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**ILLINOIS  
POWER**

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Vice President

JGC-495-95  
November 22, 1995

U-602519  
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Docket No. 50-461

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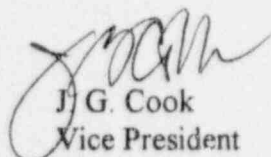
Subject: Illinois Power's (IP's) Submittal of the Individual  
Plant Examination (IPE) Answers to the NRC's  
Request for Additional Information for Generic  
Letter 88-20, Supplement 1, "Initiation of the IPE  
for Severe Accident Vulnerabilities - 10 CFR §50.54(f)"

Dear Sir:

By letter U-602040 dated September 23, 1992, IP submitted the CPS IPE. The NRC has requested additional information to complete the IPE review. This request was made in NRC letter dated July 21, 1995. IP personnel have reviewed the NRC request and provided the answers to the thirty-four questions. The IP answers to the thirty-four c NRC questions are provided in Attachment 2 of this letter.

Attachment 1 provides an affidavit supporting the facts set forth in this letter.

Sincerely yours,

  
J. G. Cook  
Vice President

JSP/csm

Attachments

cc: NRC Clinton Licensing Project Manager  
NRC Resident Office, V-690  
Regional Administrator, Region III, USNRC  
Illinois Department of Nuclear Safety

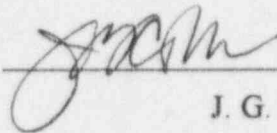
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J. G. Cook, being first duly sworn, deposes and says: That he is Vice President of the Nuclear Program at Illinois Power; that this letter supplying information for Generic Letter 88-20 has been prepared under his supervision and direction; that he knows the contents thereof, and that to the best of his knowledge and belief said letter and the facts contained therein are true and correct.

Date: This 22 day of November 1995.

Signed: \_\_\_\_\_



J. G. Cook

STATE OF ILLINOIS        ) SS.  
                                  ) }  
Dewitt COUNTY         ) }



Subscribed and sworn to before me this 22<sup>nd</sup> day of November 1995.

William S Hoff  
(Notary Public)



Attachment 2  
to U-602519

IP Answers to NRC IPE Questions

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION ON THE  
INDIVIDUAL PLANT EXAMINATION SUBMITTAL  
FOR CLINTON POWER STATION, UNIT 1

This attachment provides the response to the thirty-four questions asked by the reviewers of the Clinton Power Station Individual Plant Examination.

Each of the questions has been repeated with the responses provided after each question for ease in review. The questions have been answered based on the state of the CPS PRA at the time of the IPE submittal (September, 1992). The CPS PRA has been updated in several ways for internal use, and in cases for which the answers would be significantly affected by the updates, that information is noted with the responses to the questions.

1. The IPE used plant-specific data for component/train unavailability due to test and maintenance. However, component unreliability due to hardware failures were entirely based on generic data, with the exception of diesel generator start failures. The decision to use generic data for component failures was partly based on the limited period of operation (approximately six years) at the time the analysis was performed. The submittal states that this short time interval is unlikely to provide sufficient data to support the probabilistic risk analysis (PRA). The submittal also states that component failure data from the first years of plant operation are usually not predictive of future reliability. However, vulnerabilities may have been overlooked due to the omission of plant-specific component failure data.
  - a) Explain how it was assured that no vulnerabilities or significant core damage frequency (CDF) contributions were missed as a result of the omission of plant-specific component failure data.

Plant specific data was not ignored even though the decision was made to use generic data for component hardware failure rates. Plant specific data was examined to determine if any unusual failure rates were occurring. Systems out of service times were collected and examined for the safety-related systems and their support systems. Component failures would require system out of service time to fix. Even at the time of the IPE the various safety system out-of-service times compared favorably with the other domestic BWR-6's. This would tend to indicate that there are no vulnerabilities from excessive component failure rates.

To date, there have been no surveillance test failures equivalent to pump failing to start on any of the safety-related injection systems based on a review of equipment histories. Since these pumps are tested at least quarterly, this corresponds to no failures in at least 157 attempts. This supports a failure-to-start on demand rate of  $< 6E-3$ , corresponding to  $3E-3$  from the generic data as used in the IPE. There have been several water-leg pump failures to run over the life of the plant. These are continuously operating pumps. Other than the High Pressure Core Spray water leg pump, there have been two failures in about 200 thousand operating hours. One of the failures was a post-maintenance test failure and was not counted. This leads to a pump failure-to-run rate of approximately  $5E-6$  per hour, as compared to the generic  $5E-5$  value. A failure to run trend was observed on the HPCS water leg pump early during plant life. This component was observed

to trip on electrical overload many times because of actual pump overload from higher than design flow rate in the system. This situation was a result of a design deficiency in the main HPCS pump discharge check valve. This valve has been modified to resolve this issue and this pump failure has not reoccurred.

Of a population of 170 safety-related and risk significant motor-operated valves, there have been 37 cases that have been recorded as valve failures. Assuming that each valve is stroked only once per quarter (minimum surveillance requirements), this would correspond to a failure-to-stroke rate of  $7E-3$  per demand. Considering that some of the recorded failures included non-risk significant failures, such as seat leakage, and that many of the valves are stroked much more often than quarterly, and that the data includes pre-Generic Letter 89-10 and pre-IE Bulletin 85-03 data, the generic  $3E-3$  failures per demand is considered reasonable.

Another way to confirm that there are no vulnerabilities from plant component failure rates is that a portion of such failures would lead to plant shut-downs. The average forced outage rate over the commercial life of the plant has been about 3.5 outages per operating year, including the first years of the plant life, as compared to the generic frequency of 7 events per year. Only two events have been repeated as causes of these forced outages -- main power transformer sudden pressure relays and recirculation pump seal failures. Neither of these events are risk significant other than as a shutdown initiator.

- b) **Discuss any insights or knowledge related to component reliability that have been obtained from plant experience but not reported in the submittal. Of particular interest is the degree to which plant specific component failure data deviate from the generic data used in the IPE.**

Refer to answer to 1.a.

- c) **Describe any future plans to update the IPE analysis with plant specific component failure data. If such an IPE update is planned, please provide the status and scheduled completion date.**

Extensive use has been made of the CPS IPE for various applications. Several updates of the IPE have already been performed. As we continue to employ the PRA for various applications, and as we collect data associated with the maintenance rule, we will find from time to time that we now have sufficient data on a class of component that using plant data is statistically valid. When that happens, we will include such data in future updates. There is no scheduled completion date because data will be updated from time to time throughout the useful life of the PRA (PRA updates are available for review on site).

2. The submittal does not state the date to which the plant operation and procedures are represented by the IPE analysis (freeze date). In addition, the submittal does not indicate whether exceptions to the freeze date configuration were included in the analysis. The submittal states the period of September 1, 1986 - March 7, 1992, as the interval of plant operating history available to evaluate the performance of the site diesel generators. However, there is no other indication that the March 7, 1992 date represents the actual analysis freeze date.

- a) Identify the freeze date of the analysis.

As each model was built during 1989 through 1991, the revisions of drawings and procedures were recorded. At the end of 1991, a review was conducted of drawing and procedure changes and maintenance history since each model was produced. This produced an effective freeze date for the submitted examination of December 31, 1991.

- b) Describe any exceptions to the freeze date configuration.

There were no exceptions taken to the freeze date established as December 31, 1991, except for some station black-out procedure changes as noted in the answer to question 6.

- c) If available, identify the impact of any freeze date exceptions on the CDF, both individually and collectively.

The models were initially established with the station blackout procedure changes incorporated, so their effect on CDF was not quantified.

3. Failure of an AC bus, total loss of DC, and loss of heating, ventilation and air conditioning (HVAC) have been omitted from the set of initiating events modeled in the IPE. However, the submittal does not provide the basis used to exclude these failures as initiating events. Also, the IPE does not appear to have modeled control room HVAC during the post-accident mitigation period.

- a) Provide the basis for omitting AC bus failures, total loss of DC, and loss of HVAC as potential initiating events.

Loss of a single safety-related AC bus could result in a transient with isolation because of closure of the main steam isolation valves. However, the expected frequency is about three orders of magnitude less ( $8.7E-4$  vs.  $1.7$ ). Each fault tree is linked to its essential power supply gates in the AC and DC fault trees, which include electrical basic events, such as breaker failures and loss of off-site power during the mission time. Therefore, a separate initiating event would provide no additional information.

Loss of a non-safety AC bus could lead to loss of main condenser and feedwater, among other things, essentially the same conditions as a loss of service water. The expected frequency of a loss of AC bus (Based on NUREG/CR-4550, Volume 1, Revision 1, Table 8.2-8) is about an order of magnitude less than the evaluated initiating frequency for loss of all service water (from plant-specific modeling discussed in section 3.1.1.5.5. of the IPE submittal), so no new



information would be gained by adding an AC bus failure initiating event. In addition, the loss of a non-safety DC bus would be expected on about the same frequency and also produces similar plant conditions

Total loss of DC is not a credible event with six independent battery-charger subsystems. Loss of a non-safety DC bus is modeled, as it does produce a SCRAM. Loss of a safety-related DC bus would not by itself require a shutdown. The expected time available to recover the bus to avoid the need to shutdown would be more than 2 hours. The probability of the combination of loss of a bus and not recovering it before shutdown would be required would be much less than the combination of transient without isolation but with one division failed. Each fault tree is linked to its essential power supply gates in the AC and DC fault trees, which include electrical basic events, such as breaker failures. Therefore, a separate initiating event would provide no additional information.

Loss of control room HVAC would eventually require plant shutdown before the control room approached becoming uninhabitable (in accordance with technical specifications). The probability of loss of control room HVAC, which is a continuously running, redundant system is very small relative to the other transient initiating frequencies, and is therefore not modeled as a separate initiator, but is included in the transient with isolation event. In addition, procedures and equipment are in place as a result of station black-out analysis to provide alternate cooling. Loss of other HVAC systems would also be encompassed by the transient initiating events.

- b) Provide the basis for omitting control room HVAC as a required support system during the post-accident mitigating system period.**

Control room HVAC is a continuously running, redundant system, therefore, the probability of its failure contributing to failure of a front-line system is considerably less than system failure from other causes. The large volume of the CPS control room would lead to a relatively slow heat-up rate that would allow all the immediate automatic and operator-performed accident mitigating actions to be successfully completed before any impact from room heatup. As the accident progresses to the point that control room habitability would be impacted, decay heat has also been reduced, providing for more response time to operate any necessary systems with the available two-divisional redundant remote shutdown capabilities. Analysis performed in response to the station blackout rule determined that the control room would not exceed 120°F within four hours. As stated above alternate cooling measures are available and proceduralized.

- 4. Section 6 of the submittal discusses ongoing evaluations and improvements that could be implemented to reduce the plant CDF, though no further information was provided with regard to plans for their implementation. Please clarify by providing:**

- a) the specific improvements that have been implemented, are being planned, or are under evaluation;**

Section 6 of the IPE submittal, which deals with Plant Improvements and Unique Safety Features, mentioned several instances in which potential plant improvements would be evaluated. They are discussed below with their implementation status.



### Section 6.3.1 Loss of Offsite Power

This section mentioned that changes were to be evaluated for the training program to emphasize the care that should be given to activities associated with the off-site power system.

As a result training was provided to the licensed operator requalification class on important IPE results. The importance of maintaining off-site power available was emphasized in this class.

### Section 6.3.2 High Pressure Core Spray Failures

This section mentioned that a proposed procedure change to the HPCS surveillance procedure would be evaluated to periodically draw HPCS suction from the suppression pool during surveillance runs so that an unobstructed flow path from the suppression pool could be demonstrated.

As a result the HPCS pump operability surveillance CPS 9051.01 currently directs that the HPCS system be run once every four years with a suction path from the suppression pool. This reduced exposure time for valve failure from 40 years to 4 years, so this event was no longer dominant.

### Section 6.3.4 Depressurization Failures

This section noted the importance of the operator action to manually initiate the Automatic Depressurization System (ADS). The training department was notified of the importance of this operator action so they could continue to emphasize this operator action in their training.

The importance of manual ADS was discussed in training provided to the operator requalification class on important IPE results. Simulator training for the operators continues to provide frequent practice on this manual action.

### Section 6.3.6 Failures of the Fire Protection System as a Core Cooling System

In this section a design change to provide a bypass line around check valve 1FP036 was discussed. This would make fire protection much more readily available as a source of reactor vessel makeup under emergency conditions. This section stated that CPS will consider this hardware change as a possible future improvement in the plant design. A study which evaluates the core damage risk reduction which could be produced by the modification has been completed using the current PRA model. The proposed modification is expected to produce a reduction in the Core Damage Frequency (for non-flooding internal events) by about 9% from  $5.5E-6$  to  $5.0E-6$  events per year.

Illinois Power has not yet decided whether to make this change. Because CPS has a relatively low CDF, this decision will be made based on cost benefit analysis in which the value of the modification as an insurance against loss will be weighed against the expected cost of the modification.

### 6.3.7 Power Recovery Failures Under LOOP Conditions

This section noted the importance of being able to recover AC power supplies under LOOP conditions. This insight was referred to the Nuclear Training department for them to evaluate whether any changes would be beneficial in the training programs for diesel generator and auxiliary power system operation.

### 6.3.8 Shutdown Service Water Starting Failures

In this section it was noted that a proposed procedure change had been provided to plant staff to provide an additional procedural confirmation that SX pumps have started when required for diesel generator operation.

IP decided not to make the proposed procedural revision because of the small perceived benefit from it.

### 6.4.1 Loss of Off-site Power

This section discussed the significance of loss of offsite power events to radioactive release from the containment. This was provided to Nuclear Training Department as a potential training insight. As mentioned under the discussion for section 6.3.1 this information was provided in a licensed operator requalification training class.

### 6.4.2 Recovery of AC Power

The importance of AC recovery, like preventing loss of AC, was emphasized to the Nuclear training department. This information was provided in a licensed operator requalification training class.

### 6.4.3 Failure to Isolate the Containment Under Station Blackout Conditions

The need to manually isolate valve 1FC008 under Station Blackout conditions to prevent containment releases has been communicated to the Nuclear Training Department for evaluation in the operator training program. This information was provided in a licensed operator requalification training class.

### 6.4.5 SCRAM Hardware Failures

The significance of SCRAM system hardware failures to the containment release frequency has been communicated to the Nuclear Training Department. This information was provided in a licensed operator requalification training class.

- b) **the status of each improvement, i.e., whether the improvement has actually been implemented already, is planned (with scheduled implementation date), or is under evaluation;**

See the response to part a. With the exception of deciding whether to install the proposed modification to the fire protection system Illinois Power considers all other items complete.

- c) **the improvements that were credited (if any) in the reported CDF;**

No credit was taken for any of these improvements in the CDF reported in the IPE Submittal.

- d) **if available, the reduction to the CDF or the conditional containment failure probability that would be realized from each plant improvement if the improvement was to be credited in the reported CDF (or containment failure probability), or the increase in the CDF or the conditional containment failure probability if the credited improvement was to be removed from the reported CDF (or containment failure probability);**

Only two of the items listed as potential improvements have a readily quantifiable effect on the plant CDF. They are the procedure change to draw suction for HPCS from the suppression pool periodically to confirm the existence of an unobstructed flow path and the proposed change to the fire protection system to make it more readily available for reactor vessel inventory makeup.

Section 6.3.6 of the IPE report discussed the potential modification of the Fire Protection system to install a bypass line around check valve 1FP036. This section estimated that an approximately 13% reduction in core damage frequency would occur with the installation of this modification. A more recent analysis estimated the reduction in CDF from this modification to be about 9% using the current plant PRA model. Much of this difference is attributable to the more recent study taking no credit for the Fire Protection system for sequences in which short term failure of other makeup systems occur.

Section 6.3.2 of the IPE submittal estimated the expected reduction in core damage risk that would be obtained by taking the HPCS suction from the suppression pool once every four years during surveillance runs to be 12.8%. This estimate was based upon the core damage cutsets used in developing the IPE submittal.

- e) **the basis for each evaluation or improvement, i.e., whether it addressed a vulnerability, was otherwise identified from the IPE review, or was developed as part of other NRC rulemaking, such as, the Station Blackout Rule, etc.**

All the items proposed for further evaluation in the IPE submittal were the result of a review of the basic events having the highest Fussell-Vesely importance measure for the core damage and containment release cutsets in the IPE submittal. But see also the answer to question 6.

5. **The interfacing-systems loss-of-control [sic] accident (ISLOCA) analysis does not appear to address the potential for losing mitigating system components due to adverse environmental conditions created by an ISLOCA. Also, it is not clear how a long term source of water was made available for the ISLOCA sequences that credit use of low pressure injection systems drawing water from the suppression pool, given that no credit appears to have been taken for leak isolation.**

- a) **Explain how it was determined that core cooling could be continued during the post-accident mission time given possible adverse environmental effects of coolant discharged outside containment on mitigating system components.**

No credit was taken for the system in which the ISLOCA occurred when evaluating the core damage probability due to ISLOCAs. Each of the ECCS systems is located in its own flood proof room which prevents flood waters from traveling from the area where the break occurred to other ECCS rooms. Because the ECCS pump rooms are not vapor tight steam can be carried from one area to another. To account for this the environmental qualification envelope for equipment contained in ECCS rooms considers the occurrence of a High Energy Line Break (HELB) in an adjacent cubicle (See CPS USAR Table 3.11-8). This equipment qualification envelope demonstrates that ECCS systems are capable of functioning after being exposed to high temperature and humidity conditions.

- b) **Describe how a long term source of water was made available for sequences that credit use of low pressure systems drawing water from the suppression pool.**

The ISLOCA frequency used in the IPE submittal was  $5E-6$  events per year. This number was determined by evaluating each potential ISLOCA leakage path at CPS for its probability of occurrence taking into account the failure probability of the associated barriers. Two ISLOCA leakage paths accounted for the large majority of the ISLOCA frequency; the RHR shutdown cooling mode suction line and an ISLOCA leakage path through the feedwater system. A 1993 study examined the likelihood of depleting the Suppression Pool volume through these two predominant ISLOCA leakage paths. Inventory depleting ISLOCAs are a smaller subset of all ISLOCAs, because these are defined as having a large enough flow path to cause failure of emergency core cooling systems during the mission time of the IPE (24 hours) due to suppression pool inventory depletion. The mission time provides ample time to come up with compensatory measures for suppression pool inventory replenishment.

The study estimated the frequency of an inventory depleting ISLOCA event through the RHR shutdown cooling mode line to be  $3.3E-8$  events/yr. For the feedwater system the probability of an inventory depleting ISLOCA event was estimated to be  $2.3E-8$  events per year. As a result of this study it is concluded that the frequency of inventory depleting ISLOCA events is sufficiently low that the replenishment of the suppression pool did not need to be addressed as part of the ISLOCA event trees for the CPS IPE.



ε. **It is not clear in the submittal if plant changes due to the Station Blackout rule were credited in the analysis.**

- a) **Identify whether plant changes (e.g., procedures for load shedding, alternate AC power) made in response to the blackout rule were credited in the IPE and what are the specific plant changes that were credited.**

At the time that the plant data was frozen for the IPE submittal, plant changes due to the Station Blackout rule were still being developed and implemented. Several procedure changes had been identified to comply with the rule, and a portable fan for control room cooling was added to the supporting equipment.

DC Load shedding along with operation of Reactor Core Isolation Cooling (RCIC) and High Pressure Coolant Spray (HPCS) during a Station Blackout procedures were prepared prior to the freeze date and were included in the IPE model at the time of submittal.

The one hardware modification made to the plant was the purchase of a portable fan to cool the main control room during a station blackout. This modification was not included in the IPE (see response to question 3)

- b) **If available, identify the total impact of these plant changes to the total plant core damage frequency and to the station blackout CDF (i.e., reduction in total plant CDF and station blackout CDF).**

The IPE model was developed with the operator actions described in part a. Therefore the total impact of these plant changes on CDF was not quantified.

- c) **If available, identify the impact of each individual plant change to the total plant core damage frequency and to the station blackout CDF (i.e., reduction in total plant CDF and station blackout CDF).**

See part b. above.

- d) **Identify any other changes to the plant that have been implemented or planned to be implemented that are separate from those in response to the station blackout rule, that reduce the station blackout CDF.**

Concrete barriers have been installed around all outside transformers. This serves to protect the transformers from vehicle damage and damage from failure of an adjacent transformer.

- e) **Identify whether the changes in #4 are implemented or planned.**

The changes identified in part d have been implemented.

- f) **Identify whether credit was taken for the changes in #4 in the IPE.**

No credit was taken for the concrete barriers described in part d.



- g) If available, identify the impact of the changes in #4 to the station blackout CDF.

Not available.

