7100E-04
222	SW7EPCTFBASA	.00	4	7.8804E-13	1.7100E-04
223	ED1BSDS1LF	.00	3	7.8693E-13	4.8000E-06
224	ZD2MOD03	.00	5	5.8920E-13	1.0000E-04
225	ED3BSDS1TM	.00	1	4.8805E-13	3.0000E-04
226	IWNTRK001AF	.00	5	4.8728E-13	2.4000E-06
227	PL10302ASA	.00	3	4.3932E-13	1.1600E-03
228	PL70302ASA	.00	3	4.3932E-13	1.1600E-03

229	PRAAV108LA	.00	11	3.6260E-13	1.0900E-03
230	PRBAV108LA	.00	12	3.6260E-13	1.0900E-03
231	PL10302BSA	.00	13	3.4395E-13	1.1600E-03
232	PL70302BSA	.00	14	3.4395E-13	1.1600E-03
233	CCK-HE-AF	.00	15	3.1908E-13	1.2000E-03
234	PL1X800ASA	.00	16	2.9976E-13	8.0000E-05
235	PL4X800ASA	.00	17	2.9976E-13	8.0000E-05
236	PL7X800ASA	.00	18	2.9976E-13	8.0000E-05
237	CCK-BC-SA	.00	19	2.8222E-13	8.4000E-06
238	PLMMD41	.00	20	2.4203E-13	6.3500E-04
239	EC2BB002TM	.00	21	2.2837E-13	2.7000E-03
240	EC2BS022TM	.00	22	2.2837E-13	2.7000E-03
241	EC2BB221TM	.00	23	2.2837E-13	2.7000E-03
242	CCK-XMTR	.00	24	3.9007E-13	2.0100E-04
243	PRAAV108TM	.00	25	3.6143E-13	8.0000E-04
244	PRBAV108TM	.00	26	3.6143E-13	8.0000E-04
245	EC2MOD22	.00	27	3.5377E-13	4.8000E-05
246	CCK-TNEM	.00	28	3.4899E-13	2.0100E-04
247	EC1MOD13	.00	29	3.4067E-13	4.8000E-05
248	EC2MOD23	.00	30	3.4067E-13	4.8000E-05
249	ZOX-BL-ER	.00	31	9.6367E-16	1.3600E-06
250	ZOX-FL-GP	.00	32	9.2149E-14	1.3000E-06
251	IDABSDD1TM	.00	33	3.1641E-14	3.0000E-04
252	IDABSDK1TM	.00	34	3.1641E-14	3.0000E-04
253	IDDBSDD1TM	.00	35	3.1641E-14	3.0000E-04
254	IDDBSDK1TM	.00	36	3.1641E-14	3.0000E-04
255	IDDBSDE1TM	.00	37	3.1641E-14	3.0000E-04
256	PRX-HR-ML	.00	38	2.4314E-14	1.2000E-07
257	PRCEP108SA	.00	39	2.0769E-14	1.7100E-04
258	PRDEP108SA	.00	40	2.0769E-14	1.7100E-04
259	IWX-XMTRLW	.00	41	1.3323E-15	9.2000E-09