7. Subsection 3.2.2 and Table 3.2-5 of the submittal state that the residual heat removal (RHR) and low pressure core spray (LPCS) pumps will continue to run for a period of time after shutdown cooling water supplies to the pump motor lube oil coolers are lost. A similar comment is made regarding loss of shutdown cooling water to the reactor core isolation cooling (RCIC), RHR, and LPCS room coolers. While the submittal indicates that lube oil cooling and HVAC support for these pumps has been modeled, it is not clear whether credit has been taken for a reduced mission time for these pump dependencies. Also, subsection 3.3.3.2.1 of the submittal states that a post-initiator time threshold of 4 hours was allowed for repair of failed components used to provide HVAC for injection systems. However, the submittal does not indicate the method by which this 4-hour time threshold for HVAC repair was determined.

- a) State the mission times used in the analysis for support systems used to provide lube oil cooling and HVAC for the above pumps. If any of these mission times are different than the 24 mission time assumed in the overall IPE analysis, provide justification.

For purposes of determining component failure probabilities, a 24 hour mission time was used for all the above mentioned cooling dependencies. Because of the delay that would occur between loss of pump room cooling and any actual failure of an ECCS or RCIC pump, credit was taken for other systems that could provide adequate core cooling in cutsets involving loss of room cooling.

The reasoning behind this modeling decision is as follows. Loss of room cooling would not cause an immediate loss of ECCS pumps or the RCIC system (see response to part b below). While these core cooling systems are available the decay heat levels would have fallen sufficiently so that other low volume makeup systems (i.e. the Control Rod Drive System and the Fire Protection System) could potentially maintain core cooling. This was handled during the plant model quantification process by identifying cutsets in which ECCS or RCIC pump failures were caused by room cooling failures. Recoveries were applied to these cutsets by "ANDing" them with the Control Rod Drive and Fire Protection system fault tree models.

- b) Submit the basis used to determine that injection systems can operate for 4 hours without HVAC.

Safety-related components located in the ECCS or RCIC rooms including the pumps have been environmentally qualified for severe temperature conditions including a High Energy Line Break (HELB). A heatup analysis was performed using the methodology contained in NUMARC 87-00 for the Low Pressure Core Spray room. Similar results are expected for the other ECCS rooms. In this analysis, the heat loads for the LPCS room from the room cooler sizing calculation were used along with the area of the ceilings and walls in the room to determine a temperature rise in the room. The room temperature estimated from this analysis (174°F) was bounded for approximately three hours by the environmental qualification temperature profile for the room that was associated with a HELB (see CPS USAR table 3.11-8). Because the room temperature

rise for the first three hours was substantially below the HELB equipment qualification temperature envelope and only slightly above for the period from three to six hours, the assumption was made that the pumps would remain operable for four hours after room cooling was lost. Case studies using the MAAP computer code indicate that the recovery systems modeled (Control Rod Drive and Fire Protection) could be successful in preventing core damage even if other core cooling systems were available for only 1 hour after reactor shutdown.

- c) **Explain how the IPE addressed the possibility that periods of HVAC unavailability might result in the tripping of pumps on high temperature.**

There is no automatic trip associated with ECCS pump high temperature. As noted in the response to part b, the ECCS pumps are qualified for high temperatures associated with their equipment qualification envelope. Because these rooms will exceed their equipment qualification envelopes before the 24 hour mission time has passed the pumps by themselves are not considered a success path. Instead other recovery systems are credited as being available when the pumps are assumed to fail on high temperature (See the response to part a).

8. **A time-phased recovery was applied for station blackout cut sets to account for the fact that while diesel generator failures can occur any time during the 24-hour mission time, the probability of non-recovery of offsite power significantly decreases as a function of time. The time phased recovery data used in the analysis are listed in Tables 3.3-9 and 3.3-10 of the submittal. However, there is not enough discussion in the submittal regarding the manner in which the time-recovery data in these tables were generated.**

- a) **State whether the data in these tables are meant to represent "recovery" or "non-recovery" probabilities.**

This data represents the fail-to-recover probability

- b) **Explain the distinction between "Level 1" recovery and the "containment recovery" categories in these tables.**

The difference between Level 1 recoveries and containment recoveries represents only the shorter time available to recover power in order to prevent core damage as compared to the time to prevent vessel failure. In high pressure sequences two additional hours are available in which to recover injection after core damage and before vessel failure. In low pressure sequences, only about 15 minutes elapses between core damage and vessel failure because of loss of inventory during depressurization.

- c) **Describe how the data in these tables were combined into the accident sequence cut sets (i.e., direct multiplication, etc.).**

These factors were multiplied with the other events in each applicable cutset.

- d) Illustrate the process used to derive the data in these tables by providing a step-by-step derivation of the first row of entries in each table.

This data was derived as described below, using the table 8-1 input data.

TABLE 8-1  
Frequency of LOOP longer than given duration (hours)

0	.5*	1	2	4	8	16
.1157	.049	.029	.0057	.0027	.0014	.0007

Data from NUREG-1032, table A.11 (\*Table A.1).

First, the conditional frequency of LOOP longer than the given duration given that a LOOP has occurred is determined. This is obtained by dividing the frequency of a LOOP longer than the given duration by the frequency that a LOOP has occurred. For example, for 2 hours

$$P = .0057/.1157 = .049.$$

Carrying this through yields the following results.

TABLE 8-2  
Conditional Probability of Not Recovering LOOP,  
given that a LOOP has occurred

<u>Hours</u>	<u>Conditional Probability</u>	<u>Source or Note</u>
0	1.0	
0.5	0.421	Table A.1
1	0.25	Reference 6
2	0.049	
4	0.023	
5.25	0.019	Interpolated
8	0.012	
16	0.0061	

These values are the probability of not recovering LOOP by the given time and will be used in the subsequent derivations. In each case, the conditional probability will be calculated in the same manner. That is, the probability of not recovering in 4 hours, given that no recovery was made in .5 hours is calculated and expressed thus:

$$P\{R(4)|R(.5)\} = .023/.421 = .055$$

The derivation of the time-phased recovery follows the following pattern.

The probability that a diesel generator fails to run (FTR) for the mission time of 24 hours and off-site power is not recovered in time to avert core damage (i.e., within .5 hours) is

$$P\{T_f < 24, R(.5)\} = \lambda D * 24 \text{ hours} * P\{R(.5)\}$$

where  $P\{T_f < 24, R(.5)\}$  is read as the probability that the diesel fails within 24 hours and off-site power is not recovered within .5 hours,  $\lambda D$  = the hourly failure-to-run rate for diesel-generators (DG FTR).

$$P = .002 * 24 * .421 = .0202.$$

This value occurring in cutsets is predominant and can be reduced by the following method. Since the probability of failure of the diesel generator is the same for any hour of the mission time (i.e., the first, fifth, or 23 hour), the formula above can be expanded as follows:

$P$  = probability DG fails in first hour ( $T_f < 1$ ) times the probability of not recovering off-site power before the first hour  
 +  
 probability DG fails in second hour ( $1 < T_f < 2$ ) times the probability of not recovering power by the second hour  
 +  
 -probability DG fails in third hour times the probability of not recovering off-site power by the third hour  
 + etc. through 24 hours.

Since we have values for failure to recover off-site power at only certain increments, we can simplify the formula to the following.

$P$  = probability DG fails in first hour times the probability of not recovering off-site power before the first hour  
 +  
 probability DG fails in second hour times the probability of not recovering power by the second hour  
 +  
 probability DG fails in third or fourth hour times the probability of not recovering off-site power by the third hour  
 +  
 probability DG fails in fifth through eighth hour times the probability of not recovering off-site power by the fifth hour  
 +  
 probability DG fails in ninth through sixteenth hour times the probability of not recovering off-site power by the ninth hour + etc. through 24 hours.

$$\begin{aligned}
 P = & \lambda D * 1 * 1 \\
 + & \lambda D * 1 * .25 \\
 + & \lambda D * 2 * .049 \\
 + & \lambda D * 4 * .023 \\
 + & \lambda D * 8 * .012 \\
 + & \lambda D * 8 * .0061
 \end{aligned}$$

Calculating this out yields  $\lambda D * 1.6 = .002 * 1.6 = .0032$ , which is nearly an order of magnitude better than the simple approach result of .02, above.

However, what we really want is the above calculation all corrected to the conditional probability that off-site power was not initially recovered within the first half hour. The second and following hours are calculated just like the previous example, yielding  $\lambda D * .6$ . The first hour is calculated on the probability that the diesel fails in the first hour ( $T_f \leq 1$ ) times the probability that off-site power is not recovered in .5 hour (No damage ensues if power is lost up to 1/2 hour, and there is a higher probability of recovering off-site power within 1/2 hour than immediately). So the first hour is calculated as  $\lambda D * (R(.5) = .421) = \lambda D * .421$ . Therefore, the total time-phased probability of diesel failure and failure to recover off-site power during the first 24 hours is

$$P\{T_f < 24, R(T_f)\} = (\lambda D * .421) + (\lambda D * .6) = \lambda D * 1.021.$$

However this is the absolute probability. What we want is the above probability under the condition that power was not recovered in the first half hour.

$$P\{T_f < 24, R(T_f) | R(.5)\} = \lambda D * 1.021 / .421 = \lambda D * 2.43.$$

This is the conditional probability of failure of AC power to support systems to prevent core damage, given that a LOOP of at least .5 hours has occurred (YLI). Now it must be recognized that the fault tree and event tree modeling include only the simple model for the diesel failure ( $\lambda D * 24$ ) with no off-site power recovery. To establish a recovery factor (RF) then, we must divide the new time-phased failure probability just derived by the original value.

$$\begin{aligned}
 RF = & P\{T_f < 24, R(T_f) | R(.5)\} / P\{T_f < 24\} \\
 = & \lambda D * 2.43 / \lambda D * 24 \\
 = & .10
 \end{aligned}$$

This recovery factor is now the probability of failure of the diesel to run combined with the failure to recover off-site power by the time the diesel fails, given that a LOOP of at least .5 hours has occurred, and is used to modify all cutsets which contain the event for diesel failure to run for the mission time (24 hours) combined with loss of off-site power events and failure to recover in 1/2 hour events.



Sequence-Specific Recovery Factors

Recovery factors are now calculated to be applied to specific basic events depending on the sequence in which they appear.

## Sequence TLUIU3

## Diesel fail to run

The common cause and Division 3 diesel failure to run recovery factor for this sequence is identical to what was just derived. The individual diesel failures for Division 1 and 2, however, are contained in independent subtrees (IST). In order to obtain a recovery factor for an independent subtree, the 24 hour diesel failure probability (.048) is subtracted from the IST value (.0541) leaving the failure from the remaining events in the IST (.00614). Then the recovered diesel failure to run probability ( $\lambda_D * 2.43$ ) is added.

$$\begin{aligned} P(\text{IST})' &= P(\text{IST}) - (\lambda_D * 24) + (\lambda_D * 2.43) \\ &= .0541 - .048 + (.002 * 2.43) \\ &= .0541 - .048 + .0049 = .011 \end{aligned}$$

The recovery factor is then derived as above by dividing this new failure probability by the previous failure probability.

$$\begin{aligned} \text{RF} &= P(\text{IST})' / P(\text{IST}) \\ &= .011 / .0541 = .20 \end{aligned}$$

This is the recovery factor applied to the diesel fail-to-run ISTs in all cutsets for the TLUIU3 sequences which also have the LOOP and YLl events.

A similar method is used for deriving the recoveries for the diesel fuel oil pump fail to run and fail to start (FTS). However the fuel oil day tank contains enough fuel to run the engine a minimum of two hours, so off-site power can be recovered up to two hours after pump failure and still be successful.

$$\begin{aligned} \text{For FTR, } P\{T_f < 24, R(T_f + 2)\} \\ &= \lambda_R * 2 * .049 \quad (\text{fail to recover OSP in 2 hours}) \\ &+ \lambda_R * 4 * .023 \\ &+ \lambda_R * 8 * .012 \\ &+ \lambda_R * 10 * .0061 \\ \\ &= \lambda_R * .35 \end{aligned}$$

Therefore:

$$P\{T_r < 24, R(T_r + 2) | R(.5)\} = \lambda R * .35 / .421 = \lambda R * .82$$

and

$$\begin{aligned} RF &= P\{T_r < 24, R(T_r + 2) | R(.5)\} / P\{T_r < 24\} \\ &= \lambda R * .82 / \lambda R * 24 = .034 \end{aligned}$$

where  $\lambda R$  = hourly failure rate of pump to run.

This is the recovery applied to the common cause fuel oil pump FTR events and was used to develop the recovery factor for the ISTs containing these FTR events.

For FTS, the failure can only occur at one time, the initial demand. So recovery of OSP to recover this event must be within two hours.

$$P\{R(2)\} = .049 \quad (\text{fail to recover OSP in 2 hours})$$

and

$$RF = P\{R(2) | R(.5)\} = .049 / .421 = .12$$

This is the recovery applied to the common cause fuel oil pump FTS events and was used to develop the recovery factor for the ISTs containing these FTS events.

All the non-common cause fuel oil pump events are contained in ISTs. The recovery factor for these ISTs is derived in the same way that the DG IST RFs were derived, yielding .538 as the recovery factor to be applied to the fuel oil pump IST events. This recovery factor takes into account recovery of both FTS and FTR events in the diesel oil ISTs.

$$\begin{aligned} P &= .00726 - .003 - 24 * \lambda R + .12 * .003 + .35 * \lambda R \\ &= .00391 \end{aligned}$$

$$RF = .00391 / .00726 = 0.538$$

Table 8-3  
TLUIU3 Results Summary

<u>BASIC</u>	<u>RECOVERY EVENT</u>	<u>RECOVERY FACTOR</u>
AISTD GARUN	BDGCCUIU3R	2.00E-1
AISTD GBRUN	BDGCCUIU3R	2.00E-1
ADG01KCDGR	BDGDIV3U3R	1.00E-1
ADGACCCDGR	B3DGCCUIU3	1.00E-1
ADGABCCDGR	B3DGCCUIU3	1.00E-1
ADGBCCCDGR	B3DGCCUIU3	1.00E-1
AGABCCCDGR	B3DGCCUIU3	1.00E-1
AISTDOPMPA	BDOISTUIU3	5.38E-1
AISTDOPMPB	BDOISTUIU3	5.38E-1
AISTDOPMPC	BDOISTUIU3	5.38E-1
ADABCCCMPS	B3DOCCUIUS	1.20E-1
ADOABCCMPS	B3DOCCUIUS	1.20E-1
ADOACCCMPS	B3DOCCUIUS	1.20E-1
ADOBCCCMPS	B3DOCCUIUS	1.20E-1
ADABCCCMPR	B3DOCCUIUR	3.40E-2
ADOABCCMPR	B3DOCCUIUR	3.40E-2
ADOACCCMPR	B3DOCCUIUR	3.40E-2
ADOBCCCMPR	B3DOCCUIUR	3.40E-2

Sequence TLUIL4DGIDG2

Diesel fail to run

The common cause diesel failure to run recovery factor for this sequence is derived in the same manner as above. However, in this sequence, success can be achieved if OSP is recovered significantly after loss of the diesel generator -- 4 hours if load shedding on the batteries is successful, and 1 hour after the loss of the diesel generator if load shedding is not successful. Considering this adjustment, the DG FTR is calculated in the same manner as the DG FTR for the UIU3 sequence, except that the delay considerations are applied as in the fuel oil pump failure to run.

$$\text{For DG FTR, } P\{T_r < 24, R(T_r + 4)\} = \lambda_D * 4 * .023 + \lambda_D * 8 * .012 + \lambda_D * 12 * .0061$$

$$= \lambda_D * .26$$

However in the four hours between when the diesel dies and the batteries go dead, there is also a probability of recovery of the diesel itself. This recovery factor was developed in the Recovery section of reference 7 as .1. So the probability to which the OSP recovery is to be applied is that the diesel fails and is not recovered for four hours, which is

$$P\{T_f < 24, R(T_f + 4)\} * .1 = \lambda_D * .26 * .1 = \lambda_D * .026.$$

Therefore:

$$P\{T_f < 24, R(T_f + 4), R_{DG}(4) | R(.5)\} = \lambda_D * .026 / .421 = \lambda_D * .062$$

and

$$RF = P\{T_f < 24, R(T_f + 4), R_{DG}(4) | R(.5)\} / P\{T_f < 24\} = \lambda_D * .062 / \lambda_D * 24 = .0026.$$

However this sequence already has three recoveries built in: L4, DG1, and DG2. These values in the sequence solutions are .045, .8, and .8, respectively. Therefore, the factor to be applied to diesel FTRs in this sequence is

$$RF = .0026 / (.045 * .8 * .8) = .09,$$

to be applied to common cause and Division 3 DG FTR events in this sequence.

A similar analysis for the failure to shed DC loads case, considering only 1 hour battery depletion time yields a recovery factor of .03.

The non-common cause Division 1 and 2 diesel FTR IST recovery factors are also developed as described before, yielding the following results:

$$P = .054 - .048 + 1.39 * \lambda_D / (.5938 * .99 * .99) = .015$$

$$RF = .0015 / .054 = .28$$

$$P = .054 - .048 + .062 * \lambda_D / (.045 * .8 * .8) = .0103$$

$$RF = .0103 / .054 = .191,$$

1	hour	.28
4	hour	.191

The recoveries for the diesel fuel oil pump fail to run and fail to start (FTS) are derived in the same manner as those for the TLUIU3 sequence, allowing for the fact that six hours are available for recovery after pump failure.

$$P = .00726 - .003 - 24 * \lambda_R + .12 * .003 + .22 * \lambda_R = .00391$$

$$RF = .00391 / .00726 = .538$$

Table 8-4

TLU1L4DG1DG2 Results Summary

<u>BASIC EVENT</u>	<u>RECOVERY EVENT</u>	<u>RECOVERY FACTOR</u>
<u>Four hour case</u>		
AISTDGARUN	BDGRUNDDR4	1.91E-1
AISTDGBRUN	BDGRUNDDR4	1.91E-1
ADG01KCDGR	BDGRUNDDR4	1.91E-1
ADGACCCDGR	B3DGCCDDR4	9.00E-2
ADGABCCDGR	B3DGCCDDR4	9.00E-2
ADGBCCCDGR	B3DGCCDDR4	9.00E-2
AGABCCCDGR	B3DGCCDDR4	9.00E-2
AISTDOPMPA	BDOISTDDZ4	5.4E-1
AISTDOPMPB	BDOISTDDZ4	5.4E-1
AISTDOPMPC	BDOISTDDZ4	5.4E-1
ADABCCCMPS	B3DOCCDDS4	1.90E-1
ADOABCCMPS	B3DOCCDDS4	1.90E-1
ADOACCCMPS	B3DOCCDDS4	1.90E-1
ADOBCCCMPS	B3DOCCDDS4	1.90E-1
ADABCCCMPR	B3DOCCDDR4	7.80E-2
ADOABCCMPR	B3DOCCDDR4	7.80E-2
ADOACCCMPR	B3DOCCDDR4	7.80E-2
ADOBCCCMPR	B3DOCCDDR4	7.80E-2



Table 8-4

TLU1L4DG1DG2 Results Summary (Continued)

<u>BASIC EVENT</u>	<u>RECOVERY EVENT</u>	<u>RECOVERY FACTOR</u>
<u>One hour case</u>		
AISTD GARUN	BDGRUNDDR1	1.40E-1
AISTD GBRUN	BDGRUNDDR1	1.40E-1
ADG01KCDGR	BDGRUNDDR1	1.40E-1
ADGACCCDGR	B3DGCCDDR1	3.00E-2
ADGABCCDGR	B3DGCCDDR1	3.00E-2
ADGBCCDGR	B3DGCCDDR1	3.00E-2
AGABCCDGR	B3DGCCDDR1	3.00E-2
AISTDOPMPA	BDOISTDDZ1	5.40E-1
AISTDOPMPB	BDOISTDDZ1	5.40E-1
AISTDOPMPC	BDOISTDDZ1	5.40E-1
ADABCCCMPS	B3DOCCDDS1	2.00E-2
ADOABCCMPS	B3DOCCDDS1	2.00E-2
ADOACCCMPS	B3DOCCDDS1	2.00E-2
ADOBCCCMPS	B3DOCCDDS1	2.00E-2
ADABCCCMPR	B3DOCCDDR1	5.20E-3
ADOABCCMPR	B3DOCCDDR1	5.20E-3
ADOACCCMPR	B3DOCCDDR1	5.20E-3
ADOBCCCMPR	B3DOCCDDR1	5.20E-3

Actually all of these derivations are conservative to the extent that if the failure occurs later during the mission time, there actually would be additional time to core damage without power than if the failure occurs early in the mission time because of the decreasing decay heat loads. No attempt has been made to eliminate this conservatism.

The containment recoveries are derived in the same manner, except for allowing additional time to recover. The derivation for the containment sequence recoveries are conditional, including allowance for non-recovery up to core damage (i.e. recovered in six hours given not recovered in four).

Tables 3.3-9 and 3.3-10 are reproduced here, with the recovery events identified for cross reference purposes.

Table 3.3-9

**TIME-PHASED RECOVERY FOR SHORT TERM STATION BLACKOUT SEQUENCE**  
**TLU1U2**

DESCRIPTION	LEVEL 1 RECOVERY	CONTAINMENT RECOVERY
	DG01KA or B fails to run	.2 BDGCCU1U3R
DG01KC fails to run	.1 BDGDIV3U3R	.34 BDGCCT1U3R
Common cause failure of any 2 or all 3 Diesel Generators to run	.1 B3DGCCU1U3	.34 B3DGCTU1U3
Diesel A, B, or C fuel oil pump fails	.538 BDOISTU1U3	.75 BDOICTU1U3
Common cause failure of any 2 or all 3 Diesel fuel oil pumps to start	.12 B3DOCCU1US	.47 B3DOCTU1US
Common cause failure of any 2 or all 3 Diesel fuel oil pumps to run	.34 B3DOCCU1UR	.75 B3DOCTU1UR

Table 3.3-10

**TIME-PHASED RECOVERY FOR LONG TERM STATION BLACKOUT SEQUENCE**  
**TLU1L4DG1DG2**

DESCRIPTION	LEVEL 1 RECOVERY		CONTAINMENT RECOVERY	
	1 HOUR	4 HOUR	1 HOUR	4 HOUR
DG01KA, B, or C fails to run	.14 BDGRUNDDR1	.191 BDGRUNDDR4	.52 BDGRCTDDR1	.87 BDGRCTDDR4
Common cause failure of any 2 or all 3 Diesel Generators to run	.03 B3DGCCDDR1	.09 B3DGCCDDR4	.52 B3DGCTDDR1	.87 B3DGCTDDR4
Diesel A, B, or C fuel oil pump fails	.54 BDOISTDDZ1	.54 BDOISTDDZ4	.81 BDOICTDDZ1	.84 BDOICTDDZ4
Common cause failure of any 2 or all 3 Diesel fuel oil pumps to start	.02 B3DOCCDDS1	.19 B3DOCCDDS4	.42 B3DOCTDDS1	.52 B3DOCTDDS4
Common cause failure of any 2 or all 3 Diesel fuel oil pumps to run	.0052 B3DOCCDDR1	.078 B3DOCCDDR4	.81 B3DOCTDDR1	.84 B3DOCTDDR4

Note: In the process of answering these questions an error in recovery event BDGRUNDDR1 was found. It was reported as 0.14, while the correct value is 0.28. This correction results in a 0.4% increase in the core damage frequency reported in the IPE submitted. In PRA updates since submission, the independent sub-trees are expanded and this IST recovery event no longer applies as derived herein.

9. **The time-phased recovery for station blackout sequences has modeled diesel generator fuel oil pump failures, as indicated in Tables 3.3-9 and 3.3-10 of the submittal. However, there are no failure data for fuel oil pumps included in the list of component failure data provided in Table 3.3-1 of the submittal. Furthermore, there are no common cause failure data for fuel oil pumps included in the list of common cause failure data provided in Table 3.3-12 of the submittal. It is not clear how fuel oil pumps were modeled in the analysis.**

a) **Describe how these pumps were modeled in the mitigating system fault trees and time-phased recovery for station blackout.**

The diesel fuel oil pumps are safety-related, motor-driven centrifugal pumps. They are modeled in the fault trees for the diesel generators with failure to run for mission time, failure to start, as well as common-cause combinations for FTS and FTR events, any one of which would prevent successful diesel generator operation. The power supply to these pumps, as well as other diesel auxiliaries for each division was modeled from pseudo diesel generator buses with all dependencies except AC power, in order to avoid logic loops. The time-phased recovery potential was described in the answer to question 8.d.

b) **Provide the failure data used for independent and common cause failures of the diesel fuel oil pumps.**

Failure to run	3E-5 per hour	as shown in table 3.3-1
Failure to start	3E-3 per demand	as shown in table 3.3-1
Common Cause failure to run	6.0E-7 per hour	
Common Cause failure to start	6E-5 per demand	

c) **Identify the source(s) of these items of failure data.**

Failure to run	NUREG CR-4550 Vol.1, Rev.1	as shown in table 3.3-1
Failure to start	NUREG CR-4550 Vol.1, Rev.1	as shown in table 3.3-1
Common Cause	Generic BETA factor of 0.02 based on NUREG CR-2098	

10. The submittal states that the IPE independent review team (IIRT) provided many substantive technical comments during the IPE evaluation, though no further details of the nature of these comments is provided.

a) Summarize the substantive IIRT technical comments and their disposition.

The following are a sampling of IIRT comments.

- When using a direct comparison with the Grand Gulf design a most notable difference is that GG uses Number 18 reinforcing bar on 18 inch centers as a primary reinforcing member whereas Clinton uses Number 18 on 12 inch centers.
- Consider incorporating in the write-up about the 12 week rolling maintenance schedule concerning the reasons the schedule was established and the prudence of intentionally taking systems out-of-service while at power in order to perform reliability improving activities.
- The baseline data base for operating experience covers approximately 15,000 hours of operation. CPS has accumulated an additional 5000 hours of operation which has not been incorporated into the analysis. Consideration should be given to incorporating this additional experience into the data base.
- Comments on the use of plant-specific versus generic failure rates.
- Specifically, feedwater recovery probability was based on industry events and questioned why Clinton-specific data was not used.
- Since we model four systems that Grand Gulf does not, it would appear appropriate to indicate why we model these systems.
- The assumption that 'failure of the minimum flow valve to open' fails the HPCS pump on overheating appears too conservative for the following reasons: 1) No operator action allowed. The operator may identify this problem and take recovery action. 2) As soon as the pump starts, the injection valve starts to open which allows flow to occur. Is this assumption consistent with NUREG-1150 for Grand Gulf and Peach Bottom?
- Why is no assumption made regarding human errors associated with 'miscalibration of transmitters' or 'failure to properly restore after maintenance or surveillance'?
- Several logic diagrams have a failure mode for level or pressure channels down for maintenance. During routine calibrations and surveillance procedures, the affected channel will be by-passed and should not cause a failure.
- Three failure events (one at CPS) associated with air line failures are known to the IIRT. This rate of occurrence (in the last two years) does not tend to support the assumption as written.

- Portions of RHR and RCIC can be controlled from the Remote Shutdown Panel (RSP). The RSP has very few interlocks or automatic control logic associated with it. Should operation of RHR and RCIC from the RSP be represented?
- Human error probabilities is difficult to follow, this section needs more detail.
- A table of plant damage state codes are provided but not used in the report. Do you intend to revise the containment trees to add another column titled 'plant damage state'?
- Why has the containment event tree heading 'Containment Spray' been deleted?
- In the containment bypass section, it is not clear where the containment bypass occurs. Does the bypass include secondary containment?
- Please assure that hydrogen burn data provided in the combustible gas section is not proprietary.
- Strengthen tie of conclusions of phenomenological sections to containment event trees (CETs).
- In the combustible gas fault tree (used to develop section 3.2.1.12 'Hydrogen Igniters'), there is a situation modeled which should not occur because of a Technical Specification on not having both division 1 and division 2 igniters out-of-service for maintenance at the same time.
- The success criteria of the hydrogen igniters does not appear correct. It is stated that one division of igniters is needed to be operable, but actually it is one division minus 5 igniters.
- The detailed HRA section should include a statement that the purpose of a detailed HRA on those human actions determined to be the most important was to assure that plant procedures, training, and equipment were appropriately represented by the HRA model.
- Credit is taken for the fact that some valves are interlocked and therefore human error is not considered in inadvertent opening of the valve. Since reliance on the interlock is assumed, should the failure analysis consider the probability of interlock failure?
- The 'HPCS water leg pump down for maintenance' basic event appears to overlap with the 'HPCS system out-of-service (OOS) for maintenance' event since, in operating practice, the waterleg pump OOS event forces the entire system OOS.
- The original comment dealt with the criteria to be used to determine if operator error will be included in a fault tree. In particular, the question asked about systems like the main condenser and DC power which are in-service during normal operation. Your response, in general, was acceptable, however, one more aspect of this issue arises. While it is agreed that operator error (failure to restore system after maintenance or testing) would be obvious



for a system which must run to support normal operation, such systems as SJAE, CW, offgas, etc., typically have one train in standby. Wouldn't operator error associated with 'failure to restore' apply to the standby train?

- Clogging of suction strainers may not be a reasonable event to model for the following reasons: 1) Fibrous insulation is not used in the containment. 2) Procedural controls are in place to limit the amount of flexible material (which could cause blockage) in the containment. 3) The strainers are located at mid-pool elevation to minimize entrainment of materials which are much lighter or heavier than water. 4) Strainers are oversized to compensate for some blockage.
- The beta factor of 0.1 for common cause plugging of service water screens appears to be low. The experiences of several of the (IIRT) team members were that when conditions exist for plugging of one screen, it likely exists for plugging of all screens.
- The human error probability (HEP) for operator failure to shed battery loads is 0.9. This appears to be an 'insight' where action is needed to reduce risk.

The comments were dispositioned by incorporating the concerns within the report, some with changes to the model and/or writeup and others with clarifying information to the writeup only.

- b) Explain how the IIRT addressed technical aspects of the PRA process given that the IIRT appears to have lacked a PRA expert.**

As described in Section 5.2.2 of the submittal, PRA training was given to the IIRT during the course of the IPE project. The training was performed in stages over several months in order to maximize retention of the PRA principles by the IIRT. In addition, PRA training was also given to the participants in the licensed operator requalification program which the IIRT members who have SRO licenses are a part. By applying the expert plant knowledge of the IIRT with the PRA training, satisfactory reviews could be and were achieved. In addition to IIRT commenting on the technical aspects of the PRA process, outside consultants who are PRA experts were on the Senior Management Review Team (SMRT) and contributed many valid comments. The review emphasis by the IIRT was, "Does the PRA accurately reflect our plant and how it's run?", while the emphasis from the SMRT included PRA modeling and assumptions.

11. The flooding analysis appears to have been limited to consideration of effects from equipment submergence. No mention is made of other types of flooding-related effects on equipment, such as spray, water, or steam impingement. Please list all the categories of adverse environmental effects that were considered in the flooding analysis.

The flooding analysis, in addition to submersion, considered the effects of water spray or stream impingement. The flooding analysis specifically did not address steam effects as they were not considered to be a flood related consequence. However a review was made of all of the areas analyzed by the flood analysis using the initial screening criteria but revising the first criteria from "The location must have the potential to flood." (assuming water only), to "The location must have a potential to flood or have a steam source". Therefore, in order for a room to be included in the flooding analysis, it must meet the following three screening criteria:

- A) The location must have a potential to flood or have a steam source,
- B) The location must have equipment in it that is modeled in the PRA,
- C) A flood in the location affecting the equipment there will result in a reactor SCRAM (automatic or manually initiated).

From a review of all areas in the plant, no new flood zones were identified for analysis as they either had no steam source or were already included in the flooding analysis.

12. The submittal is unclear on the operator actions associated with automatic depressurization system (ADS). Typically operator action to inhibit ADS is only specified in sequences that involve anticipated transient without scram (ATWS). However, submittal Section 3.4.1.1, Class IA sequences states: "Operator action is required to depressurize the vessel since the emergency operating procedures (EOPS) require the operator to inhibit the Automatic Depressurization System (ADS) once the timer starts." Similarly Section 6.3.4 states: "The need for manual depressurization is caused by the Emergency Operating Procedures (EOPS) that direct ADS to be inhibited for virtually all scenarios. As a result, when low pressure systems are needed, ADS needs to be manually initiated." This implies that at Clinton the inhibiting of ADS is required by procedure for ATWS as well as most non-ATWS sequences.

- a) Clarify under what conditions the Clinton EOPs direct the operator to inhibit ADS and under what conditions automatic depressurization would be allowed.

The EOPs direct the operator to inhibit ADS not only when entering the ATWS EOP, but also when entering the level control portion of EOP-1 "RPV Control". Level control is entered upon a RPV water level below "level 3" condition. An override for the level control leg of the procedure is to "inhibit ADS when the ADS timer starts". Since level 3 is reached before level 1, procedural guidance to inhibit ADS is given before the ADS timer starts; thus, there are no conditions when automatic depressurization would be allowed.

- b) **Explain how this analysis is consistent with Rev. 4 of the BWR emergency procedure guidelines (EPGs) which are described as a basis for the analysis performed (Section 6.5.4.2).**

The RPV Control Guideline states that "If RPV water level can be maintained above the top of active fuel and the ADS timer has initiated, prevent automatic RPV depressurization by resetting the ADS timer".

The Plant Specific Technical Guidelines (PSTG) were developed to reflect plant-unique action levels and the configuration of plant systems using Revision 4 of the BWR EPGs.

The Technical Bases incorporate the guidance in the PSTG and describes the content of the EOPs. In this document, ADS actuation is prevented for the following reasons:

ADS actuation can impose a severe thermal transient on the RPV and may complicate efforts to control RPV water level.

If only RCIC is available for injection, ADS actuation may directly lead to loss of adequate core cooling and subsequent core damage.

The conditions assumed in the design of the ADS actuation logic (e.g., no operator action for 10 minutes after event initiation) may not exist when the actions specified in RPV Control are being carried out.

The operator can draw on much more information than is available to the ADS logic (e.g., equipment out of service for maintenance, operating experience with certain systems, probability of restoration of off-site power, etc.) and can better judge, based on instructions contained in the procedure, when and how to depressurize the RPV. Subsequent steps provide explicit and detailed instructions for RPV water level control and identify the specific conditions when a blowdown is required.

From the above plant-specific development, the action to inhibit ADS is consistent with Revision 4 of the BWR EPGs.

13. The Clinton IPE concludes that transient sequences involving failures of high pressure and depressurization are significant contributors to CDF. However, in these types of transients, it is expected that operators would have on the order of 1 hour after the initiating event to accomplish successful depressurization and establish core cooling with low pressure injection systems. Therefore, it is not clear why failure to depressurize at Clinton is of higher contribution to CDF than typically seen in BWRs.
- a) Given that BWRs are specifically designed to support the use of low pressure injection via depressurization, please explain why failure to depressurize is a major CDF contributor at Clinton.

An evaluation was performed of the core damage cutsets to analyze those basic events or independent sub-trees with the highest importance measures. The core damage cutsets are the summation of all the failure sequence cutsets from all the core damage event trees. Section 6.3.4 of the CPS IPE submittal discusses the depressurization events and the reasons for their importance in the current PRA plant model. The following summarizes the major points.

- ADS was the only means of depressurization modeled. Depressurizing through the bypass valves using the pressure regulator or bypass valve jack was not modeled in the CPS PRA although these actions are allowed in the emergency operating procedures (EOPs) and practiced in the simulator by operating crews in requalification training. A reduction in the contribution of "failure to depressurize" to CDF would be expected if the alternate methods of depressurizing were modeled.

Note: Alternate depressurization methods have been included in PRA updates subsequent to the IPE submittal, but failure to initiate ADS is still very important. Part of the reason for this is that operator error is the significant contribution to this failure. Hardware failures have a low contribution. Consequently, if the operator fails to depressurize using ADS, there is a low probability that he will successfully use any alternative system.

- The "failure to depressurize" events can render low pressure injection systems unavailable in the PRA plant model. These two events appear in 93% of the high pressure transient cutsets.
- The basic event "Operator fails to manually initiate ADS" has a low failure probability ( $5E-4$ ), but high Fussell-Vesely and Achievement Worth importance measures. The CPS EOP for Level Control directs that ADS be inhibited for scenarios in which the ADS timer starts, which increases the importance measures for that basic event.

The single depressurization method modeled is a major reason why "failure to depressurize" is a large contributor to CDF (The answers to questions 12 and 21 provide additional information.).

- b) **Given that at Clinton failure to depressurize represents a larger CDF contribution than typically seen in BWRs, it appears that the criterion for determining vulnerabilities "New or unusual means of core damage ...occur as compared to those identified at other PRAS" may be applicable in this case. Please explain what was done to assure that 'failure to depressurize' does not represent a vulnerability at Clinton.**

As described in part a) above, CPS modeled the SRVs as the only depressurization method. As part of the IPE evaluation, the operator action of "failure to depressurize" has been identified as having significant impact on the likelihood of avoiding or experiencing core damage even with the low failure probability. This operator action was reviewed, in a detailed HRA, in terms of Performance Shaping Factors (PSFs) that may influence the likelihood of successful completion of the action when called for in EOPs. The probability of operator error in this action was estimated through use of the Accident Sequence Evaluation Procedure (ASEP) (NUREG/CR-4772, Swain, 1987; McClymont, 1991).

PSFs attempt to account for conditions specific to CPS that would influence the reliability of operator crews if they were to carry out the task under expected conditions. Interviews were conducted with the CPS HRA analysts to understand the nature of the tasks' potential susceptibility to influence by the various PSFs.

As a validity check, the preliminary PSF influence score was then presented to a review group consisting of a 6-man operating crew and two instructors, with the training simulator available as a discussion aid, for their review and comment. The final results, integrating the crew's inputs, are contained in the task descriptions and PSF application summary presented here. The net rated effect of each PSF on the operator action is indicated by a rating symbol. A "+" indicates an influence toward higher probability of error, a "0" indicates a neutral influence, and a "-" indicates an influence toward a reduced probability of error.



PSF Application to Depressurize RPV using SRVs  
(Operator fails to manually initiate ADS)

<u>PSF</u>	<u>Discussion</u>	<u>Rating</u>
Complexity	Diagnostic complexity is low: rapidly dropping RPV level with no high pressure injection sources points toward the requirement for depressurization in order to accomplish low pressure injection. A conflicting operator goal may be to avoid severe thermal stress to plant by ADS blowdown from high pressure and temperature.	0
Time	Light: Time available to complete the action is about 32 min., while time required to initiate and complete the action is less than 1 minute.	0
Knowledge, Experience, and Training	This task is trained on in a simulator as part of each requalification. Operators know if HPCS and RCIC do not start automatically on RPV level dropping past level 2, to anticipate requirement for manual depressurization	-
Guidance	Contained in event-driven Emergency Operating Procedures (EOPs 1 & 3). Clear, direct, unambiguous.	-
Interface	All controls are located in one location in the MCR. Actuation of just 4 of 16 valves is sufficient to achieve the function.	-
Action Context	This is a rapidly moving event with little to distract operators from diagnosis and rapid initiation. Level is seen as such a key parameter to all these tasks that compelling signals (drop precipitously past levels 2 and 1 toward TAF) are unlikely to be missed. May be some pause to be certain of diagnosis before taking action due to motivation to avoid stressing the plant.	-
Stress	High: While time pressure is moderate from PRA standpoint (about 30 min. for an action requiring 1 min.), key parameter (RPV level) is dropping rapidly, crew is attempting to start HPCS and RCIC, without success.	+

The net result of the detailed HRA is that the operator action to initiate ADS is rated as unlikely to induce operator error. Even so, the importance of this action, as modeled in the current PRA, has been emphasized to the CPS training department. For these reasons, "failure to depressurize" does not represent a vulnerability.

14. Please provide the cut sets for each of the 4 dominant sequences listed in Table 1.4-4 of the submittal that comprise at least 50% of the total CDF along with a brief cut-set event description and assigned probabilities.

The cutsets are attached to the end of this document.

15. The IPE's Level 1 analysis does not appear to include consideration of containment failure effects in the operability of emergency core cooling system (ECCS) equipment needed for long term cooling. As a result, it was assumed that there would be no impact on the CDF from containment failure. The submittal states that containment failure will not disable the ECCS pumps from loss of NPSH. However, other BWR IPEs have assumed that containment failure by overpressure could release steam or water that could disable electrical or other equipment resulting in EQ-related failures of ECCS pumps or other ECCS equipment.

- a) Provide the basis for the assumption that the containment failure will not adversely impact any of the ECCS equipment modeled as available for core cooling in accident sequences involving containment failure.

CPS has a Mark III containment with a large suppression pool and net free air volume. As a result, for sequences in which the reactor is shutdown and core damage is averted (ECCS system(s) running), the containment would not fail during the 24 hour mission time of the IPE, even if containment heat removal systems were unavailable. The decay heat energy added to the containment is insufficient to cause enough of the suppression pool inventory to boil to exceed the ultimate strength capacity of the containment.

For the ATWS sequences in which the reactor can not be shutdown, core damage is assumed to occur if the main condenser is lost as a heat sink. Therefore ECCS systems could not prevent core damage, whether available or not.

In non-ATWS sequences in which core damage occurs there may be sufficient hydrogen generated to cause containment failure due to hydrogen burns. However these sequences already involved core damage (i.e. ECCS and other injection systems failed) and containment failure so the sequence determination has already been made.

- b) Discuss whether containment venting was credited in the Level 1 analysis. If it was credited, describe the impact of venting on the continued use of ECCS equipment.

Because ECCS systems would not be affected by containment performance during the mission time of the level 1 analysis no credit for containment venting was required in the level one analysis.