SYSTEM UNAVAILABILITY (Q) = 4.565E-06
 NUMBER OF BASIC EVENTS = 259
 NUMBER OF CUTSETS = 2485

BASIC EVENT	IMPORTANCE (% INCREASE)	NUMBER OF CUTSETS	INCREASE IN SYSTEM UNAVAILABILITY	BASIC EVENT PROBABILITY
1 IEV-RCSOD	1.096619E+07	118	5.0058E-03	4.4400E-06
2 CCX-SFTW	356816.	26	1.6288E-02	1.2000E-06
3 CCX-EP-SAM	62833.7	174	2.8682E-03	8.6200E-06
4 IEV-CCWD	38928.8	272	1.7770E-03	6.0200E-04
5 IEV-RNSD	37572.4	183	1.7151E-03	8.1500E-05
6 CCX-ORY-SP	37128.0	18	1.6948E-03	2.7700E-04
7 CCX-XMTR195	37006.8	16	1.6893E-03	2.0100E-04
8 CCX-INPUT-LOGIC	30477.9	28	1.3912E-03	1.0300E-04
9 IWX-FL-GP	17385.0	168	7.9359E-04	1.2000E-05
10 IEV-LOCA24D	17116.0	103	7.8131E-04	1.1300E-05
11 IWX-MV-GO1	17112.5	266	7.8115E-04	3.8000E-05
12 ADX-EV-SA	17004.5	290	7.7622E-04	3.8000E-05
13 IWX-CV-AO	16768.3	74	7.6543E-04	3.1000E-05
14 CCX-ORY-SPX	16326.3	112	7.4526E-04	3.6300E-06
15 CCX-XMTRX	16259.2	97	7.4220E-04	2.6300E-06
16 IWB-PLUG	15941.6	131	7.2770E-04	2.4000E-04
17 CCX-PMAMOD1-SW	15571.4	8	7.1080E-04	1.1000E-05
18 CCX-PMAMOD1X	15406.7	7	7.0328E-04	4.6300E-05
19 IEV-LOCA24ND	15349.8	121	7.0068E-04	1.6800E-05
20 CCX-EP-SAMX	15321.8	5	6.9941E-04	2.9400E-06
21 CCX-PMA030X	15314.3	5	6.9906E-04	3.3800E-05
22 IDCBSDD1TM	15037.9	30	6.8644E-04	3.0000E-04
23 IDCBSDK1TM	15037.9	30	6.8644E-04	3.0000E-04
24 IDCBEDS1TM	15037.9	30	6.8644E-04	3.0000E-04
25 IRAEPI21BSAX	13221.6	13	6.0354E-04	5.8300E-05
26 IW1TL170UFX	11509.2	15	5.2537E-04	6.8400E-05
27 IW2TL160UFX	11509.2	15	5.2537E-04	6.8400E-05
28 IW1OR170SPX	11500.4	15	5.2497E-04	9.4600E-05
29 IW2OR160SPX	11500.4	15	5.2497E-04	9.4600E-05
30 CCX-PMAMOD2X	7604.86	4	3.4714E-04	8.5800E-05
31 CCX-INPUT-LOGICX	7494.48	3	3.4211E-04	2.5900E-05
32 CCX-IN-LOGIC-SW	7484.11	2	3.4163E-04	1.1000E-05
33 CCX-PMAMOD2-SW	7484.11	2	3.4163E-04	1.1000E-05
34 IEV-LOCAPRND	7316.56	59	3.3398E-04	1.5100E-05
35 IEV-CCWND	4673.80	69	2.1335E-04	3.7500E-03
36 IEV-RNSND	3350.57	46	1.5295E-04	9.6100E-04
37 CCX-PMAMOD1	765.887	35	3.4961E-05	1.4100E-04
38 IEV-LOSPD	714.190	1474	3.2601E-05	4.4400E-03
39 CCX-PMA030	701.201	25	3.2008E-05	9.6900E-05
40 IDAMOD05	577.312	58	2.6353E-05	5.1600E-04
41 IDAMOD04	574.199	56	2.6211E-05	3.1700E-04
42 IDABEDS1TM	553.882	47	2.5283E-05	3.0000E-04
43 CCX-BY-PN	495.304	124	2.2610E-05	4.7000E-05
44 PMAMOD11	485.406	76	2.2158E-05	2.0900E-03
45 PMA0301ASA	474.619	55	2.1665E-05	1.1600E-03
46 PMA0301BSA	474.619	55	2.1665E-05	1.1600E-03
47 PMAXS00ASA	387.858	14	1.7705E-05	8.0000E-05
48 CCX-IV-XR	379.855	28	1.7340E-05	2.4000E-05
49 ED1MOD03	260.577	33	1.1895E-05	2.2020E-03
50 ZOX-PD-ES	250.206	37	1.1421E-05	2.0000E-03
51 ECX-CB-GO	250.110	25	1.1417E-05	1.2000E-03
52 ECX-CB-GC	249.487	27	1.1389E-05	7.3000E-04
53 ZOX-DG-DR	248.041	20	1.1323E-05	4.4000E-04
54 ZOX-DG-DS	247.794	18	1.1311E-05	2.8000E-04
55 ED1MOD11	246.424	23	1.1249E-05	3.1700E-04
56 ED1MOD113	246.424	23	1.1249E-05	3.1700E-04
57 ZOX-PD-ER	233.760	14	1.0671E-05	1.3000E-04
58 CCX-BY-PN1	208.024	12	9.4958E-06	5.7000E-05
59 ZOX-BL-ES	207.542	11	9.4738E-06	6.0000E-05
60 CCX-AV-LA	187.541	5	8.5608E-06	6.1000E-05
61 CMX-CV-GO	187.513	4	8.5596E-06	5.1000E-05
62 CMX-VS-FA	187.485	7	8.5583E-06	3.8400E-05
63 PMAXS00CAX	159.376	29	7.2752E-06	8.0000E-05
64 ALL-IND-FAIL	159.240	18	7.2690E-06	1.0000E-06
65 PMAMOD11X	146.310	38	6.6787E-06	6.5300E-04
66 PMA0301ASAX	143.608	27	6.5554E-06	1.6500E-04
67 PMA0301BSAX	139.937	23	6.3878E-06	1.6500E-04
68 IDABEDS1LF	121.309	6	5.5375E-06	4.8000E-06
69 CCX-LS-FA	103.621	17	4.7301E-06	5.3700E-06
70 CCX-PMAMOD4	103.426	8	4.7212E-06	4.9800E-05
71 CCX-PMAEHDX	97.3026	2	4.4416E-06	4.0300E-06
72 CCX-PMAMOD4-SW	97.1860	2	4.4363E-06	1.1000E-05