16. Section 3.3.3.1.1 of the submittal does not clearly discuss the process that was used to identify and select preinitiator human events involving miscalibration of instrumentation. The process used to identify and select these types of human events may include the review of procedures, and discussions with appropriate plant personnel on interpretation and implementation of the plant's calibration procedures.

- a) Provide a description of the process that was used to identify human events involving miscalibration of instrumentation.

The process that was used to identify human events involving miscalibration of instrumentation was that those events which have a significant effect on systems, trains, or components are modeled in the fault trees. If the miscalibration of instrumentation events had very little effect on a system, then no human event was included. This broad approach on human events helped to ensure that significant contributors to system failure were covered.

The human event was eliminated if the maintenance/testing does not disable the system or if the system automatically realigns to perform its safety function. However, because of the number and variety of procedures contained within each event, no event was eliminated for these reasons alone. Thus, the broad approach was used in which a transmitter miscalibration basic event was included in the ECCS initiation fault trees for each transmitter modeled.

- b) Provide examples illustrating this process including the analysis of errors in RCS level sensing, which is used extensively in ECCS initiation circuits in BWRs.

A transmitter miscalibration basic event was included in the ECCS initiation fault trees for each level transmitter modeled. A HEP value of 0.003 was used for all of the reactor level transmitters modeled in the ECCS initiation fault trees. This HEP was used since the maintenance procedures includes steps for component status verification as part of the restoration process. Two reactor water level transmitters were modeled in each division for division one and division two initiation circuitry. There were four reactor water level transmitters modeled for the division three circuitry. For the ATWS initiation circuitry, there were four reactor level transmitters modeled, two for each channel. As mentioned before, each transmitter modeled had a miscalibration event included in the system fault tree model. Transmitter miscalibration basic events were also modeled for pressure transmitters that are part of the divisional initiation circuitry.

See response to question 17.c. for discussion sensitivity analysis of these pre-initiator HEPs.

17. It is not clear from the submittal how screening values were assigned to the preinitiator human events.
- a) Provide a complete description of the process for assigning screening values with examples of events to illustrate the process.

Human reliability analysis was accomplished for the Clinton IPE using a several step process. Following the identification and modeling of human actions that are necessary to operate each system modeled in the IPE, screening probabilities were assigned to each human error event in the second step. Pre-initiating event (Type 1 of SHARP method, EPRI NP-3583, "Systematic Human Action Reliability Procedure") human errors were explicitly modeled. These consist of failure to restore equipment following test or maintenance and improper calibration of instrumentation. The screening process was performed prior to initial quantification. The screening human error probability (HEP) estimates were derived through an abbreviated application of the methods described in NUREG/CR-1278, the "Handbook of Human Reliability Analysis". HEP estimates for typical situations expected in normal and emergency situations were derived from this document and several other sources. The estimated HEPs were developed into a flow chart and tables for use in performing the screening analysis. If a test or maintenance activity does not disable the system or component or if the system/component auto realigns, the event was eliminated. If the procedure for the maintenance, test, or calibration activity include steps for component status verification, a HEP of 0.003 was assigned, otherwise a value of 0.01 was assigned.

- b) Describe the basis for the values; that is, the rationale of how the selected screening value did not eliminate important preinitiator human events or truncate the analysis of accident sequences. For example, it is important that the inadvertent combination of multiple human errors in sequences do not lead to the elimination of accident sequences because the product of their screening-value probabilities results in sequence frequencies below the PRA truncation value.

Screening values for pre-initiator human events are a combination of historical data collected by the nuclear industry and judgment extending back to WASH-1400, "Reactor Safety Study", USNRC, October 1975. Conservative values are always used, however they are selected to be not excessively conservative to distort quantification results (i.e. make something appear important that is not, and therefore reduce something in importance as a result) or to cause problems in quantification. As discussed in section 3.3.3.1.4 of our report, these values were obtained mainly from NUREG/CR-1278 and the IDCOR (Industry Degraded Core Rulemaking) Technical Report 86.3B1. The values in NUREG/CR-1278 for each item on a long list using a checkoff ranges from 0.0008 to 0.01 with 0.003 as the recommended value. For each item on a long list without checkoff, a range of 0.003 to 0.03 is given with a recommended value of 0.01. Values for short lists are less. These values were compared to typical values for such errors. For example, basic human error probabilities developed from the NUREG/CR-1278 methodology (Technique for Human Error Rate Prediction, THERP) produces values typically in the 0.0001 (ensure valves are in the correct lineup following maintenance or test) to 0.003 (operator performs necessary precaution in written procedure). Common mode failures are captured in the selection of the basic HEP. In an example from WASH-1400 and NUREG/CR-1278 (miscalibration of four sensors during regularly scheduled maintenance with procedure), the



failures are judged to be due to a faulty setup such as using the wrong scale or connecting at a wrong point. A conservative estimate of this common mode probability is 0.01. The probability of miscalibrating all four sensors is approximately 0.002. This number is reduced by an order of magnitude if independent checking is involved. Note: At CPS instruments are calibrated on a pre-planned maintenance schedule so that no two divisions are calibrated in close time proximity.

In addition, quantification results were examined to ensure that sequences were not being dropped artificially. Accident sequence truncation of all sequences was more than four orders of magnitude below the core damage frequency, so there could be no loss of any significant accident sequences even if the HEP estimates were non-conservative by even an order of magnitude.

- c) **Provide additional explanation and justification for the criteria used in the sensitivity analysis to determine which human action events would be selected for detailed human reliability analysis (HRA). Illustrate how the core-damage sequence results were examined, with examples of cases where events were or were not selected for further analysis.**

After core damage sequences were quantified using screening HEP's, the core damage sequence frequency results were reviewed to determine the most significant human actions to be submitted to more detailed analysis and derivation of more realistic HEP estimates. Two primary criteria were used to select human actions for more detailed analysis.

First, actions were selected that could reduce core damage frequency significantly if lower HEP estimates were derived through more detailed analysis (Fussell-Vesely value 0.1 or greater). The screening value HEP's used for many events were upper bound estimates based on conservative assumptions about operator actions. A more detailed analysis has the potential to lower the HEP estimates significantly, as more realistic assumptions could be utilized. If reduction in the HEP's for such events would lead to a significant reduction in the core damage frequency, then the events were included in the detailed HRA.

Second, the core damage sequence results were examined to see if potentially non-conservative HEP estimates for any operator actions could have led to inappropriately optimistic sequence quantification results. NUREG-1335, the guidance document for IPE submittals, specifies that any significant operator "recovery" actions modeled in the IPE be reported (Recovery actions in this context are interpreted as post-initiator human actions). Specifically, low-probability human actions must be reported that cause sequences to fall below the IPE reportability threshold of  $1E-6$  per year. Consequently, human actions that have a significant potential to increase the frequency of sequences from below  $1E-6$  per year were included in the detailed HRA.

In order to assess if human actions fit either of these two criteria, the sensitivity of core damage frequency to changes in HEP's for human actions in the IPE models was evaluated. The magnitude of the change in each HEP that was used in these sensitivity studies depended on the magnitude of the screening HEP and the likely effect on the HEP of a detailed HRA. This magnitude of change was estimated by engineering judgment. In each sensitivity study, the IPE models were requantified using the changed HEP for each human action and a new core damage frequency was calculated.



If the sensitivity study resulted in a significant reduction in core damage frequency, then the human action was included in the detailed HRA under the first criterion. If the sensitivity study resulted in a significant increase in core damage frequency for sequences under  $1E-6$ , then the human action was included in the detailed HRA under the second criterion. Human actions were included if the change in core damage frequency in the sensitivity study exceeded  $5E-6$  per year. Five human actions were chosen under the first criterion and one action (initiate standby liquid control) was chosen under the second criterion.

Note: The first two basic events shown on table 3.3-4 of the IPE Submittal are anomalous. Modeling refinements after the initial screening of the HEPs for detailed analysis made these two events less important by the time the final quantification was performed. These two events should not have been included in this table.

On subsequent updates, both the risk achievement worth (RAW) and the risk reduction worth (RRW) of all HEP values was reviewed. Any human interaction event with a RAW or RRW of 1.1 or greater was retained for further review.

No pre-initiator events have sufficient significance to warrant detailed modeling under either method.

- 18. The submittal is unclear whether any detailed HRA modeling was performed for preinitiator human events. The events listed in Table 3.3-2 only identify events with screening values, and Section 3.3.3.1.6, Detailed HRA, only discusses the analysis of post-initiator human events. Please describe the rationale for assessing the need for detailed HRA modeling of preinitiator human events, including a discussion of the potential for dependencies between multiple preinitiator human events that might result in significant failure probabilities. For example, the description of the sensitivity analysis in Section 3.3.3.1.5 does not clarify how dependencies between multiple preinitiator human events were incorporated in the sensitivity analysis.**

No pre-initiator events were subject to detailed HRA modeling. As identified in the answer to question 17, none survived the sensitivity analysis. Although there is a possibility for cutsets with more than one pre-initiator event, the dependency would be very small because of the CPS practices for scheduling maintenance and surveillances. Different divisions of systems and instruments are worked during different weeks in a periodic rolling schedule pattern. Therefore, it is unlikely that the same person or crew could be involved in successive system or division activities. Any systematic human errors, such as inadequate procedures, would have become apparent by this time. Any residual event dependency would be included in the extensive common cause modeling for CPS. In addition, any pre-initiator events that could lead to accident sequence initiators would have shown up in the initiating event frequencies. While CPS used primarily industry data for initiating event frequencies, historical frequencies were determined (for those events that had occurred at CPS) and their uncertainty range included the industry values.

19. **The submittal is not clear as to the method used to identify and select post-initiator response-type actions for analysis. The method utilized should confirm that plant emergency procedures, design, and operational practices and policies were examined and understood to identify potential severe accident sequences. Please provide a description of the process that was used for identifying and selecting the response type actions evaluated.**

The post-initiator actions involve proceduralized actions that operators would utilize to respond to events and repair or restoration actions that an operator would attempt for equipment that is essential to successful prevention of core damage or loss of containment function. The method used to identify and select actions for analysis generally consisted of the following steps:

1. For each accident initiator determined from review of plant and industry data, the functions and systems needed to prevent core damage and/or containment failure were identified.
2. The supporting systems needed by these essential or front-line systems were determined.
3. The human actions needed to successfully accomplish the initiation and operation of the system(s) or function(s) were determined.
4. The accident sequences and system functions were modeled to establish the time available for actions.
5. The accident sequences were quantified and sensitivity studies performed to select human action for more detailed analysis.

The process of human interaction selection - step 3 - began with the selection of a team that included personnel with operating experience, systems engineering, and human reliability expertise. This team performed a detailed examination of system descriptions, system design and performance characteristics, examination of emergency procedures and guidelines, operator interviews, talk throughs, and walk throughs to understand how the plant would respond to an initiating event, how the operators would respond to an event which would activate use of abnormal or emergency procedures and could otherwise lead to a safety system challenge, what would be the most likely plant response to an initiating event, and what would be involved in the attempted recovery of failed systems.

Once the basic accident scenarios were understood, step 4 was performed to develop a time to core damage assuming the failure of an essential function. Operator actions embedded within the emergency operating procedures were examined and modeled in the determination of time to core damage when these actions could result in the failure to establish a safety function.

This detailed evaluation of procedures through studies, interviews, control room simulator exercises, talk throughs and walk throughs, and studies of the time to core damage or containment failure was used to determine what human actions were essential to successfully operate the systems supplying the functions needed to mitigate core damage challenges and

containment challenges. In each of the cases, repeated interaction with plant operators were used to define the operator actions to model within the sequence.

Selection of restoration or repair actions was likewise modeled based on the importance of the loss of function to the mitigation of an accident scenario. Each function was examined for its importance to the prevention of core damage in a particular sequence, the feasibility of recovering the function if lost, and the time available to recover the function. The same method of review and evaluation including interviews with operators and support personnel, and evaluation of industry experience was used. Finally data available to quantify the restoration or repair probability was considered in the final set of human interactions selected. The methods of quantification are discussed in section 3.3 of the IPE submittal and the responses to questions 8, 9, and 22.

20. **It is not clear from Section 3.3.3.1.6 of the submittal what were the bases for evaluating the probabilities of failure for post-initiator human actions through the application of plant-specific performance shaping factors. The submittal identifies several factors reviewed in the detailed HRA analysis, including examinations of procedures, training, and human engineering. However, other factors such as staffing, communication, and administrative controls can also be important. Please explain by way of example the process used to select, assess, and assign values to the performance shaping factors used in the analysis of the below listed post-initiator human events from Table 3.3-6.**

- |              |              |
|--------------|--------------|
| • GADSMANSYW | • BISTHPINJR |
| • YDCLOADSWH | • BISTRINJR  |
| • YL1        | • RSPCOOLSWW |

Of the human events specified in question 20, only GADSMANSYW and YDCLOADSWH had detailed HRA analyses performed. The failure probability for event YL1 was calculated using the time and probability information from industry experience (See the answer to question 8.) and did not utilize HRA analysis. Thus, performance shaping factors were not used. The failure probability for event RSPCOOLSWW was calculated using the HRA screening methodology described in section 3.3.3.1.4. of the submittal. The screening methodology does not utilize performance shaping factors. Events BISTHPINJR and BISTRINJR are both equipment recovery actions and had failure probabilities calculated by the method described in section 3.3.3.2. of the submittal. The calculation of failure probabilities for recovery factors does not utilize performance shaping factors.

Seven performance shaping factors (PSFs) were used in the detailed HRA analysis. The PSFs chosen for this analysis were adapted from a concise formula described in Chien, S. H., Dykes, A. A., Stetkar, J. W., & Bley, D. C., "Quantification of Human Error Rates Using a SLIM-Based Approach", Proceedings of the IEEE Fourth Conference on Human Factors and Power Plants, Pp. 297-302, June 5-9, 1988. These factors are as follows:

1. Complexity of operator actions.
2. Adequacy of Time Factors.
3. Crew's level of knowledge, skills, training and experience.
4. Adequacy of guidance materials.
5. Characteristics of the interface.
6. Previous, subsequent and concurrent actions.
7. Stress.

Assessment of the PSFs for each human action began with a detailed task analysis. This task analysis reviewed the following aspects of each human action:

- What signals would be received from plant equipment that would direct the action to be performed? This includes compelling and confirmatory signals used both for diagnosis of the event as well as to determine how quickly the action must be performed.

- What procedures exist that describe how the action should be performed? This step examines the clarity of the guidance as well as the complexity of the action being performed.

- How the action had to be performed? This step examined conditions such as where the action had to be performed, lighting conditions in the work areas, what communications are available and whether the task must be performed in conjunction with other tasks or required multiple operators.

- How much time was available to perform the human action? This required the identification of how long the task takes to perform as well as how much time it takes for the event signals to come in and be correctly diagnosed.

- How familiar is the operator with the action to be performed? This step reviews the training the operator has received on the particular human action. This review identifies how frequently the operator is trained on the particular action. The type of training, i.e., simulation in the field, simulator or classroom lecture, is also determined.

- How many operators are available to perform post-event human actions? This step identified the minimum number and qualifications of the shift complement. It also identified which operators are available to perform individual tasks.

Once the HRA analysts had completed the task analysis, the completed PSFs were presented to an operating crew as well as operations training instructors. The comments and insights provided by the operations and training personnel were incorporated into the PSFs.



To provide examples of the PSFs developed in the detailed HRA, the PSFs for human actions GADSMANSYW and YDCLOADSWH are provided in the following paragraphs.

PSF Application to GADSMANSYW, Depressurize RPV using SRVs (blowdown using ADS):

Complexity	Diagnostic complexity is low: rapidly dropping RPV level with no high pressure injection sources point toward requirement for depressurization in order to accomplish low pressure injection. A conflicting operator goal may be to avoid severe thermal stress to plant by ADS blowdown from high pressure and temperature.
Time	Light: Time available to complete the action is about 32 minutes, while time required to initiate and complete the action is less than 1 minute.
Knowledge, Experience, and Training	This task is trained in a simulated context as part of each requalification. Operators know if HPCS and RCIC do not start automatically on RPV level dropping past level 2, to anticipate requirement for manual depressurization.
Guidance	Contained in event-driven Emergency Operating Procedures (EOPs 1 & 3). Clear, direct, unambiguous.
Interface	All controls are located in one location in the MCR. Actuation of just 4 of 16 valves is sufficient to achieve the function.
Action Context	This is a rapidly moving event with little to distract operator(s) from diagnosis and rapid initiation. Level is seen as such a key parameter to all these tasks that compelling signals (drop precipitously past levels 2 and 1 toward TAF) are unlikely to be missed. May be some pause to be certain of diagnosis before taking action due to motivation to avoid stressing the plant.
Stress	High: While time pressure is moderate from PRA standpoint (about 30 minutes to take an action requiring 1 minute), key parameter (RPV level) is dropping rapidly, crew is attempting to start HPCS and RCIC without success.



## PSF Application to YDCLOADSWH, Shed DC Loads:

Complexity	Diagnosis is straightforward: Station Black-Out (SBO) (which removes Division I and II motor-driven injection sources) + loss of HPCS (which can be powered from Division III diesels). Task itself is moderately complex in that it requires manually operating breakers in low light conditions on approximately a dozen DC loads on panels in multiple locations in multiple buildings. This factor interacts with action context (see below).
Time	Problem here is Prioritization; this alone will take some time. Conservative estimate is 35 minutes to complete, even if initiated in first minute of SBO event. After 60 minutes, batteries expire, control of RCIC is lost, and this task becomes moot. Thus, this factor acts as a multiplier: if initiation is immediate, time is not a factor; if initiation is postponed for 15 min, an hour of battery time is lost, and the time factor begins to make other error-inducing factors more influential.
Knowledge, Experience, and Training	Diagnosis is easy, and intuitive- Although SBO is extensively trained, the action itself had not been trained on until recently, when a Job Performance Measure (JPM) was implemented that requires actual walk through as a requalification item.
Guidance	Procedures list the task but do not direct this task to be undertaken immediately; because crew resources may be required to handle other diagnostic and emergency procedures. Crew is believed likely to put off this task if only to deal with prioritization which is not well supported by the procedures.
Interface	The interface is moderately difficult in that the operator(s) must move from the MCR to remote panels in low light conditions, and open breakers labeled to match those on the checklist carried for the purpose. This is estimated to require a few seconds per division.
Action Context	This is potentially the major factor shaping likelihood of success. Because so many other demands are being made on the crew, this raises the probability that this task may not be started soon enough. Once decision is made to initiate this task, it's straightforward unless assigned operator(s) are distracted.
Stress	Moderate to high; this level is taken into account by application of the ASEP formula.

The PSFs in this analysis were applied independently of the Accident Sequence Evaluation Program (ASEP) methodology which was the basis for the quantifiable failure probability estimates. The ASEP methodology includes adjustments for factors that are similar to the PSFs. In ASEP, there are adjustments (sometimes implicit) for the following factors:

- single vs. multiple-operator tasks
- (near) simultaneous occurrence of other abnormal events
- position of action in an ordinal sequence of events
- time to diagnose & act vs. time available
- degree of stress
- dynamic vs. procedural tasks
- inclusion of the action in regular practice
- name-recognition of the context for the action
- quality of procedures
- number of annunciators active and answered
- skill- vs. rule- vs. knowledge- based performance.

The ASEP adjustments overlap with the PSFs used in this analysis. In no case, however, are they identical. Generally, the PSFs used in this analysis are more comprehensively defined (both individually and as a set) than the adjustment factors use by the ASEP methodology. The PSF scores were used as an independent, qualitative check of how likely the action's PSF would induce some kind of operator error in the context in which it is expected to occur at CPS.

The results of this check for a particular action were used in two ways: (1) to adjust the failure probability used in the IPE, for cases in which comparison of the PSF definitions suggest adjustments overlooked by ASEP, and (2) to examine more closely those actions whose PSF scores suggest that modification of their respective PSF contexts could reduce the event failure probability.

21. **In the detailed HRA analysis of post-initiator human events, the consideration of time is important. The submittal is not clear on how "available" time (T<sub>m</sub>) was calculated for the various post-initiator human events. For several of the post-initiator human events examined:**
  - a) **Provide the available time estimated for the operator action and the bases for the time chosen, and examples illustrating how different times were calculated for the same task performed in different accident sequences.**

Of the operator actions listed in Table 3.3-6, only three of the actions had the detailed HRA analysis performed. The available times for these three actions are as follows:

GADSMANSYW 30.8 minutes

SAS01ABSWW 71.0 minutes

YDCLOADSWH 59.0 minutes

These times are based on three factors. The first factor,  $T_1$ , is the length of time starting at the occurrence of the accident sequence initiator and ending at the point core damage occurs without the operator action. The second factor,  $T_2$ , is the length of time starting at the occurrence of the accident sequence initiator and ending at the time when the compelling signal for the operator action is received. The third factor,  $T_3$ , is the length of time required for the operator action to be effective following the performance of the action.

Using the three noted factors,  $T_m$  is calculated as follows:

$$T_m = T_1 - T_2 - T_3$$

One example of how different  $T_m$  values can be calculated for the same action in different accident sequences involves action GADSMANSYW, manual depressurization of the RPV using SRVs. This action is performed when reactor water level reaches the top of active fuel (TAF). Core damage occurs after vessel water level is below 2/3 core height for greater than 4 minutes. For accident sequences in which the control rod drive (CRD) system is available, the time until TAF is reached is 43.6 minutes. For accidents sequences in which the CRD system is not available, such as LOOP, SBO or loss of plant service water transients, TAF is reached in 27.8 minutes. However, the minimum  $T_m$  for all accident sequences was used for the HRA analysis.

Another example of how different accident sequences can affect  $T_m$  involves action SAS01ABSWW, manual initiation of the standby liquid control system (SLC). The SLC system has two pumps. Using both pumps, the SLC system can shut down the reactor in 40 minutes (under worst case assumptions). Accident sequences in which only one SLC pump is available have a significantly shorter  $T_m$  since a single pump requires 80 minutes to be effective in shutting down the reactor.

Action SAS01ABSWW is also based on the main condenser being unavailable and the reactor recirculation pump runback being successful. Accident sequences with the main condenser available as a heat sink for even a portion of the time would have longer values of  $T_m$ . Accident sequences in which the pump runback is not successful would have shorter values of  $T_m$  since the reactor would be dumping more heat into the containment building than if the runback was successful.

The situation in which action YDCLOADSWH, Division 1 and 2 battery load shedding would be performed is in an SBO with concurrent unavailability of the HPCS system but with the RCIC system operable. Different accident sequences meeting these conditions would not significantly impact  $T_m$  since the plant conditions following an SBO with only RCIC injection would not affect how much time was available for DC load shedding or how soon indications of the SBO would be received in the main control room.

- b) Explain, with several examples, how the value for the available time was selected to represent the range of detailed accident conditions that may be implicit in the sequences it represents; for example, the value may represent a bounding condition (i.e.,  $T_m$  is the minimum of the range) or may represent a more typical value (e.g., through the use of a mean value of  $T_m$ ). To the extent possible, please indicate the major sources of uncertainty in the estimates of  $T_m$ , particularly those that might significantly reduce estimates of  $T_m$ .

The timings for the span of time from accident initiator occurrence until core damage could occur were calculated using the MAAP 3.0B code. Different accident sequences were analyzed by modifying the MAAP input deck and running the code. The time used for the calculation of  $T_m$  for different accident sequences was the minimum value obtained for any accident sequence for which the action was required.

The timings for the span of time from accident initiator occurrence until the compelling signal would be received was also calculated using the MAAP 3.0B code. This calculated number was reviewed by individuals holding SRO licenses at CPS to ensure the values were reasonable. For this time period, the maximum time period from all accident sequences for which the action was required was selected. The maximum time was selected since longer times for this factor decrease the time available to diagnose and perform the action.

The timings for the span of time for the action to be effective was calculated differently for different actions. For the manual depressurization of the reactor vessel action, the time was calculated using the MAAP code. For the manual initiation of the SLC system action, the time was taken from an analysis in the CPS USAR. For the DC load shedding manual action, the time was assumed to be instantaneous once all required DC breakers were opened.

As was stated earlier, the source used for calculation of  $T_1$  was the MAAP 3.0B code. Uncertainties in the use of this code for the operator actions are small since plant data was used in the MAAP parameter file and the phenomena being modeled are very straightforward over the time period of interest.

Little uncertainty also exists for factor  $T_2$ . For action GADSMANSYW, the time between the start of the transient and the point at which the reactor operator receives an annunciator to alert him that vessel level has reached level 3 is less than one minute. This timing was calculated using MAAP and verified by discussions with CPS operators. Action SAS01ABSWW has very simple timing criteria, the transient causes a condition in which the reactor should, but fails, to SCRAM. This condition would be known to the operators in less than a minute. The indication for action



YDCLOADSWH is the occurrence of an SBO which would be noted by the operators almost immediately.

As was the case for the other factors, factor  $T_3$  has little uncertainty associated with it. The MAAP code was used to calculate the time required for reactor pressure vessel depressurization to occur. An engineering calculation was used as the basis for determining the time required for the SLC system to be effective in bringing the reactor subcritical. Success for action YDCLOADSWH assumed that all required Division 1 and 2 breakers had to be opened before any benefit would be gained. In practice, the time available to complete the action would be extended as the electrical load was in the process of being shed.

**22. Section 3.3.3.2 identifies repair and restoration of failed components as one of three types of recoveries considered in the Clinton analysis. Further, Section 3.3.3.2.1 states that the assignment of probabilities of recovery actions associated with failed components is based in part on data reported in EPRI report RP-3000-34, "Faulted Systems Recovery Experience." Typically credit of this type of recovery action is not taken in PRA because of the great idea [deal sic] of uncertainty associated with varied failure mechanisms and performance of maintenance. In order to better understand your rationale and justification for crediting these recoveries:**

- a) **Provide a description of the process that was used for identifying and selecting the recovery type actions evaluated.**

The following criteria were used to choose the basic events to include in the recovery analysis and to choose the recovery times appropriate for each event.

1. Basic events with Fussell-Vesely values greater than or equal to  $1.0E-02$  were considered in the recovery analysis.
2. Basic events which satisfy #1 but have the following characteristics were discarded from consideration
  - Basic events with system code = "B" (Recovery Actions), "Y" (Flags and Event Tree Headings),
  - Basic events with system code = "A" (Auxiliary Power) unless the component code is "CB" (Circuit Breaker),
  - Basic events with failure code = "W", "H", or "M" (Maintenance or other human actions).



3. The recovery probability for all the basic events corresponds to a recovery time of 1/2 hour except for the following basic events. (Note: where recovery time of four hours is specified, data from EPRI Draft Report RP-3000-34 for two hours was used, because this was the maximum time analyzed in RP-3000-34. Therefore, these recoveries may be slightly conservative.):

- Basic events with component type "FN" (Fan). Use recovery probability corresponding to four hours.
- Basic events which are in the Shutdown Service Water System (system code = "X"). Use recovery probability corresponding to four hours.

The choice of these time thresholds for recovery is based on the time available to restore the failed components to operability and operate the affected system in order to avert core damage. For components in systems that act directly as potential core cooling sources, the correct time threshold is approximately one-half hour. This is based on CPS MAAP 3.0B analysis, which shows that no significant core damage results following a transient with no injection for a minimum of one-half hour. This time is available to regain and restore components that have failed. If these repairs can be completed within one-half hour, then the affected system can be restored and core damage avoided.

For components related to room cooling for injection systems, an appropriate time threshold is 4 hours. If such components fail, then several hours pass before injection system components in the affected rooms potentially fail because of high temperatures. Only after these effects occur, are the effectiveness of injection systems impacted and successful core cooling threatened. In these cases, the entire 4 hour period is available to repair the components that support room cooling. Such components include fans. Also, for the accident sequences in which recovery of this kind is considered, the shutdown service water system's primary function is to provide cooling water for ECCS room cooling.

4. Diesel generator recovery probabilities were determined for one and four hours, corresponding to the time considered in the event tree for AC power recovery in time to prevent battery depletion.

#### Recovery Investigation

The Recovery Failure Probabilities (RFPs) for significant component failure basic events were determined by utilizing the results from EPRI RP-3000-34. The recovery results in this report are represented by curves which are divided into various recovery categories (i.e., recovery trends by system, component type, failure mode, failure cause, and recovery method). The curves which are used to determine the RFPs of the events considered in this analysis and the calculations of the RFPs chosen for different basic events are presented in the following section.

The RFPs for the components considered in this analysis have been separated into three categories. 1) System - If recovery data exist for a system to which a particular component being considered belongs, then the recovery failure probability of the component would be represented

by the recovery failure probability of the system; 2) Failure mode, such as failure to open, failure to run - RFPs are determined independent of type (i.e., for valves, motor operated, isolation, check, and relief valves are considered to be the same); 3) Type - RFP are determined according to equipment types or failure causes. All types of instrumentation such as pressure, flow, logic, level instruments are included in a single component type category called INSTRUMENTATION.

If recovery data were found in any category, recovery was assigned in the quantification. If data for more than one category fit the component being considered for recovery, then the most appropriate value was chosen by considering the composition of the data used to derive the non-recovery probability in each category. Because of the way the data were pooled, the most appropriate values for motor-operated valves and turbine driven pump failure came from the "component type" breakdown of the data, while the most appropriate values for motor-driven pumps came from the "failure model" breakdown of the data (this allowed distinction between potential recovery from pump failure to start and failure to run). If data were found in only one category that value was used.

Below is a brief description of the methodology used to determine the RFP for component failure events in the sequence cut sets.

## VALVES

The RFP for valves was determined according to the following:

- a) By Systems (Fig. 3.2-1 of RP-3000-34).
  - Motor operated valves - MOV's recovery data is available for RHR, HPCI-RCIC, AFW, and "OTHER Systems". Therefore, recovery failure probabilities for motor operated valves can be determined for these systems.
  - Air operated, check, relief, and other valve RFP cannot be determined by system because of lack of recovery data associated with these types of valves.
- b) By valve types (Fig. 3.2-2 of RP-3000-34).
  - Motor operated valves - Isolation and motor operated valves recovery data are pooled together to determine the recovery probabilities for motor operated valves, as discussed in RP-3000-34. At CPS most isolation valves are also motor-operated.
  - Check valves - 4 recovery events for check valves (i.e., explicitly stated as check valves) are found. 3 check valve failures required 99 hours each to recover and 1 required 6.33 hours to recover. From the above data, it is concluded that recovery of check valves cannot be done in less than 4 hours.

- Relief valves - 3 recovery events for relief valves (i.e., explicitly stated as relief valves) are found. 1 required 2.13 hours to recover, 1 required 0.33 hours and 1 required 63.25 hours. Therefore, 2/3 of the relief valves are recovered within the first 2 1/2 hours.
  - Air operated valves - No conclusions can be made concerning the RFP of air operated valves (by type) because of insufficient data in the reference document.
- c) By Failure mode. The curves in Figure 3.2-3 of RP-3000-34 represent valve recovery events by failure mode. The valves are pooled irrespective of systems or valve types.

### PUMPS

The recovery probability for pumps was determined according to the following:

- a) By failure mode (Fig. 3.2-6 of RP-3000-34). RFP for pumps "Failure to Run" are determined by pooling recovery from pump suction and trip failure data. Recovery probabilities for failure to start data are determined directly from the "Fail to Start" curve in Fig. 3.2-6 of RP-3000-34.
- b) By pump type. Recovery data for only motor operated pumps are available. The recovery failure probability of turbine driven pumps (e.g. RCIC) was determined by using recovery data for turbines.

### INSTRUMENTATION

The recovery data for pump and valve failures caused by instrumentation failures was pooled to determine the recovery probability of instrumentation.

### DIESEL GENERATORS

The recovery probabilities for Diesel Generators were determined from Group 4 recovery data (Fig. 3.1-4 of RP-3000-34).

### CIRCUIT BREAKERS, FANS, STRAINERS, COMPRESSORS

No events were found in RP-3000-34 for recovery time of all these events. Therefore, no conclusions were made concerning the recovery of these events. The RFP for these components are represented by "ID".

## Results

The results of the above are tabulated in the following table. If recovery data were not found for the categories described above, an "ID - Insufficient Data" is shown in the table.

The table column headings are described as follows:

- 1) Basic Event Name - the component failures that are candidates for recovery.
- 2) Time Interval - For components modeled to be recovered at different times, the time interval is specified.
- 3) System Recovery Prob - the recovery failure probability of the system which includes the component.
- 4) System Recovery Figure - The figure in RP-3000-34 from which the probability was obtained.
- 5) Failure Mode Prob - recovery failure probability of the event by failure mode.
- 6) Failure Mode Figure - The figure in RP-3000-34 from which the probability was obtained.
- 7) Type of Equipment Prob - recovery failure probability of the event by component type or failure cause.
- 8) Type of Equipment Figure - The figure in RP-3000-34 from which the probability was obtained.

NON-RECOVERY PROBABILITIES  
FOR SIGNIFICANT BASIC EVENTS

BASIC EVENT NAME	TIME INTERVAL	SYSTEM RECOVERY		FAILURE MODE		TYPE OF EQUIPMENT	
		PROB	FIGURE	PROB	FIGURE(s)	PROB	FIGURE(s)
ADG01KADGR	1/2 HR	0.30	* 2-2	ID		ID	
ADG01KADGR	2 HR	0.10	* 2-2	ID		ID	
ADG01KADGS	1/2 HR	0.30	* 2-2	ID		ID	
ADG01KADGS	2 HR	0.10	* 2-2	ID		ID	
ADG01KBDGR	1/2 HR	0.30	* 2-2	ID		ID	
ADG01KBDGR	2 HR	0.10	* 2-2	ID		ID	
ADG01KBDGS	1/2 HR	0.30	* 2-2	ID		ID	
ADG01KBDGS	2 HR	0.10	* 2-2	ID		ID	
ADG01KCDGS	1/2 HR	0.30	* 2-2	ID		ID	
ADG01KCDGS	2 HR	0.10	* 2-2	ID		ID	
APX201ACBO		ID		ID		ID	
APX221ACBC		ID		ID		ID	
APX501ACBO		ID		ID		ID	
APX501BCBO		ID		ID		ID	
APX521ACBC		ID		ID		ID	
APX521BCBC		ID		ID		ID	
DCUPS1AIVD		ID		ID		ID	
DCUPS1A3SO		ID		ID		ID	
F1CD020F VC		ID		0.90	3.2-3	ID	
F1CD039AVC		ID		0.90	3.2-3	ID	
FCB011AAVC		ID		0.90	3.2-3	ID	
FCB011BAVC		ID		0.90	3.2-3	ID	
FCB011CAVC		ID		0.90	3.2-3	ID	
FCB011DAVC		ID		0.90	3.2-3	ID	
FCD031AAVC		ID		0.90	3.2-3	ID	
FCD031BAVC		ID		0.90	3.2-3	ID	
FCD031CAVC		ID		0.90	3.2-3	ID	
FDC031DAVC		ID		0.90	3.2-3	ID	
FFW010AAVC		ID		0.90	3.2-3	ID	
FFW010BAVC		ID		0.90	3.2-3	ID	
FFW010CAVC		ID		0.90	3.2-3	ID	
GCC1312MVO	1/2 HR	0.55	3.2-1	0.42	2-2 3.2-3	0.34	* 3.2-1
GCC1312MVO	2 HR	0.55	3.2-1	0.36	2-2 3.2-3	.038	* 3.2-1
GCCDISKPIL		ID		ID		ID	
GXCC69SRVO		ID		0.36	3.2-3	0.33	
HPSYST1SYM		ID		ID		ID	
HPSYST2SYM		ID		ID		ID	
HPXC001MPR		ID		0.57	* 3.2-6	0.57	3.2-6
HPXC001MPS		ID		0.60	* 3.2-6	0.60	3.2-6
HPXD002ORP		ID		ID		ID	
HPXD301STP		ID		ID		ID	
HPXF001MVT		ID		ID		ID	
HPXF004MVO		0.70	3.2-1	0.36	3.2-3	0.34	* 3.2-1 3.2-2
HPXF012MVC		0.70	3.2-1	0.90	3.2-3	0.34	* 3.2-1 3.2-2
HPXF012MVO		0.70	3.2-1	0.36	3.2-3	0.34	* 3.2-1 3.2-2
HPXF015MVO		0.70	3.2-1	0.36	3.2-3	0.34	* 3.2-1 3.2-2
HRITKCCLSZ		ID		ID		0.30	* 3.3-2
IN035CCLSZ		ID		ID		0.30	* 3.3-2
IRIC001TPR		ID		ID		0.73	* 2-3
IRIC001TPS		ID		ID		0.73	* 2-3
IRIF031MVO		0.70	3.2-1	0.36	3.2-3	0.34	* 3.2-1 3.2-2
IRIF045MVO		0.70	3.2-1	0.36	3.2-3	0.34	* 3.2-1 3.2-2
IRIF068MVO		0.70	3.2-1	0.36	3.2-3	0.34	* 3.2-1 3.2-2
IRIF320XVP		ID		ID		ID	
IXC002FCPR		ID		ID		ID	



NON-RECOVERY PROBABILITIES  
FOR SIGNIFICANT BASIC EVENTS

(Continued)

BASIC EVENT NAME	TIME INTERVAL	SYSTEM RECOVERY		FAILURE MODE		TYPE OF EQUIPMENT	
		PROB	FIGURE	PROB	FIGURE(s)	PROB	FIGURE(s)
IXC002FCPS		ID		ID		ID	
RABCLCCMPS		ID		0.60	* 3.2-6	0.60	3.2-6
WS01FABSTP		ID		ID		ID	
WSABCCMMPR	1/2 HR	ID		0.58	* 3.2-6	0.55	3.2-6
WSABCCMMPR	2 HR	ID		0.25	* 3.2-6	0.28	3.2-6
XBPFLCCMVC		0.55	3.2-1	0.90	3.2-3	0.13	* 3.2-1 3.2-2
XCDFOCCAVO		ID		0.36	* 3.2-3	ID	
XD1CORRSYM		ID		ID		ID	
XD2CORRSYM		ID		ID		ID	
XD3CORRSYM		ID		ID		ID	
XDPABCCGTX		ID		ID		0.10	* 3.3-2
XDSPRCCGTX		ID		ID		0.10	* 3.3-2
XSX003AMVT		ID		0.65	3.2-3	0.13	* 3.2-1 3.2-2
XSX003BMVT		ID		0.65	3.2-3	0.13	* 3.2-1 3.2-2
XSX003CMVT		ID		0.65	3.2-3	0.13	* 3.2-1 3.2-2
XSX004AMVT		ID		0.65	3.2-3	0.13	* 3.2-1 3.2-2
XSX004BMVT		ID		0.65	3.2-3	0.13	* 3.2-1 3.2-2
XSX004CMVT		ID		0.65	3.2-3	0.13	* 3.2-1 3.2-2
XSX010AAVO		ID		0.36	* 3.2-3	ID	
XSX010BAVO		ID		0.36	* 3.2-3	ID	
XSX010CAVO		ID		0.36	* 3.2-3	ID	
XSX01PAMPR		ID		0.25	* 3.2-6	0.28	3.2-6
XSX01PAMPS		ID		0.43	* 3.2-6	0.28	3.2-6
XSX01PBMPR		ID		0.25	* 3.2-6	0.28	3.2-6
XSX01PBMPR		ID		0.43	* 3.2-6	0.28	3.2-6
XSX01PCMPR		ID		0.25	* 3.2-6	0.28	3.2-6
XSX01PCMPS		ID		0.43	* 3.2-6	0.28	3.2-6
XSX041AAVO		ID		0.36	* 3.2-3	ID	
XSX041BAVO		ID		0.36	* 3.2-3	ID	
XSX063AMVO		0.55	3.2-1	0.36	3.2-3	0.13	* 3.2-1 3.2-2
XSX063BMVO		0.55	3.2-1	0.36	3.2-3	0.13	* 3.2-1 3.2-2
XSX173AMVO		ID		0.36	3.2-3	0.13	* 3.2-1 3.2-2
XSX173BMVO		0.55	3.2-1	0.36	3.2-3	0.13	* 3.2-1 3.2-2
XSXABCCMPS		ID		0.43	* 3.2-6	0.43	3.2-6
XVH01CAFNR		ID		ID		ID	
XVH01CAFNS		ID		ID		ID	
XVH01CBFNR		ID		ID		ID	
XVH01CBFNS		ID		ID		ID	
XVH01CBFNS		ID		ID		ID	
XVH1CC0FNR		ID		ID		ID	
XVH1CC0FNS		ID		ID		ID	
XXSX029GTX		ID		ID		0.10	* 3.3-2
XXSX030GTX		ID		ID		0.10	* 3.3-2

- b) **Explain how it [sic] was determined that these EPRI data apply to the Clinton plant under accident conditions. Include in your response the details of the plant specific review performed to justify their use. For example, were walkthroughs performed, were specific maintenance procedures identified, and were appropriate plant personnel interviewed with regard to each recovery action considered?**

These EPRI data were selected as the most applicable for the situation. While the events reported were not under severe accident conditions, they were under "demand" conditions. Actions to recover systems in light of a potential severe accident could be subject to additional performance shaping factors. The additional stress could lead to a higher error rate, while the additional urgency could lead to a more rapid recovery. These factors were judged to cancel, so that the data was applied with no adjustment. No specific actions were taken to demonstrate that the generic data apply directly to CPS in absence of any indication to the contrary (see answer to question 1). The data were obtained from historical reports without artificiality of simulator experiments or pre-planning. The data is probably conservative in that it is based on information through the end of the 1980's. It would be expected that recent experience would be better, considering the status of the emergency procedures and training, as well as the increased emphasis on and sensitivity to plant risk. Such recovery events have been practiced at CPS with equipment mock-ups during emergency drills.