73	PMAMOD21X	61.0720	7	2.7878E-06	1.1600E-03
74	MDAS	44.6375	77	2.0376E-06	1.0000E-02
75	EC1BS001TM	42.3706	49	1.9341E-06	2.7000E-03
76	EC1BS012TM	42.3706	49	1.9341E-06	2.7000E-03
77	EC1BS121TM	42.3706	49	1.9341E-06	2.7000E-03
78	RNX-PM-FS	37.8084	36	1.7259E-06	7.7000E-04
79	RNX-KV-GO	36.7471	34	1.6774E-06	6.1000E-04
80	IWBCV123AO	36.2226	66	1.6535E-06	5.8000E-04
81	IWBCV125AO	36.2226	66	1.6535E-06	5.8000E-04
82	IWBCV122AO	36.1229	66	1.6489E-06	1.7500E-03
83	IWBCV124AO	36.1229	66	1.6489E-06	1.7500E-03
84	PL5MOD11	35.5943	38	1.6244E-06	2.0900E-03
85	EC1MOD12	33.7160	19	1.5391E-06	4.8000E-05
86	IDAMOD06	32.7407	16	1.4945E-06	4.3200E-05
87	PL50301ABA	31.9856	29	1.4601E-06	1.1600E-03
88	PL50301BSA	31.9856	29	1.4601E-06	1.1600E-03
89	EC1MOD121	31.0474	9	1.4172E-06	1.6800E-05
90	PCX-AV-LA	29.8386	57	1.3621E-06	6.1000E-05
91	IWN-MAN00	27.8812	26	1.2727E-06	5.0000E-01
92	ED1MOD01	27.3643	16	1.2491E-06	5.0400E-04
93	Z01MOD01	26.1466	299	1.1935E-06	2.0200E-02
94	RHN-MAN04	24.4015	66	1.1139E-06	5.0000E-01
95	EC1CB100VO	24.3911	228	1.1134E-06	1.2300E-02
96	RHN-MAN04-SUCC	24.3484	90	1.1114E-06	5.0000E-01
97	IWN-MAN00C	24.3166	1	1.1100E-06	5.0000E-01
98	EC1BS001LF	23.5639	4	1.0750E-06	4.8000E-06
99	REC-MANDASC	21.7397	46	9.9237E-07	5.0000E-01
100	PMAMOD12X	21.3206	20	9.7324E-07	6.5300E-04
101	IDAMOD08	21.3099	18	9.7757E-07	3.1700E-04
102	ED1MOD13	20.1904	12	9.4346E-07	3.1700E-04
103	ED1MOD07	20.1807	12	9.2120E-07	3.0500E-04
104	IWA-PLUG	19.0760	58	8.7077E-07	2.4000E-04
105	IDBBBDD1TM	18.9676	43	8.6583E-07	3.0000E-04
106	IDBBSDK1TM	18.9676	43	8.6583E-07	3.0000E-04
107	IDBBBDE1TM	18.9676	43	8.6583E-07	3.0000E-04
108	PMA0302ASAX	18.6741	12	8.5243E-07	2.6500E-04
109	CCX-PL4MOD1	18.3061	14	8.3563E-07	1.1000E-04
110	IWACV123AO	18.1872	74	8.2777E-07	5.7000E-04
111	IWACV125AO	18.1872	74	8.2777E-07	5.8000E-04
112	IRAEPI21ASAX	17.9642	16	8.0715E-07	5.8300E-05
113	IDBFD0013RQ	16.5429	7	7.9508E-07	2.0000E-05
114	IDBFD014RQ	15.5429	7	7.9508E-07	2.0000E-05
115	IDBBBDD1LF	15.5373	7	7.9241E-07	1.00E-06
116	IDBBBDK1LF	15.5373	7	7.9241E-07	1.00E-06
117	IDBBBDS1LF	15.5373	7	7.9241E-07	1.00E-06
118	LPM-MAN05	15.4164	7	7.8947E-07	1.00E-01
119	IDCFD007RQ	15.0427	6	7.8505E-07	2.0000E-05
120	IDCFD008RQ	15.0427	6	7.8505E-07	2.0000E-05
121	IDCBSSDD1LF	15.0377	6	7.8161E-07	1.8000E-06
122	IDCBSDK1LF	15.0377	6	7.8161E-07	1.8000E-06
123	IDCBBD81LF	15.0377	5	7.6440E-07	4.8000E-06
124	PMA0302BSAX	15.0036	9	7.5102E-07	1.6500E-04
125	IEN-LOSPND	13.5517	80	6.7276E-07	1.7100E-02
126	Z01MOD04	13.2135	7	6.2215E-07	1.2500E-03
127	CCX-PL4D3	11.269	7	5.6431E-07	9.6900E-05
128	CCX-PL1MOD1	11.233	7	5.6148E-07	1.4100E-04
129	CCX-PL7MOD1	11.2	6	5.2276E-07	1.4100E-04
130	EC5EPMGB1SA	11.2	6	5.2276E-07	1.7100E-04
131	ED2MOD03	10.19	5	4.5371E-07	2.7000E-03
132	RNX-CV-GO	9.511	4	4.2553E-07	5.1000E-05
133	RNX-PM-ER	9.41	12	6.2965E-07	1.6000E-05
134	CCX-PM-ER	9.41	4	2.206E-07	1.4000E-05
135	SWX-PM-ER	9.41	4	2.206E-07	1.4000E-05
136	CCX-PL4MOD1-SW	9.129	6	1.38E-07	1.1000E-05
137	CCX-EP-SA	9.129	6	1.0298E-07	8.6200E-06
138	Z02MOD01	8.6213	312	3.9364E-07	3.0200E-02
139	RNBMOD07S	8.44886	4	2.8567E-07	1.5300E-02
140	EC2CB200VO	8.22989	10	3.7568E-07	1.2300E-02
141	SWBMOD02	8.18918	10	3.7382E-07	2.4400E-02
142	CCBMOD01S	7.79827	17	3.5597E-07	1.0400E-02
143	PMAMOD22X	7.63965	7	3.4873E-07	1.1600E-03
144	EC1REDG2GA	7.24854	41	3.3088E-07	4.3600E-03
145	ADN-MAN01	6.75889	58	3.0853E-07	5.0000E-01
146	ED3MOD03	6.47630	27	2.7225E-07	2.2020E-03
147	PL4MOD11	6.44758	37	2.9432E-07	2.0900E-03
148	PL1MOD11	6.42731	30	2.9339E-07	2.0900E-03
149	PL7MOD11	6.42731	30	2.9339E-07	2.0900E-03
150	SWBMOD09P	6.42151	25	2.9313E-07	1.8500E-03
151	CCX-HE-AF	5.82500	3	2.6590E-07	1.2000E-06
152	Z02MOD04	5.02694	39	2.2947E-07	1.2500E-03
153	FRN-MAN01	5.00967	4	2.2868E-07	5.0000E-01