23. **It is not clear in the submittal if the dependency analysis described in Section 3.3.3.1.7 was included for credited recovery actions. The operators' performance of a recovery action is both dependent on the accident under progression and the past performance of the operators during the accident of concern. Improper treatment of these dependencies can result in the elimination of potentially dominant accident sequences, and therefore, the identification of significant events. In addition, Section 3.3.3.2.1 states that "Up to two recoveries per cut-set have been included in this study based on the demonstrated capability of Clinton to control multiple field teams during emergency exercises, including graded exercises." In order to better understand how dependencies were modeled for recovery actions:**

- a) **Provide a concise discussion and examples illustrating how dependencies were addressed and modeled for recovery actions credited in the post-initiator HRA such that important accident sequences were not eliminated.**

The first step in this investigation was to determine the combination of human error events that occur together in sequence cut sets. These combinations were determined by setting all HEPs to 1.0 for potentially dependent human error events. These events are shown on Table 23-1. The IPE models were quantified with these HEPs and sequence cut sets were derived. Because the HEPs were set to 1, no potentially dependent combinations of human error events were lost as a result of truncation.

TABLE 23-1  
POST INITIATOR HUMAN EVENTS

ARCVRIMSWH	OPERATOR FAILS TO PREVENT/RECOVER BUS 1M SHUNT TRIP
BMANECCSRC	OPERATOR FAILS TO MANUALLY START ECCS SYSTEM
BSXMANSTRT	OPERATOR FAILS TO MANUALLY START SX SYSTEM
BXVHXCOOLR	OPERATOR FAILS TO RECOVER FROM COMMON CAUSE FAILURE OF VH ROOM COOLING
BXVXXCOOLR	OPERATOR FAILS TO RECOVER FROM COMMON CAUSE FAILURE OF VX ROOM COOLING
BXVYXCOOLR	OPERATOR FAILS TO RECOVER FROM COMMON CAUSE FAILURE VY Room COOLING
CIGNITESYW	OPERATOR FAILS TO TURN ON H2 IGNITERS
CMXCOMPSTW	OPERATOR FAILS TO START MIXING COMPRESSORS
DC71S1ASWH	OPERATOR MISPOSITIONS C71S001A BYPASS SWITCH
DC71S1B8WH	OPERATOR MISPOSITIONS C71S001B BYPASS SWITCH
DC71S1CSWH	OPERATOR MISPOSITIONS C71S001C BYPASS SWITCH
DC71S1DSWH	OPERATOR MISPOSITIONS C71S001D BYPASS SWITCH
DC71S4ASWH	OPERATOR MISPOSITIONS C71S004A BYPASS SWITCH
DC71S4BSWH	OPERATOR MISPOSITIONS C71S004B BYPASS SWITCH
DCUPS1ASWH	OPERATOR MISPOSITIONS UPS1A BYPASS SWITCH
DCUPS1BSWH	OPERATOR MISPOSITIONS UPS1B BYPASS SWITCH
EOPF03PDPW	OPERATOR FAILS TO START OFP03P
EIPF036CVW	OPERATORS FAILS TO REMOVE INTERNALS FROM -36 CHK VLV
FCB009BSWH	OPER FAILS TO START CB AUX LUBE OIL PUMP C
FCB011BSWH	OPER FAILS TO START CB AUX LUBE OIL PUMP D
FCBOPCCSWW	OPER FAILS TO PLACE A STANDBY CB PUMP IN SERV
FFLCMANSWH	OPERATOR FAILS TO PROP CONT FW FLOW FOR RX LVL CONT
RHSFW07SYW	OPER FAILS TO ALIGN CB OR CD FLOW TO RPV
FOPERCCSWW	OPER FAILS TO PLACE A FEEDPUMP BACK IN SERVICE
GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS
GIA012AMVW	OPERATOR FAILS TO MANUALLY OPEN DIV 1 AIR BOTTLE ISOL VLV
GIA013AMVW	OPERATOR FAILS TO MANUALLY OPEN DIV 2 AIR BOTTLE ISOL VLV
IRIF031MVW	OPERATOR FAILURE TO REALIGN RCIC SUCTION
IXC002FCPW	OPERATOR FAILS TO RESTART GLAND SEAL COMPRESSOR
JOSA01CCPW	FAILURE TO LINE UP ISOLATED COMPRESSOR
JISA01CCPW	FAILURE TO PLACE COMPRESSOR 1 IN STANDBY
JXDRYCCSWY	OPERATOR FAILS TO LINE UP ISOL SA DRYER
MVACPMPCW	OPERATOR FAILS TO LIN UP CCW TO VACUUM PUMPS
MVACPMPSYW	FAILURE TO LINE UP VACUUM PUMPS
MXMSSLXGSW	OPERATOR FAILS TO ALIGN MS SEAL STEAM LINE
MXTRAINBXW	OPERATOR FAILS TO ALIGN SJAE B IN TIME TO MAINTAIN VACUUM
NDFILRSFLW	OPER FAILS TO PLACE STANDBY DISCHARGE FILTER IN SERVICE
NSFILRSFLW	OPER FAILS TO PLACE STANDBY SUCTION FILTER IN SERVICE
NSTDPMPSWH	OPERATOR FAILS TO START THE STANDBY CRD PUMP
QVROPERTRH	OPERATOR FAILS TO VENT CONTAINMENT
QVROPERXVW	OPERATOR FAILS TO PERFORM CNMT VENT PROCEDURES (4411.06 SECT 2.4)
RCSPRAYSWW	FAILURE TO MANUALLY INITIATE CNMT SPRAY
RSDCOOLSWW	FAILURE TO MANUALLY START SHUTDOWN COOLING
SAS01ABSWW	OPERATOR FAILS TO INITIATE SLC A & B
SRTF001SWW	OPERATOR FAILS TO MANUALLY CLOSE RT INBOARD ISO VALVE
SRTF004SWW	OPERATOR FAILS TO MANUALLY CLOSE RT OUTBOARD ISO VALVE
XSX14CCXVW	COM CAUSE OPERATOR FAILS TO MAN OPEN 1SX014A B&C
XXSX215SWW	OPERATOR FAILS TO INITIATE SLUICE GATE OPENING
YATWSLVWYH	FAILURE ATWS LEVEL CONTROL
YDCLOADSWH	DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL
YLDSHEDSWH	OPERATORS FAIL TO SHED BATTERY LOADS
YMMMARISWH	MANUAL ROD INSERTION EFFORTS
YMSCRAMSWH	OPERATOR FAILS TO INITIATE MANUAL SCRAM
YMSSRVXRWH	FAILURE TO INHIBIT ADS
YRPVWLLSWH	OPERATOR FAILS TO CONTROL WATER LEVEL AT TOAF

The sequence cut sets developed by this quantification were searched for combinations of human error events and any combinations were noted. The degree of dependence between such events was assessed and conditional HEPs for the events given occurrence of the other events in the combination were assessed as discussed in the following example.

Events SAS01ABSWW and YATWSLVSYH: This combination consists of failure of the operator to initiate SLC in conjunction with a failure to perform ATWS level control to reduce reactor power. Both events are called for in the ATWS EOP-1A. The HEP for the operator failure to initiate SLC was assessed using the ASEP method to evaluate separately the probability of diagnosis error and the probability of failing to perform the action correctly. The conditional probability of failing to perform level control given the failure to initiate SLC is assessed by considering the diagnosis and performance portions of the HEP separately.

If the failure to initiate SLC is due to a failure of diagnosis, then this diagnosis failure is also assumed to apply with high probability to a failure to perform level control. In both cases, the operating crew would have to ignore or misread all the plant symptoms that lead to entry into EOP-1A. Thus the conditional probability of failing to diagnose the need for level control, given a failure to diagnose the need for SLC initiation, is estimated as described in the following paragraphs.

The failure probability of diagnosing the need for SLC was estimated to be  $3.0E-6$  based on the high degree of operator training and familiarity with ATWS events. The basic HEP for ATWS level control diagnosis is also taken as approximately  $3.0E-6$  since the recognition of ATWS conditions is the same for both actions. The conditional probability of failing to diagnose the need for level control, given a failure to diagnose the need for SLC initiation, is estimated using the methods developed by in NUREG/CR-1278 for estimating HEP probability when there is dependency between two or more tasks. The NUREG model is based on defining the conditional HEP's on powers of 10 to establish a numerical basis corresponding to regimes of a dependency continuum. These regimes range from no dependence through complete dependence with three intermediate dependence regimes defined (low, medium, and high). The actions of the tasks are assessed as discussed above in this section to determine the level of dependency and to select the dependence regime.

For the conditional failure to diagnose level control, the dependence is evaluated to be high. Table 10-2 of NUREG/CR-1278 provides the equations for estimating the conditional probability for success or for failure of one task given the preceding task success or failure. The equation for high dependence conditional probability of failure of a task (N) given failure of the previous task (N-1) is:

$$PR \{F_{N-1} | F_{N-1} | HD\} = (1 + N) / 2 \text{ where } N \text{ is the basic HEP of Task } N.$$

Substituting into this formula the conditional failure probability of ATWS level control diagnosis given failure to diagnose SLC initiation becomes:

$$P\{\text{YATWSLVSYH diagnosis failure} | \text{SAS01ABSWW diagnosis failure}\} = (3E-6 + 1) / 2 = 0.5$$

The description of this dependency method can be found in Chapter 10 of NUREG/CR-1278. Other conditional HEPs were also based on the dependence equations of Table 10-2 of NUREG/CR-1278.



If the failure to initiate SLC is caused by an error in carrying out the action, then it is still possible that level control may be performed successfully. In simulator scenarios, it was observed that different operators were assigned to these two tasks. There is some dependence between the two actions, because the line assistant shift supervisor and others in the control room provide a check on the successful performance of both actions. The performance portion of the failure to initiate SLC HEP was assessed by considering the probability of recovery because of such checks. If these checks were unsuccessful in ensuring SLC initiation, then it is assumed there is a higher probability that they will be unsuccessful in ensuring level control. If no credit for such recovery is allowed, then the performance portion of the HEP for ATWS level control would be based on the basic HEP for a single operator performing the action. This value (.02) is less than the screening HEP (.3) used for failure to perform level control. The (higher) screening value of 0.3 is used for the performance portion of the conditional probability given failure to initiate SLC.

The total conditional HEP for failure to initiate level control given failure to initiate SLC is assessed as the weighted sum of the diagnosis and performance portions for a total conditional HEP of 0.3:

$$P\{YATWSLVSYH | SAS01ABSWW\} = (0.5 * 3E-6 / 4E-4) + (0.3 * 4E-4 / 4E-4) \\ = 0.3$$

After the dependence between combinations of human error events found in the sequence cut sets was assessed and conditional HEPs estimated, the conditional HEPs were assigned to events in the sequence cut sets, ensuring that dependencies between human error events were properly accounted for in the sequence quantification results.

The actual substitution of HRA values was done using Set Equation Transformation System (SETS) in the following fashions.

The non-dependent HRA values for each event were stored to a new variable name. Then the dependent HRA value was substituted for the initial non-dependent event. This step was done before sequence quantification and ensures that the highest value was used in the sequence quantification so that no potentially important dependent HRA is lost through truncation. Then after sequence quantification, independent sub-tree (IST) expansion and all other recoveries, SETS was used to search for the dependency combinations. Cutsets with these dependency combinations were separated from the sequence results. The initial non-dependent HRA values were substituted back into all the cutsets without the dependent combinations. Then the cutsets with and without the dependent combinations were collected back together to get the correct sequence cutsets.



- b) **Provide the basis for equating "demonstrated capability" of multiple teams during emergency exercises to cutset specific application of more than one recovery action. For example, were equivalent actions identified, were walk-throughs performed, were personnel involved in the "demonstrated capability" exercises interviewed, etc.,**

One good example of the evaluation of CPS accident response capability is in US NRC Letter, Docket No. 50-461, September 19, 1991, to Illinois Power Company, Attn: J. S. Perry, as follows: "The formation, briefing and timely dispatch of 13 inplant teams provided a good challenge to OSC supervisory personnel. 'The teams' tasks included damage assessment, emergency repair, firefighting, medical response and post-accident sampling... All teams were well briefed on their assignments and... Team members exhibited good understandings of their missions during these briefings."

Another example is the July 5, 1995, summary of the NRC Resident Inspector's exit briefing (Y-217028), as follows: "Mr. Miller [NRC Resident] also noted that the TSC and the OSC were staffed with sufficient personnel to fight multiple plant casualties should it have been required..."

Similar comments are contained in NRC Emergency Preparedness Exercise Inspection reports dated December 18, 1992, June 3, 1993, and May 25, 1994, as well as many internal exercise critiques. Some of the exercises included equipment failure mock-ups for repair.

- c) **Provide the list of paired recovery actions along with the pertinent sequence cutsets where they were applied.**

SAS01ABSWW and YATWSLVSYH

This combination is described above.

SAS01ABSWW and FFLCMANSWH  
 SAS01ABSWW and FOPERCCSWW  
 SAS01ABSWW and J0SA01CCPW  
 SAS01ABSWW and FCBOPCCSWW  
 SAS01ABSWW and FCB009BSWH  
 SAS01ABSWW and DCUPS1ASWH  
 SAS01ABSWW and FCB011BSWH  
 SAS01ABSWW and FCDOPCCSWW

These combinations involve the operator failure to initiate SLC in conjunction with one of eight operator actions needed to maintain successful feedwater system operation (restarting a feedwater pump, manual feedwater control, lining up an isolated service air compressor, etc.). The operator actions in these combinations are considered independent, as different operators will be performing the actions and different conditions lead to the actions. SLC initiation is expected to be the responsibility of the "B" operator and will be called for by EOP-1A when plant conditions warrant. The actions related to feedwater operation are expected to be initiated by the "A" operator and are triggered by various developments (component failures, etc.) in the feedwater

system or its support systems. The success or failure of SLC initiation is not expected to affect operator response to these developments. Thus, no changes are made in the HEPs for these events to estimate HEPs conditional on operator failure to initiate SLC.

#### Events SAS01ABSWW and YMMMARISWH

This combination of events (operator failure to initiate SLC and failure to perform manual rod insertion) is highly dependent. The screening probability assigned to manual rod insertion is 1.0, which will be retained as the conditional HEP for this event.

#### Events FOPERCCSWW and GADSMANSYW

These events are both operator failures to take necessary actions to maintain reactor level. The first is operator failure to restart a feedwater pump after an initial trip on high reactor water level (level 8); the second is operator failure to depressurize the reactor given failure of high pressure injection sources (including feedwater).

#### Events XSX14CCXVW, E1FP036CVW, BXVHXCOOLR, and NSTDPMPSWH

Events XSX14CCXVW and BXVHXCOOLR are recovery actions taken in response to failures in the SX system.

Events E1FP036CVW (failure to line up fire protections system for RPV injection) and NSTDPMPSWH (failure to start standby CRD pump) are both actions taken in response to falling reactor level.

#### Events FCB011BSWH and FCB009BSWH

These events represent the same operator action on different condensate booster pumps.

#### Events ARCVR1MSWH and GADSMANSYW

Event ARCVR1MSWH is the recovery of a bus that supports feedwater system which trips on low reactor level.

24. The submittal is not clear as to whether credit was taken for post-initiator operator action to isolate flooding sources. For example, Section 3.4.1.12.4 states that if a break in a Plant Service Water pipe is unisolable, all running pumps would be tripped. This discussion specifies an operator action to trip all running pumps if the flooding is unisolable. Also implied is that the operator would take action to isolate the leak if the break were isolable. However, there is no discussion of HRA for flooding isolation. Please clarify whether operator actions to isolate flooding were considered and if credit was taken for this [these sic] operator actions, provide a list of the pertinent events, the values used to quantify these events, and the basis for their quantification.

A) The internal flooding analysis approach taken was to assume complete failure of all affected systems if the systems were susceptible to wetting due to flood, spray, or stream. Further refinement was performed on the five dominant core damage areas that took some credit for anticipated flood levels and spray impingement.

B) For section 3.4.1.12.4, the paragraph in question was paraphrased from an earlier document. No credit is taken for operator actions during a flood, although it is acknowledged that operator action could occur, in some cases stopping the flooding, as in the case of tripping of plant service water (discussed below). The below two paragraphs should replace the first paragraph in section 3.4.1.12.4 of the submittal.

Two flooding scenarios in the HPCS Pump Room were in the group of dominant flood sequences: a flood initiated by breaks in a plant service water (WS) line and a flood initiated by HPCS line breaks. Floods in this location are important because of the importance of the HPCS system as a core cooling source. A break in a plant service water (WS) system line in this room affects other potential core cooling sources (feedwater/condensate, CRD). The loss of WS also affects the probability of failure of other ECCS systems because the system is a backup to the SX pumps (through the cross-ties to each SX division).

Once a break in the WS line is diagnosed, the operator would be expected to trip the WS pumps to reduce the flow out of the rupture and would then seek to isolate the break. This requires closure of several valves situated far apart within the plant. Thus it is not expected that isolation of this break could be accomplished quickly. Furthermore, operator diagnosis that the break in the HPCS room is a WS line (the pipe is not labeled) would require additional time. Calculations indicate that the flow from this break would increase the water level in the HPCS room to the height of the HPCS pump motor after one hour without isolation of the break. Although it is unlikely the break could be isolated quickly, the WS pumps could be tripped quickly, which may reduce the flow out of the break and may slow the accumulation of water in the room. The magnitude of this effect is uncertain, so no credit is taken for this operator action and core damage frequency estimates for this location are not reduced.

25. Section 4.6.1, CET IB Station Blackout, discusses manually initiated containment venting during station blackout (SBO) as per procedural guidance given in Clinton 4411.06. Further, Section 4.6.2.8 states that the human error probability (HEP) for failure to vent containment is 0.25. However, Section 3 discussion of HRA performed for operator actions does not identify containment venting as one of the post-initiator human events considered in the analysis. Please explain what methodology was used to model the operator action credited in the CETs. Include in your response, by way of example, the quantification performed to derive the 0.25 HEP.

The containment venting HEP was determined by screening as described in the answer to question 17. The factors included in the screening flow chart and tables for this event include the following:

- Manual alignment of a System
- Cannot be completed from the Control Room
- Area is accessible
- Not a practiced task
- Task is proceduralized
- Task is accomplished in the Fuel and/or Auxiliary Buildings
- Task is complex ( more than 10 steps)
- Greater than 45 minutes are available to accomplish

As a point of sensitivity, if venting failure HEP on the SBO event tree were assumed to be 1.0, the containment over pressure failure frequency would increase by about  $4.1E-7$ , and the large release frequency would change from  $7.5E-7$  to  $1.2E-6$ , to 4.5% of core damage events (See the answer to question 26).

Note: Section 3 of the IPE submittal addressed the front end analysis in accordance with NUREG 1335. The above information could have been included in section 4.6.2.8, but was omitted.

- 26. The frequency of major releases (release category III) at Clinton are reported in the submittal with several different values:  $4.8E-8$  in the submittal letter,  $7.52E-7$  on page 1-16, and  $5.3E-7$  in both Figures 1.4-5 and 4.7-1. Please explain this discrepancy and list the accident sequences leading to release category III.**

The sequences leading to release category III are as follows:

TL52	SBO, no power recovery, no venting	3.74E-8
TL53	SBO, no power recovery, no venting	1.56E-9
TL54	SBO, CNMT not isolated	7.03E-7
AT15	ATWS, RX depressurization & injection successful, but no shutdown	1.02E-8
	Total major release (category III)	<u>7.52E-7</u>

These sequences are correctly identified on Table 4.7-1, Table 4.7-2, and Figures 4.5-1 through 4.5-6.

Both Figures 1.4-5 and 4.7-1 have Source Term II and Source Term III reversed. Source Term III, Large Release, totals  $7.5E-7$  per reactor year, or 59% of the containment failures (which constitute 5% of the core damage events).

The submittal letter is also wrong. As stated above, the expected frequency of a major release is  $7.5E-7$  per year. The expected frequency of a major containment structural failure (by overpressure) is  $4.9E-8$  (sequence TL54 is not a structural failure).

27. In characterizing radionuclide releases, Table 4.7-1 lists both sequences "AT01" and "AT15" as release mode "D4," which involved delayed containment failure after vessel failure. However, Figure 4.5-6 shows the same sequences characterized as release mode "C6," which involved containment failure before vessel failure. Please explain this apparent discrepancy.

Both sequences AT01 and AT15 are ATWS sequences in which the containment fails from excessive heat input before core damage because of the inability to sufficiently reduce power. Both Figure 4.5-6 and the description in article 4.6.1 are correct in identifying these sequences as C6, and Table 4.7-1 incorrectly identifies those sequences as D4. Figures 4.7-1 and 1.4-5 are also correct.

28. In describing corium-concrete interaction induced failure of the pedestal, Section 4.4.7.3, page 4-47 of the submittal, notes the following:

For a failure to occur, [pedestal] wall loading due to its own deadweight and . . . would have to generate shear stresses of sufficient magnitude . . . A thorough review of the applicable containment structural drawings, as well as direct observations made during the Clinton primary containment walkdown, do not support the assumption that the potential shear loads would approach such levels.

It is not clear how you determined from reviewing the drawings and observations from the containment walkdown that shear loads would not approach failure limits. Please explain.

Because of the design of the basement and pedestal wall in Mark III containments, most of the concrete ablation, which is preferentially downward, is taken in the basemat.

A three step process was used during the IPE to evaluate the impact of core-concrete interaction, as listed below:

- Define the failure criteria for basemat and pedestal walls,
- Determine the length of time required for concrete attack by core debris released from the reactor vessel to exceed the most limiting failure criterion identified in the first step, and
- Based on the extent of concrete attack, select the appropriate treatment of containment failure caused by core-concrete interaction.

A computer code designated as 'Termite' assisted in calculating energy releases and reaction times during the erosion process. Termite is a FORTRAN computer program that was used



instead of manual calculations to solve an iterative equation which used chemical reaction equations to determine heat transfer rates and equilibrium times.

The results from the termite program run, for a coolable corium geometry, indicate that for the pedestal, the concrete erosion stops after approximately 3.8 days during which time 3.75 feet of the over 13 foot thick basemat has been eroded. In the sideways direction, 1.88 feet of the basemat is eroded at the point of maximum downward erosion. This is not considered enough erosion to cause a loss of structural strength in the pedestal and result in vessel movement.

29. The IPE identified three paths of sufficient size to vent the containment: 1) to the spent fuel pool via the Residual Heat Removal System, 2) to the spent fuel pool via the Fuel Pool Cooling and Cleaning System, and 3) to the duct work through the Continuous Containment Purge System (Section 3.2.1.11, page 3-81).

GL 88-20, Supplement No. 1, Enclosure 2, recommends that the licensee consider improving the plant with a hardened vent system. Please indicate whether any of the above three vent paths constitutes a hardened vent. If none does, please describe the Illinois Power position on this recommendation.

All three of the selected paths comprise piping outside of the containment, although some contain ductwork inside the containment. The statement in section 3.2.1.11 is incorrect and should read as follows, "...is through the CCP system piping then through a hole cut into the piping (Figure 3.2-56)." None of the three paths constitute an unscrubbed release inside the buildings. One of the paths vents directly to outside so that impact to operator access to areas in the plant is minimized. The other two paths are scrubbed through the spent fuel pool to minimize impact on area accessibility.

No transient sequences with loss of containment heat removal (TW) are significant for core damage because all emergency cooling systems are capable of taking suction from a saturated suppression pool. Consequently, containment venting has no impact on core damage frequency. In only one containment event tree sequence does failure to vent lead to containment failure. If venting were to fail in this sequence, the containment over pressure failure frequency would increase by about  $4.1E-7$ , and the large release frequency would change from  $7.5E-7$  to  $1.2E-6$ , to 4.5% of core damage events (See the answer to question 25). Since this value is within the "Severe Accident Issue Closure guidelines" of NEI 91-04, Revision 1, for handling with severe accident management guidelines, there is no intent to perform any modification to address improvement of the containment venting capability.

## 30. Section 4.6.2.3, page 4-74 of the submittal, notes the following:

[S]eparate recovery factors are required for the cases in which core damage occurred at high or low pressure and for recovery after vessel failure.

Describe what recovery factors were used in the analysis.

BENAME	PROB.	DESCRIPTION
BACETBUS1H	0.1400	FAILURE TO RESTORE BUS 1M IN TIME TO PREVENT RPV FAILURE IN HIGH PRESS SEQ
BACETBUS1L	0.3000	FAILURE TO RESTORE BUS 1M IN TIME TO PREVENT RPV FAILURE IN LOW PRESS SEQ
BACETBUSGH	0.5000	FAILURE TO RESTORE BUS 1M IN TIME TO PREVENT CNMT FAILURE IN HIGH PRESS SEQ
BACETBUSGL	0.2300	FAILURE TO RESTORE BUS 1M IN TIME TO PREVENT CNMT FAILURE IN LOW PRESS SEQ
BCTHPMPREH	0.2400	FAILURE TO RECOVER FAILED HPCS IN TIME TO PREVENT RPV FAILURE IN HP SEQUENCES
BCTHPMPREL	0.4800	FAILURE TO RECOVER FAILED HPCS IN TIME TO PREVENT RPV FAILURE IN LP SEQUENCES
BCTHPMPRLL	0.1500	FAILURE TO RECOVER FAILED HPCS IN TIME TO PREVENT CNMT FAILURE
BCTHPMPSEH	0.2000	FAILURE TO RECOVER HPCSFAIL TO START IN TIME TO PREVENT RPV FAILURE - HP SEQ
BCTHPMPSEL	0.4000	FAILURE TO RECOVER HPCSFAIL TO START IN TIME TO PREVENT RPV FAILURE - LP SEQ
BCTHPMPSL	0.1300	FAILURE TO RECOVER HPCSFAIL TO START IN TIME TO PREVENT CNMT FAILURE
BCTHPMVXEH	0.1600	FAILURE TO RECOVER FAILED HPCS VALVE IN TIME TO AVOID RPV FAILURE IN HP SEQ
BCTHPMVXEL	0.2500	FAILURE TO RECOVER FAILED HPCS VALVE IN TIME TO AVOID RPV FAILURE IN LP SEQ
BCTHPMVXLL	0.0500	FAILURE TO RECOVER FAILED HPCS VALVE IN TIME TO AVOID CNMT FAILURE
BCTHPTKZEH	0.1200	FAILURE TO RECOVER FROM FAILED SUCTION SWITCHOVER IN TIME TO AVOID RPV FAIL -HP
BCTHPTKZEL	0.2200	FAILURE TO RECOVER FROM FAILED SUCTION SWITCHOVER IN TIME TO AVOID RPV FAIL -LP
BCTHPTKZLL	0.0300	FAILURE TO RECOVER FROM FAILED SUCTION SWITCHOVER IN TIME TO AVOID CNMT FAILURE
BFCETBYPGH	0.5100	FAILURE TO RECOVER FROM FW BYPASS IN TIME TO AVOID CNMT FAILURE IN HP SEQ
BFCETBYPGL	0.4300	FAILURE TO RECOVER FROM FW BYPASS IN TIME TO AVOID CNMT FAILURE IN LP SEQ
BFCETBYPSH	0.3500	FAILURE TO RECOVER FROM FW BYPASS IN TIME TO AVOID RPV FAILURE IN HP SEQ
BFCETBYPSL	0.4200	FAILURE TO RECOVER FROM FW BYPASS IN TIME TO AVOID RPV FAILURE IN LP SEQ
BFCETCSYGH	0.5000	FAILURE TO RECOVER IMPROPERLY RESTORED FW PUMP C IN TIME TO SAVE CNMT HP SEQ
BFCETCSYGL	0.2700	FAILURE TO RECOVER IMPROPERLY RESTORED FW PUMP C IN TIME TO SAVE CNMT LP SEQ
BFCETCSYHH	0.2600	FAILURE TO RECOVER FROM IMPROPERLY RESTORED FW PUMP C IN TIME TO SAVE RPV HP SE
BFCETCSYHL	0.4800	FAILURE TO RECOVER FROM IMPROPERLY RESTORED FW PUMP C IN TIME TO SAVE RPV LP SE
BFCETRECVH	0.9000	FAILURE TO RECOVER FAILED FW SYSTEM IN TIME TO AVOID RPV FAILURE IN HP SEQUENCES
BFCETRESTH	0.1970	FAILURE TO RESTART TRIPPED FW SYSTEM IN TIME TO AVOID RPV FAILURE IN HP SEQ
BGADSLONGA	0.8000	FAILURE TO RECOVER FROM OPERATOR FAIL TO BLOW DOWN RPV IN TIME TO SAVE RPV
BGADSLONGB	0.0004	UNCONDITIONAL FAILURE TO RECOVER FROM OPERATOR FAIL TO BLOW DOWN TO SAVE RPV
BHPCETRECH	0.8820	FAILURE TO RECOVER FAILED HPCS IN TIME TO SAVE RPV IN HP SEQUENCES
BHPCETRECL	0.9740	FAILURE TO RECOVER FAILED HPCS IN TIME TO SAVE RPV IN LP SEQUENCES
BHPCETREGH	0.9280	FAILURE TO RECOVER FAILED HPCS IN TIME TO SAVE CNMT IN HP SEQUENCES
BHPCETREGL	0.8600	FAILURE TO RECOVER FAILED HPCS IN TIME TO SAVE CNMT IN LP SEQUENCES
BLPCETRECH	0.5000	FAILURE TO RECOVER LP SYSTEMS IN TIME TO SAVE RPV IN HP SEQUENCES
BLPCETRECL	0.6700	FAILURE TO RECOVER LP SYSTEMS IN TIME TO SAVE RPV IN LP SEQUENCES
BLPCETREGH	0.4000	FAILURE TO RECOVER LP SYSTEMS IN TIME TO SAVE CNMT IN HP SEQUENCES
BLPCETREGL	0.3000	FAILURE TO RECOVER LP SYSTEMS IN TIME TO SAVE CNMT IN LP SEQUENCES

31. Please provide the split fractions used and the justifications for the following containment event tree top events:

a) Reactor primary system depressurization,

Recovery for operator failure to depressurize the reactor following core damage to prevent reactor vessel failure was derived as follows.

It was assumed that the operator has 1.75 hours after core damage in which to act to depressurize before vessel failure. This is based on MAAP 3.0B analysis, which indicate that core damage occurs at one-half hour after the initiating event and vessel failure occurs at 2.6 hours after initiation with no injection. Twenty minutes (.33 hours) is allowed for the operator to align and initiate low pressure injection sources after depressurization.

Therefore, the number sought is the probability that the operator won't depressurize in 2.25 hours  $\{P(T > 2.25)\}$ , given that he didn't depressurize in .5 hours  $\{P(T > .5)\}$ .

$P(T > .5)$  is given in Table 3.3-5 of the IPE submittal as  $5E-4$ . This was derived as a diagnosis portion ( $1E-4$ ) and a performance portion ( $4E-4$ ). Of this total probability, only the diagnosis portion is time dependent. Adjusting the available time to 2.25 hours gives an estimated diagnosis failure probability of  $2E-6$ , based on the lower bound curve of figure 7-1, p. 7-6 of NUREG/CR-4772.

$P(T > 2.25)$ , therefore is  $4E-4 + 2E-6 = 4.02E-4$ .

$P(T > 2.25 | T > .5)$ , the probability that the operator won't depressurize in 2.25 hours, given that he didn't depressurize in .5 hours, is  $4.02E-4 / 5E-4 = .80$ .

This recovery is applied to all cutsets which contain the event GADSMANSYW.

Quantifying the cutsets for the failure branch of the event tree yielded a result of essentially 0.8, leaving a fraction of 0.2 for the success branch.

b) Containment spray in event of pool bypass,

No "split fractions" were used for evaluating the containment spray failure. The fault tree solution for containment spray failure was used for the failure branch of the event tree. The "delete term" function was used for the success branch. In delete term, any cutset that appears in the failure branch is removed from the input, and the remaining cutsets form the success branch. This method was used, because there are strong dependencies between the capability for injection and the capability for containment spray because the Residual Heat Removal system is used for both functions. By carrying the cutset solution through the containment event trees, this dependency is implicitly included in the analysis.

**c) Hydrogen gas control, and**

As in containment spray, the fault tree solution for the Hydrogen Control System was used for the failure branch of the event tree.

**d) Containment fails above suppression pool.**

The equipment hatch and shell failure locations are above the suppression pool, and as such would result in a "scrubbed" release. Liner failures are more likely to occur above the suppression pool surface because the stainless steel liner in the suppression pool is more ductile than the carbon steel of which the rest of the liner is made, and the calculated radial containment wall deflections are larger at the mid-height of the containment compared to the suppression pool area. In addition, the number and complexity of mechanical penetrations below the suppression pool surface is less which would tend to make liner failure less likely in the suppression pool. To account for possible liner failure locations below the suppression pool surface, a conservative 20% of liner failures are assumed to be below the suppression pool surface, as a first estimate. Since liner failure makes up about 70% of the total containment failure probability, the probability that the containment fails below the suppression pool surface is assumed to be 0.14. This leaves 0.86 as the probability that the containment fails above the suppression pool.

32. **As noted in Section 4.2.2, the IPE assumed that direct containment heating (DCH) was not a significant challenge to the containment integrity of the Clinton plant. This assumption was based mainly on calculations showing that, for core melt and vessel failure, DCH would not lead to suppression pool saturation and would cause only an increase of a few psi in containment pressure.**

**However, it is possible that a rapid pressurization from DCH could overcome the capability to depressurize through the suppression pool. This could cause a failure of the drywell, resulting in a suppression pool bypass, thus disabling the suppression pool as a possible mitigation system for DCH. Please provide the basis for your determination of whether or not the drywell would fail during DCH and, if it would fail, describe the location and the consequences of the failure. Specifically, what is the probability that the drywell would fail? Include the basis for your determination.**

Failure modes of the drywell would be overtemperature and/or overpressure. The overtemperature mode of failure is considered in the Containment Event Trees. For the overpressure mode of failure, a bounding calculation shows that if all of the energy released from the vessel during a melt ejection scenario were conservatively transferred to the drywell atmosphere, the increase in pressure would be approximately 40 psi.

The pressure rise in the drywell was determined by transferring the energy released during a blowdown to the drywell atmosphere. One half of the mass of the core debris is assumed to be ejected from the vessel. The core debris includes the fuel, cladding, lower core plate, one half of the lower head, and miscellaneous steel. The energy released from the reactor vessel was assumed to not transfer to equipment or structures in the drywell. This energy includes the debris latent energy, the debris sensible energy, and the energy produced by zirconium oxidation and is assumed to transfer directly to the drywell atmosphere. The pressure rise in the drywell assumed



no mass transfer through the suppression pool and a heat-up of the drywell atmosphere to equilibrium with the corium.

Additional neglected conservatisms include the effect of the pedestal configuration with a proliferation of CRD hydraulic pipes that are built around shootout steel and a work platform. This configuration does not lend itself to allowing corium to flow out of a failed vessel without impinging upon obstacles within the pedestal. Since the pedestal openings for the CRD pipes are not on the floor and are filled as much as practicable with pipes, little corium, if any, could get through without impinging upon several pipes and support steel. The CRD cart opening allows more room for transport of corium than the CRD pipe openings, but there is support and shootout steel that the corium must flow around to reach the cart opening. A security door on the outside of the CRD cart opening would not provide much resistance to a vessel blowdown, however, the obstacles created by the material inside of the pedestal provide a lot of surface area for the deflection and deposition of corium. A more realistic calculation of drywell pressurization during a blowdown would include the large heat sink provided by the obstacles which would not allow all of the energy in the corium to be transferred to the drywell.

Ignoring the drywell heat sinks, the calculated value of a 40 psi increase is lower than the ultimate capacity of the drywell pressure retaining boundary of +63 psid. This is the basis for the determination that the drywell will not fail during this phenomenological event.

The item which limits the positive pressure retaining capability of the drywell is the drywell equipment hatch. The failure mechanism of the equipment hatch is the buckling of the spherical head.

33. As shown in Figures 4.5-2 and 4.6-5 for the SBO sequence "TL51," containment venting released a significant mass of hydrogen and caused a category II release. This venting would have prevented a possible hydrogen burn that could have caused a containment pressurization release leading to a category III release. Section 4.6.2.8, page 4-76 of the submittal, notes that, although venting was included in the appropriate procedures, it was not sequenced. Instead, the timing was left to the judgment of the individual operator. The IPE used a value of 0.25 for the HEP value for venting the containment. In light of the above, please provide the following:

a) Identification of the procedures,

Procedures that direct the operator when to vent the containment are EOP 6; "Primary Containment Control", and EOP 7; "Hydrogen Control".

b) Criteria used to decide whether to initiate venting,

Under EOP 6, the operator will vent after containment pressure exceeds that specified in Figure N, which uses suppression pool level and containment pressure as its criteria; and before containment pressure exceeds Figure O, which uses containment pressure and containment water level as its parameters. For suppression pool water level at normal levels, an operator could begin venting at about 3.75 psig, per Figure N (but would not be expected to start until a much higher



pressure). For containment water levels less than 54 feet, the operator must vent prior to exceeding 45 psig.

Under EOP 7, If containment hydrogen levels are above Figure R (a curve plotting containment hydrogen and containment pressure), the deflagration limit, or is unknown, then the operator is instructed to vent and purge the containment to lower containment hydrogen level below the deflagration limit, Figure R.

- c) **Other systems required in order for the operator to vent successfully,**

The three largest vent pathways modeled in the PRA, of the six provided in the emergency procedures, use portions of the following systems:

Fuel Pool Cooling and Cleanup System (FC)  
Residual Heat Removal System (RH)  
Continuous Containment Purge (VR)

- d) **Information provided to the operator, which was used to decide whether or not to vent the containment (e.g., pressure level, hydrogen concentration, ability to use the vent),**

The plant parameters used by the operator to determine the need to vent the containment are as follows:

Containment Pressure  
Containment Hydrogen Level  
Containment Water Level

- e) **Sensitivity of radionuclide release frequency on the HEP value used, and**

Only one containment event tree accident sequence leads to containment failure if containment venting is unsuccessful. If venting were unavailable, i.e., an HEP of 1.0 for the containment venting operator action, the frequency of large release would increase from  $7.5E-7$  to  $1.2E-6$  per reactor year (from about 2.9% to about 4.5% of core damage events) (Please see the answer to question 25 also).

- f) **Sensitivity of the radiological release frequency, assuming that the operator fails to initiate venting.**

See part e).

34. Figure 4.5-2 and Table 4.6-2 of the submittal show that the IPE assumed that containment recovery of AC power for SBO sequences was highly likely. This assumption led to the conclusion that there would be no containment failures and thus no radiological release for a significant fraction of the SBO sequences. Because this observation is inconsistent with the findings of many other PRAS, please provide the following:

- a) Sensitivity of radionuclide release magnitude/frequency on the probability of containment AC power recovery,

If power is assumed to be not recoverable under heading E, "Late Power Recovery & Injection" on the Station Blackout (SBO) containment event tree, figure 4.5-2 of the IPE submittal, then sequences TL51, TL52, and TL53 would all increase by a factor of about 2.8. This would lead to an increase in frequency of containment failure by overpressure from  $3.9E-8$  to  $1.1E-7$  per year (up to 0.42% of core damage events). It would also lead to an increased frequency of large releases from  $7.5E-7$  (see question 26) to  $8.2E-7$  per year or 3.2% of core damage events.

In a worst case assumption, that power is never recovered once core damage has started (heading I on the SBO containment event tree), the containment failure fraction of core damage events and the large release fraction would both increase by another factor of about 7.7. Under this assumption, about 3% of core damage events would lead to containment over-pressure failure (non-ATWS) and about 17.8% of core damage events would lead to large releases.

- b) Reasons for using significantly higher values for containment AC power recovery than those used in a level 1 recovery, and

As discussed in the answers to questions 8 and 9, CPS used time-phased recoveries for station blackout. Particularly the answers to questions 8.b. and 8.d. provide the derivations and the time intervals for the non-recovery probabilities of off-site power for both core damage and containment failure end states. Note that the numbers in table 4.6-2 (which is identical to table 3.3-10, reproduced in the answer to question 8) are the probabilities of non-recovery. In addition, the containment non-recovery probabilities are conditional on having not recovered previously. The cutsets representing the failure sequences (for example sequence TL54) on figure 4.5-2 would contain both recoveries multiplied together.

The non-recovery probability for the "Late Power Recovery" heading on figure 4.5-2 is based on recovery at approximately 13 hours. The thirteen hour interval was selected based on prevention of suppression pool bypass that eventually leads to containment failure. However, the uncertainty at this time frame and stage of an event does not warrant the detailed, time-phased recoveries used for the early injection. Based on figure 3.3 of NUREG-1032, there is an approximate order of magnitude difference in frequency of loss of off-site power for 13 hours versus a LOOP for two hours. Therefore, a conditional non-recovery failure probability of .1 was applied to the long-term power recovery at 13 hours.

- c) Sensitivity of the radionuclide release magnitude/frequency, assuming that containment recovery of AC power is unsuccessful.

See answer to part a).