154	PL40301ABA	4.84670	25	2.2124E-07	1.1600E-03
155	PL40301BSA	4.83992	22	2.2093E-07	1.1600E-03
156	PL10301ABA	4.83278	21	2.2061E-07	1.1600E-03
157	PL70301ASA	4.83278	21	2.2061E-07	1.1600E-03
158	PL10301BSA	4.83098	20	2.2052E-07	1.1600E-03
159	PL70301BSA	4.83098	20	2.2052E-07	1.1600E-03
160	ED3MOD07	4.66354	26	2.1288E-07	3.3500E-04
161	IWNTKOD1AF	4.44779	5	2.0303E-07	2.4000E-06
162	PRX-HR-ML	4.43868	4	2.0262E-07	1.2000E-07
163	OTH-R1	4.23604	1331	3.9337E-07	4.2000E-01
164	CCX-PL103	4.20483	6	3.9194E-07	9.6900E-05
165	CCX-PL703	4.20483	6	3.9194E-07	9.6900E-05
166	PL5X800ASA	4.20416	6	3.9191E-07	8.0000E-05
167	CCX-IV-XRI	4.20144	6	3.9179E-07	2.4000E-05
168	CCX-PL1MOD1-SW	3.94535	4	3.8010E-07	3.1000E-05
169	CCX-PL7MOD1-SW	3.94535	4	3.8010E-07	3.1000E-05
170	ED1BBDS1LF	3.59146	3	1.6394E-07	4.8000E-06
171	IWX-XMTRLW	3.37237	2	1.4481E-07	9.2000E-09
172	CCTTF101RI	1.96079	5	8.9505E-08	5.2300E-03
173	SWNTP001RI	1.96079	5	8.9505E-08	5.2300E-03
174	ED3MOD01	1.88854	10	8.6208E-08	5.0400E-04
175	ZOX-FL-GP	1.55283	1	7.0883E-08	1.3000E-06
176	PL1MOD51	1.55268	2	7.0876E-08	8.7400E-04
177	ZOX-BL-ER	1.55228	1	7.0858E-08	1.3600E-06
178	ZO1DG001TM	1.33734	63	6.1046E-08	4.6000E-02
179	ZANMOD01	1.25877	6	5.7460E-08	8.4000E-05
180	DAB	1.15694	4	5.2812E-08	3.0000E-02
181	RC10R195SF	1.01174	4	4.6184E-08	7.2200E-03
182	RNA MOD06S	1.01127	76	4.6162E-08	1.5300E-02
183	RC1TL_1IF	9.90821	3	4.5229E-08	5.2300E-03
184	REC-MANDAS	8.08792	34	3.6920E-08	5.0000E-01
185	ED2MOD01	7.77651	1	3.5498E-08	5.0400E-04
186	CCX-BC-SA	7.36010	5	3.3597E-08	8.4000E-06
187	SWAMOD07	5.69356	39	2.5990E-08	7.1200E-03
188	IDAMOD02	5.67233	7	2.5893E-08	2.7000E-03
189	IDAMOD03	5.67233	7	2.5893E-08	2.7000E-03
190	PMAMOD41	5.64456	8	2.5766E-08	6.3500E-04
191	PMABHDA1SAX	3.94251	3	1.7997E-08	8.0000E-05
192	ED2MOD11	3.68143	20	1.6805E-08	3.1700E-04
193	EC1MOD01	3.55974	16	1.6249E-08	2.0200E-04
194	CCAMOD02	3.41019	37	1.5567E-08	7.1000E-03
195	EC2MU_01	2.71708	14	1.2403E-08	2.0200E-04
196	EC1REDG1GA	2.37878	37	1.0859E-08	4.3600E-03
197	RNAEPRNPSA	2.24260	9	1.0237E-08	1.7100E-04
198	RNEEPRNPSA	2.24260	9	1.0237E-08	1.7100E-04
199	ZO1MOD03	2.20988	8	1.0088E-08	1.0000E-04
200	SW7EPSBPASA	1.88723	7	8.6148E-09	1.7100E-04
201	OTH-R2	1.87932	29	8.5787E-09	2.4000E-01
202	DG1-LOGIC	1.77430	1	8.0993E-09	5.0000E-03
203	SWAMOD09P	1.59461	23	7.2791E-09	1.8500E-03
204	CC1EPSPBPASA	1.33219	6	6.0812E-09	1.7100E-04
205	ZO2MOD03	1.29061	5	5.8914E-09	1.0000E-04
206	SW7EPSPBPASA	1.11988	5	5.1120E-09	1.7100E-04
207	CC1EPSPBPBSA	1.11959	5	5.1107E-09	1.7100E-04
208	SW7EPCTFASA	.10C*	4	4.6076E-09	1.7100E-04
209	SW7EPCTFBSA	.100938	4	4.6076E-09	1.7100E-04
210	SUC-R1B	8.520972E-02	143	3.8896E-09	5.8000E-01
211	PL1X800ASA	8.207859E-02	3	3.7467E-09	8.0000E-05
212	PL4X800ASA	8.207859E-02	3	3.7467E-09	8.0000E-05
213	PL7X800ASA	8.207859E-02	3	3.7467E-09	8.0000E-05
214	EC2MOD22	7.017437E-02	2	3.2033E-09	4.8000E-05
215	EC11MOD13	6.419562E-02	2	2.9304E-09	4.8000E-05
216	EC2MOD23	6.419562E-02	2	2.9304E-09	4.8000E-05
217	SUC-R2S	5.571014E-02	9	2.5430E-09	2.6000E-01
218	PMAMOD42	4.626577E-02	2	2.1119E-09	6.3500E-04
219	PL4MOD12	3.629456E-02	16	1.6568E-09	2.0900E-03
220	ED3BBSB1TM	3.562845E-02	1	1.6264E-09	3.0000E-04
221	RHN-MAN03	3.213304E-02	36	1.4668E-09	5.0000E-01
222	PL40302ABA	2.220953E-02	7	1.0138E-09	1.1600E-03
223	CCX-XMTR	2.071149E-02	3	9.4543E-10	2.0100E-04
224	ADX-MV-GO	2.048933E-02	4	9.3529E-10	1.1000E-03
225	CCX-TRNSM	1.623529E-02	2	7.4110E-10	2.0100E-04
226	PL4C302BSA	1.543044E-02	4	7.0437E-10	1.1600E-03
227	PL1MOD12	1.470177E-02	7	6.7110E-10	2.0900E-03
228	PL7MOD12	1.470177E-02	7	6.7110E-10	2.0900E-03
229	CCB-MAN01	1.450017E-02	6	6.6190E-10	5.0000E-01
230	IDAMOD07	1.426236E-02	9	6.5104E-10	2.1900E-02
231	ZO2DG002TM	1.185736E-02	41	5.4126E-10	4.6000E-02
232	SWB-MAN02	1.030719E-02	4	4.7050E-10	5.0000E-01
233	PLMMOD41	8.344451E-03	2	3.8091E-10	6.3500E-04
234	PL10302ABA	8.286953E-03	3	3.7828E-10	1.1600E-03

235	PL70302ABA	8.286953E-03	3	3.7828E-10	1.1600E-03
236	PRAAV10BLA	7.279590E-03	11	3.3230E-10	1.0900E-03
237	PRBAV10BLA	7.279590E-03	11	3.3230E-10	1.0900E-03
238	ZON-MAN01	7.080304E-03	9	3.2320E-10	5.0000E-01
239	PRAAV10BTM	7.069163E-03	9	3.2269E-10	5.0000E-04
240	PRBAV10BTM	7.069163E-03	9	3.2269E-10	5.0000E-04
241	PL10302BSA	6.487991E-03	2	2.9616E-10	1.1600E-03
242	PL70302BSA	6.487991E-03	2	2.9616E-10	1.1600E-03
243	AD2MOD01	3.256519E-03	21	1.4865E-10	5.5400E-02
244	AD2MOD02	3.256519E-03	21	1.4865E-10	5.5400E-02
245	AD3MOD03	3.256519E-03	21	1.4865E-10	5.5400E-02
246	AD3MOD04	3.256519E-03	21	1.4865E-10	5.5400E-02
247	IDABSDD1TM	2.309852E-03	3	1.0544E-10	3.0000E-04
248	IDABSDK1TM	2.309852E-03	3	1.0544E-10	3.0000E-04
249	IDUBSDD1TM	2.309852E-03	3	1.0544E-10	3.0000E-04
250	IDDBSDK1TM	2.309852E-03	3	1.0544E-10	3.0000E-04
251	IDOBSDS1TM	2.309852E-03	3	1.0544E-10	3.0000E-04
252	EC2BS002TM	1.847937E-03	10	8.4354E-11	2.7000E-03
253	EC2BS022TM	1.847937E-03	10	8.4354E-11	2.7000E-03
254	EC2BS221TM	1.847937E-03	10	8.4354E-11	2.7000E-03
255	PRCEP10BSA	1.379406E-03	1	6.2967E-11	1.7100E-04
256	PRDEP10BSA	1.379406E-03	1	6.2967E-11	1.7100E-04
257	IWACV122AO	0.000000	74	0.00000E+00	1.0000E+00
258	IWACV124AO	0.000000	74	0.00000E+00	1.0000E+00
259	RN23MOD58	0.000000	105	0.00000E+00	1.0000E+00

DOC REQUEST FOR ADDITIONAL INFORMATION

Response to Questionnaire

AP600

ADS	ADS	ADS	CIRCS
W1-03	ADS100	ADS200	1 P - 3D



For example:
RC108
W103
C1
C2
C3
ADS300

Reactor Coolant System
RCS Degraining line 1P - 3D via
manually 150 sec flow line
Gravity Inlet line
Gravity Inlet line 1P - 3D via 80 sec section line
4 mm Strategic ADS for hand

Overdraining of Reactor Coolant System During Degraining to Mid-Loop

Figure 4-200-202
54-B-1



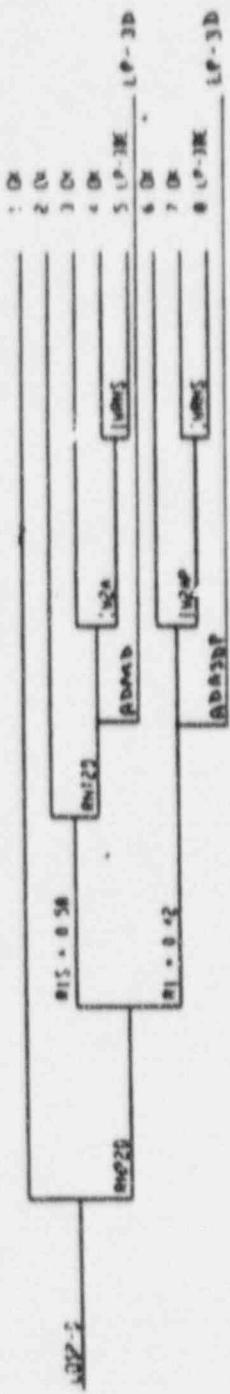
Westinghouse

 Westinghouse

Line of Office Power (RCS Dashed) Event Tree
Figure 2202-2
S4B-2
220-20547-77

Event Tree
Line of Office Power (RCS Dashed) Event Tree
Figure 2202-2
S4B-2
220-20547-77

Initial conditions:
1. All valves are closed.
2. All pumps are off.
3. All tanks are full.
4. All lines are clear.
5. All equipment is in normal operating condition.
6. All valves are open.
7. All pumps are on.
8. All tanks are empty.
9. All lines are blocked.
10. All equipment is in abnormal operating condition.



Event	Probability	Condition
Initial	1.00	None
1. Valve 1 open	0.50	Valve 1 open
2. Valve 2 open	0.50	Valve 2 open
3. Valve 3 open	0.50	Valve 3 open
4. Valve 4 open	0.50	Valve 4 open
5. Pump 1 on	0.50	Pump 1 on
6. Pump 2 on	0.50	Pump 2 on
7. Pump 3 on	0.50	Pump 3 on
8. Pump 4 on	0.50	Pump 4 on
9. Tank 1 empty	0.50	Tank 1 empty
10. Tank 2 empty	0.50	Tank 2 empty
11. Tank 3 empty	0.50	Tank 3 empty
12. Tank 4 empty	0.50	Tank 4 empty
13. Line 1 blocked	0.50	Line 1 blocked
14. Line 2 blocked	0.50	Line 2 blocked
15. Line 3 blocked	0.50	Line 3 blocked
16. Line 4 blocked	0.50	Line 4 blocked
17. Equipment 1 abnormal	0.50	Equipment 1 abnormal
18. Equipment 2 abnormal	0.50	Equipment 2 abnormal
19. Equipment 3 abnormal	0.50	Equipment 3 abnormal
20. Equipment 4 abnormal	0.50	Equipment 4 abnormal
21. Valve 1 open	0.50	Valve 1 open
22. Valve 2 open	0.50	Valve 2 open
23. Valve 3 open	0.50	Valve 3 open
24. Valve 4 open	0.50	Valve 4 open
25. Pump 1 on	0.50	Pump 1 on
26. Pump 2 on	0.50	Pump 2 on
27. Pump 3 on	0.50	Pump 3 on
28. Pump 4 on	0.50	Pump 4 on
29. Tank 1 empty	0.50	Tank 1 empty
30. Tank 2 empty	0.50	Tank 2 empty
31. Tank 3 empty	0.50	Tank 3 empty
32. Tank 4 empty	0.50	Tank 4 empty
33. Line 1 blocked	0.50	Line 1 blocked
34. Line 2 blocked	0.50	Line 2 blocked
35. Line 3 blocked	0.50	Line 3 blocked
36. Line 4 blocked	0.50	Line 4 blocked
37. Equipment 1 abnormal	0.50	Equipment 1 abnormal
38. Equipment 2 abnormal	0.50	Equipment 2 abnormal
39. Equipment 3 abnormal	0.50	Equipment 3 abnormal
40. Equipment 4 abnormal	0.50	Equipment 4 abnormal
41. Valve 1 open	0.50	Valve 1 open
42. Valve 2 open	0.50	Valve 2 open
43. Valve 3 open	0.50	Valve 3 open
44. Valve 4 open	0.50	Valve 4 open
45. Pump 1 on	0.50	Pump 1 on
46. Pump 2 on	0.50	Pump 2 on
47. Pump 3 on	0.50	Pump 3 on
48. Pump 4 on	0.50	Pump 4 on
49. Tank 1 empty	0.50	Tank 1 empty
50. Tank 2 empty	0.50	Tank 2 empty
51. Tank 3 empty	0.50	Tank 3 empty
52. Tank 4 empty	0.50	Tank 4 empty
53. Line 1 blocked	0.50	Line 1 blocked
54. Line 2 blocked	0.50	Line 2 blocked
55. Line 3 blocked	0.50	Line 3 blocked
56. Line 4 blocked	0.50	Line 4 blocked
57. Equipment 1 abnormal	0.50	Equipment 1 abnormal
58. Equipment 2 abnormal	0.50	Equipment 2 abnormal
59. Equipment 3 abnormal	0.50	Equipment 3 abnormal
60. Equipment 4 abnormal	0.50	Equipment 4 abnormal



INFO REQUEST FORM ALARM MONITOR INFORMATION

Response from station:

AP600



Event 1
Loss of RCS Initiation due to Main Bus 1 maintenance (with RCS trip from Bus 1 tie line)
Causes: Infection
Severity: Infection from Bus 1 via Bus 1 tie line
Stage 1 bus actuation
RCS trip

Event 1
Loss of RCS Initiation due to RCS trip from Bus 1 via Bus 1 tie line
Causes: Infection
Severity: Infection from Bus 1 via Bus 1 tie line
Stage 1 bus actuation
RCS trip

Loss of RCS Initiator (RCS Trip) Event Tree

S4B-3
Figure 4202-3029



7202-3029(B1)-24-

WERC REQUEST FOR ADDITIONAL INFORMATION

Transmitter Position -

AP600



J1
J2
J3
J4
J5

Event 1
LOC2B
GI
James
ADS

Description
LOSS OF CCW/KSW DRIVEN INITIATOR (RCS-DRIVEN FLANGE)
GRAVITY INJECTION
GRAVITY INJECTION FROM RUST VIA RCS SECTION - 100
4TH STAGE ADS ACTUATION AND

Event of CCW/KSW Initiator (RCS Driven) Event Tree

54B-4
Figure 220.20.4



-720-303(84)-72-

NRC REQUEST FOR ADDITIONAL INFORMATION

Proposed Revision-4

AP600



Event:

- VQ-EP
- G1
- G1B05
- G1B05

Descriptor:

LOCARS INJECTION
GRAVITY INJECTION FROM INLET VIA BQS SECTION LINE
4TH STAGE BQS ACTUATIONS

LOCARS-V024 Open (RCS Drained) Event Tree

Figure 720-102-5



720-102-5