## **Attachment**

### **Cutsets for Dominant Sequences**

**TLU1U3**  
**TLULDD**  
**T2U2UX1**  
**T3U2UX1**

**Cutsets for Sequence TLU1U3**

MODULE/EVENT NAME	DESCRIPTION	RATE	EXPOSURE	B.E. PROB.	MOD./CS. PROB.
1) TLU1U3					*5.24E-06
1) YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		8.4E-2	4.0E-02	2.92E-07
IISTINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		2.2E-02	1.0E-02	
YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		2.2E-01	1.0E-01	
BISTRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		0.10000	0.00000	
AGABCCDGS	DG A B AND C FAIL TO START - COMMON CAUSE	2E-2	0.10000	0.00000	1.19E-07
2) YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		4.4E-2	2.0E-02	
IISTINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		2.2E-02	1.0E-02	
YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		2.2E-01	1.0E-01	
BISTRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		0.17000	0.00000	
AGABCCDGS	DG A B AND C FAIL TO RUN - COMMON CAUSE	2E-3	0.01700	0.00000	1.05E-07
B3DGGCU1U3	FAILURE TO RECOVER FROM COMMON CAUSE DIESEL FAILURE WITH HPCS AND RCIC F		0.00170	0.00000	
3) YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		4.4E-2	2.0E-02	
IISTINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		2.2E-02	1.0E-02	
YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		2.2E-01	1.0E-01	
BISTRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		0.25000	0.00000	
AVABCCDMS	DAMPERS VDO1YA B AND C FAIL TO OPEN - COMMON CAUSE	3E-3	0.02500	0.00000	5.38E-08
4) YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		4.4E-2	2.0E-02	
IISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM		0.01000	0.00000	
IISTINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		0.01000	0.00000	
YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.01000	0.00000	
BISTRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		0.00000	0.00000	
BISTRHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		0.00000	0.00000	
XDSPRCCGTX	COM CAUSE FAIL DIV 1 2&3 DISCHARGE PRESS INST	3E-6	0.00000	0.00000	
BSXMANSTR	OPERATOR FAILS TO MANUALLY START SX SYSTEM		0.00000	0.00000	
5) YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		4.4E-2	2.0E-02	
IRISYS2SYM	RCIC DOWN FOR PREVENTIVE MAINTENANCE		0.01500	0.00000	4.60E-08
YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.01500	0.00000	
AGABCCDGS	DG A B AND C FAIL TO START - COMMON CAUSE	2E-2	0.01500	0.00000	4.33E-08
6) YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		4.4E-2	2.0E-02	
IISTINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		2.2E-02	1.0E-02	
YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		2.2E-01	1.0E-01	
BISTRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		0.10000	0.00000	
ADABCCCB	FAILURE OF CB A B AND C TO CLOSE - COMMON CAUSE	3E-3	0.10000	0.00000	4.12E-08
7) YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		4.4E-2	2.0E-02	
IISTINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		2.2E-02	1.0E-02	
YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		2.2E-01	1.0E-01	
BISTRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		0.24000	0.00000	
AVABCCCFNS	FANS VDO1CA B AND C FAIL TO START - COMMON CAUSE	3E-4	0.02400	0.00000	3.94E-08
8) YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		4.4E-2	2.0E-02	
A2DGIKCDGM	DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE		0.02300	0.00000	3.94E-08
IISTINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		2.2E-02	1.0E-02	
YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		2.2E-01	1.0E-01	
BISTRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		0.24000	0.00000	
XDSPRCCGTX	COM CAUSE FAIL DIV 1 2&3 DISCHARGE PRESS INST	3E-6	0.00240	0.00000	
BSXMANSTR	OPERATOR FAILS TO MANUALLY START SX SYSTEM		0.00240	0.00000	
9) YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		4.4E-2	2.0E-02	
YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		2.2E-01	1.0E-01	
D12S1CCBYD	BATTERIES A B AND C FAIL FROM COMMON CAUSE	1E-6	0.00220	0.00000	3.73E-08
10) YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		4.4E-2	2.0E-02	
IISTINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		2.2E-02	1.0E-02	
YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		2.2E-01	1.0E-01	
BISTRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		0.24000	0.00000	
XSX01CCCVD	COMMON CAUSE CHECK VALVE SX001A B&C FAILS TO OPEN	1.0E-4	0.24000	0.00000	3.62E-08
11) YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		4.4E-2	2.0E-02	
A2DGIKADGM	DG01KA OUT OF SERVICE - CORRECTIVE MAINTENANCE		0.02300	0.00000	3.62E-08
A2DGIKADGM	DG01KA OUT OF SERVICE - CORRECTIVE MAINTENANCE		0.02300	0.00000	
HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM		0.00100	0.00000	
IISTINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		2.2E-02	1.0E-02	
YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		2.2E-01	1.0E-01	
BISTRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		0.24000	0.00000	
BISTRHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		0.24000	0.00000	
12) YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		4.4E-2	2.0E-02	
A1STDGCTR	DIVISION 3 DIESEL FAILS TO START		0.34000	0.00000	3.46E-08
IISTINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		2.2E-02	1.0E-02	
YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		2.2E-01	1.0E-01	
BISTRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		0.34000	0.00000	
XDSPRCCGTX	COM CAUSE FAIL DIV 1 2&3 DISCHARGE PRESS INST	3E-6	0.00340	0.00000	
BSXMANSTR	OPERATOR FAILS TO MANUALLY START SX SYSTEM		0.00340	0.00000	
13) YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		4.4E-2	2.0E-02	
IRISYS1SYM	RCIC DOWN FOR CORRECTIVE MAINTENANCE		0.04800	0.00000	3.25E-08
YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		2.2E-01	1.0E-01	
AGABCCDGS	DG A B AND C FAIL TO START - COMMON CAUSE	2E-2	0.04800	0.00000	3.18E-08
14) YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		4.4E-2	2.0E-02	
A2DGIKADGM	DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE		0.02300	0.00000	3.18E-08
A1STDGSTR	DIVISION 1 DIESEL FAILS TO START		0.00100	0.00000	
HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM		0.00100	0.00000	
IISTINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		2.2E-02	1.0E-02	





	Y11	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS				
	BISTRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM				
	XDPABCCGTX	COMMON CAUSE FAIL DIV 1&2 DISCHARGE PRESS INST	3E-6			
	BSXMANSTR	OPERATOR FAILS TO MANUALLY START SX SYSTEM				
28)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR				2.25E-08
	A1STDGBRUN	DIVISION 2 DIESEL FAILS TO CONTINUE RUNNING				
	A1STDGARUN	DIVISION 1 DIESEL FAILS TO CONTINUE RUNNING				
	A2DG1KCDGM	DG01KC OUT OF SERVICE - CORRECTIVE MAINTENANCE				
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM				
	Y11	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS				
	BISTRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM				
	BDGCCU1USR	FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPCS AND RCIC				
29)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR				2.12E-08
	IRISYSTSYH	RCIC IMPROPERLY RESTORED FROM MAINTENANCE				
	Y11	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS				
	AGABCCDDGS	DG A B AND C FAIL TO START - COMMON CAUSE	2E-2			
30)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR				2.12E-08
	IRIF019MVO	MIN FLOW VLV FAILS TO OPEN	3.0E-3			
	Y11	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS				
	AGABCCDDGS	DG A B AND C FAIL TO START - COMMON CAUSE	2E-2			
31)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR				2.12E-08
	IRIF013MVO	MOV F013 FAILS TO OPEN	3.0E-3			
	Y11	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS				
	AGABCCDDGS	DG A B AND C FAIL TO START - COMMON CAUSE	2E-2			
32)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR				2.12E-08
	PRMAINLGH	RCIC FAILURE TO PROPERLY RESTORE FROM MAINT				
	Y11	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS				
	AGABCCDDGS	DG A B AND C FAIL TO START - COMMON CAUSE	2E-2			
33)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR				2.05E-08
	A1STDGARUN	DIVISION 1 DIESEL FAILS TO CONTINUE RUNNING				
	ADGBCCDDGR	DG B AND C FAIL TO RUN - COMMON CAUSE	2E-3			
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM				
	Y11	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS				
	BISTRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM				
	BDGCCU1USR	FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPCS AND RCIC				
34)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR				2.05E-08
	A1STDGBRUN	DIVISION 2 DIESEL FAILS TO CONTINUE RUNNING				
	ADGACCCDGR	DG A AND C FAIL TO RUN - COMMON CAUSE	2E-3			
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM				
	Y11	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS				
	BISTRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM				
	BDGCCU1USR	FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPCS AND RCIC				
35)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR				2.05E-08
	A2DG1KCDGM	DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE				
	A1STDGASTR	DIVISION 1 DIESEL FAILS TO START				
	A1STDGCSTR	DIVISION 3 DIESEL FAILS TO START				
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM				
	Y11	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS				
	BISTRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM				
	BDGCCU1USR	FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPCS AND RCIC				
36)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR				2.05E-08
	A1STDGBSTR	DIVISION 2 DIESEL FAILS TO START				
	A1STDGASTR	DIVISION 1 DIESEL FAILS TO START				
	A2DG1KCDGM	DG01KC OUT OF SERVICE - CORRECTIVE MAINTENANCE				
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM				
	Y11	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS				
	BISTRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM				
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR				
37)	A1STDGBSTR	DIVISION 2 DIESEL FAILS TO START				2.05E-08
	A2DG1KADGM	DG01KA OUT OF SERVICE - CORRECTIVE MAINTENANCE				
	A1STDGCSTR	DIVISION 3 DIESEL FAILS TO START				
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM				
	Y11	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS				
	BISTRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM				
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR				
38)	A1STDGBSTR	DIVISION 2 DIESEL FAILS TO START				2.01E-08
	X1STSDV1	SHUTDOWN SERVICE WATER DIVISION 1 FAILURE				
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM				
	Y11	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS				
	BISTRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM				
	BDGCCU1USR	FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPCS SYSTEM				
39)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR				2.01E-08
	A1STDGASTR	DIVISION 1 DIESEL FAILS TO START				
	X1STSDV2	SHUTDOWN SERVICE WATER DIVISION 2 FAILURE				
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM				
	Y11	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS				
	BISTRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM				
	BDGCCU1USR	FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPCS SYSTEM				
40)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR				2.00E-08
	A1STDGCSTR	DIVISION 3 DIESEL FAILS TO START				
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM				
	Y11	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS				
	BISTRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM				
	XDPABCCGTX	COMMON CAUSE FAIL DIV 1&2 DISCHARGE PRESS INST	3E-6			
	BSXMANSTR	OPERATOR FAILS TO MANUALLY START SX SYSTEM				
41)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR				1.97E-08
	A1STDGBRUN	DIVISION 2 DIESEL FAILS TO CONTINUE RUNNING				
	A1STDGARUN	DIVISION 1 DIESEL FAILS TO CONTINUE RUNNING				
	A1STDGCSTR	DIVISION 3 DIESEL FAILS TO START				











	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM			
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			
81)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			
	A2DGCBDGM	DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE			
	A1STDGARUN	DIVISION 1 DIESEL FAILS TO CONTINUE RUNNING			
	A1STDGCSR	DIVISION 3 DIESEL FAILS TO START			
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM			
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			
	B0GCCU1U3R	FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPCS AND RCIC			
82)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			
	A1STDGBSTR	DIVISION 2 DIESEL FAILS TO START			
	A1STDGARUN	DIVISION 1 DIESEL FAILS TO CONTINUE RUNNING			
	A2DGCBDGM	DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE			
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM			
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			
	B0GCCU1U3R	FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPCS AND RCIC			
83)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			
	A1STDGBRUN	DIVISION 2 DIESEL FAILS TO CONTINUE RUNNING			
	A2DGCADGM	DG01KA OUT OF SERVICE - CORRECTIVE MAINTENANCE			
	A1STDGCSR	DIVISION 3 DIESEL FAILS TO START			
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM			
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			
	B0GCCU1U3R	FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPCS AND RCIC			
84)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			
	A1STDGBRUN	DIVISION 2 DIESEL FAILS TO CONTINUE RUNNING			
	A1STDGASTR	DIVISION 4 DIESEL FAILS TO START			
	A2DGCBDGM	DG01KC OUT OF SERVICE - CORRECTIVE MAINTENANCE			
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM			
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			
	B0GCCU1U3R	FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPCS AND RCIC			
85)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			
	A1STDGBSTR	DIVISION 2 DIESEL FAILS TO START			
	XD1CORRSYM	DIV 1 DOWN FOR CORRECTIVE MAINT			
	I1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM			
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM			
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM			
86)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			
	A1STDGASTR	DIVISION 1 DIESEL FAILS TO START			
	XD2CORRSYM	DIV 2 DOWN FOR CORRECTIVE MAINT			
	I1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM			
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM			
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM			
87)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			
	A1STDGARUN	DIVISION 1 DIESEL FAILS TO CONTINUE RUNNING			
	X1STSXD1V2	SHUTDOWN SERVICE WATER DIVISION 2 FAILURE			
	I1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM			
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM			
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM			
	B0GCCU1U3R	FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPCS AND RCIC			
88)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			
	A1STDGBRUN	DIVISION 2 DIESEL FAILS TO CONTINUE RUNNING			
	X1STSXD1V1	SHUTDOWN SERVICE WATER DIVISION 1 FAILURE			
	I1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM			
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM			
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM			
	B0GCCU1U3R	FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPCS AND RCIC			
89)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			
	H1STCOOLNG	FAILURE OF COOLING SUPPORT FOR THE HPCS PUMP			
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM			
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			
	X0PABCCGTX	COM CAUSE FAIL DIV 1&2 DISCHARGE PRESS INST			
	BSXMANSTR	OPERATOR FAILS TO MANUALLY START SX SYSTEM			
90)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			
	A1STDGBRUN	DIVISION 2 DIESEL FAILS TO CONTINUE RUNNING			
	A1STDGARUN	DIVISION 1 DIESEL FAILS TO CONTINUE RUNNING			
	H1STCOOLNG	FAILURE OF COOLING SUPPORT FOR THE HPCS PUMP			
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM			
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			
	B0GCCU1U3R	FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPCS AND RCIC			
91)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			
	X1STSXD1V1	SHUTDOWN SERVICE WATER DIVISION 1 FAILURE			
	X1STSXD1V2	SHUTDOWN SERVICE WATER DIVISION 2 FAILURE			
	A1STDGCSR	DIVISION 3 DIESEL FAILS TO START			
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM			
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			

92)	BISTRINJR YLOOPXXTRX A2DGCJCGM A2DGIKCDGM YLT DDCOIECBYM	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM LOSS OF OFF-SITE POWER INITIATOR DGOIKB OUT OF SERVICE - CORRECTIVE MAINTENANCE DGOIKC OUT OF SERVICE - CORRECTIVE MAINTENANCE FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS BATTERY OTE OUT OF SERVICE - CORRECTIVE MAINTENANCE		3.76E-4	7.56E-01 0.4E-01 0.2E-01 0.2E-01 0.000000 0.000000	7.56E-01 0.4E-01 0.2E-01 0.2E-01 0.000000 0.000000	9.20E-09
93)	YLOOPXXTRX HPSYST1SYM I1STINJECT YLT BISTRINJR XDSPRCCGTX BSXMANSTR	LOSS OF OFF-SITE POWER INITIATOR HP SYSTEM DOWN FOR PREVENTIVE MAINTENANCE INDEPENDENT FAILURES OF RCIC SYSTEM FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM COM CAUSE FAIL DIV 1 2&3 DISCHARGE PRESS INST		3E-6	0.000000 0.000000 0.000000 0.000000 0.000000 0.000000	0.000000 0.000000 0.000000 0.000000 0.000000 0.000000	9.14E-09
94)	YLOOPXXTRX I1STINJECT YLT BISTRINJR XDSPRCCGTX I1ST-85 BSXMANSTR	LOSS OF OFF-SITE POWER INITIATOR INDEPENDENT FAILURES OF RCIC SYSTEM FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM COM CAUSE FAIL DIV 1 2&3 DISCHARGE PRESS INST OPERATOR FAILS TO MANUALLY START SX SYSTEM		3E-6	0.000000 0.000000 0.000000 0.000000 0.000000 0.000000	0.000000 0.000000 0.000000 0.000000 0.000000 0.000000	8.99E-09
95)	YLOOPXXTRX I1STINJECT YLT BISTRINJR XDSPRCCGTX I1ST-85 BSXMANSTR	LOSS OF OFF-SITE POWER INITIATOR INDEPENDENT FAILURES OF RCIC SYSTEM FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM COM CAUSE FAIL DIV 1 2&3 DISCHARGE PRESS INST OPERATOR FAILS TO MANUALLY START SX SYSTEM		3E-6	0.000000 0.000000 0.000000 0.000000 0.000000 0.000000	0.000000 0.000000 0.000000 0.000000 0.000000 0.000000	8.99E-09
96)	YLOOPXXTRX H1STINJECT I1STINJECT YLT BISTRINJR B1STHPINJR XCDVHCCAVO	LOSS OF OFF-SITE POWER INITIATOR INDEPENDENT FAILURES OF HPCS SYSTEM INDEPENDENT FAILURES OF RCIC SYSTEM FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM COM CAUSE FAIL FOR A B AND C VH COOLER DISCHARGE VALVES		2E-3	0.000000 0.000000 0.000000 0.000000 0.000000 0.000000	0.000000 0.000000 0.000000 0.000000 0.000000 0.000000	8.91E-09
97)	YLOOPXXTRX A2DGCJCGM A2DGIKADGM HPSYST2SYM I1STINJECT YLT BISTRINJR YLOOPXXTRX A1STDGASTR ADGBCCDGR I1STINJECT YLT BISTRINJR BDGCCU13R	LOSS OF OFF-SITE POWER INITIATOR DGOIKB OUT OF SERVICE - CORRECTIVE MAINTENANCE DGOIKA OUT OF SERVICE - CORRECTIVE MAINTENANCE HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE INDEPENDENT FAILURES OF RCIC SYSTEM FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM COM CAUSE FAIL FOR A B AND C VH COOLER DISCHARGE VALVES		2E-3	0.000000 0.000000 0.000000 0.000000 0.000000 0.000000	0.000000 0.000000 0.000000 0.000000 0.000000 0.000000	8.89E-09
98)	YLOOPXXTRX A1STDGASTR ADGBCCDGR I1STINJECT YLT BISTRINJR BDGCCU13R YLOOPXXTRX A1STDGASTR ADGACCCDGR I1STINJECT YLT BISTRINJR BDGCCU13R	LOSS OF OFF-SITE POWER INITIATOR DIVISION 1 DIESEL FAILS TO START DG B AND C FAIL TO RUN - COMMON CAUSE INDEPENDENT FAILURES OF RCIC SYSTEM FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPCS AND RCIC		2E-3	0.000000 0.000000 0.000000 0.000000 0.000000 0.000000	0.000000 0.000000 0.000000 0.000000 0.000000 0.000000	8.74E-09
99)	YLOOPXXTRX A1STDGASTR ADGACCCDGR I1STINJECT YLT BISTRINJR BDGCCU13R YLOOPXXTRX A1STDGASTR ADGACCCDGR I1STINJECT YLT BISTRINJR BDGCCU13R	LOSS OF OFF-SITE POWER INITIATOR DIVISION 2 DIESEL FAILS TO START DG A AND C FAIL TO RUN - COMMON CAUSE INDEPENDENT FAILURES OF RCIC SYSTEM FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPCS AND RCIC		2E-3	0.000000 0.000000 0.000000 0.000000 0.000000 0.000000	0.000000 0.000000 0.000000 0.000000 0.000000 0.000000	8.74E-09
100)	YLOOPXXTRX A1STDGASTR ADGACCCDGR I1STINJECT YLT BISTRINJR BDGCCU13R YLOOPXXTRX A1STDGASTR ADGACCCDGR I1STINJECT YLT BISTRINJR BDGCCU13R	LOSS OF OFF-SITE POWER INITIATOR DIVISION 3 DIESEL FAILS TO START INDEPENDENT FAILURES OF RCIC SYSTEM FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPCS AND RCIC		2E-3	0.000000 0.000000 0.000000 0.000000 0.000000 0.000000	0.000000 0.000000 0.000000 0.000000 0.000000 0.000000	8.74E-09
101)	YLOOPXXTRX I1RIF013MVO YLT AGABCCDGR B3DGGCCU13 YLOOPXXTRX PR1MAINLGH YLT AGABCCDGR B3DGGCCU13	LOSS OF OFF-SITE POWER INITIATOR MOV F013 FAILS TO OPEN FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS DG A B AND C FAIL TO RUN - COMMON CAUSE FAILURE TO RECOVER FROM COMMON CAUSE DIESEL FAILURE WITH HPCS AND RCIC F		3.0E-3	0.000000 0.000000 0.000000 0.000000 0.000000	0.000000 0.000000 0.000000 0.000000 0.000000	8.66E-09
102)	YLOOPXXTRX PR1MAINLGH YLT AGABCCDGR B3DGGCCU13 YLOOPXXTRX I1RIF019MVO YLT AGABCCDGR B3DGGCCU13	LOSS OF OFF-SITE POWER INITIATOR RCIC FAILURE TO PROPERLY RESTORE FROM MAINT FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS DG A B AND C FAIL TO RUN - COMMON CAUSE FAILURE TO RECOVER FROM COMMON CAUSE DIESEL FAILURE WITH HPCS AND RCIC F		2E-3	0.000000 0.000000 0.000000 0.000000 0.000000	0.000000 0.000000 0.000000 0.000000 0.000000	8.66E-09
103)	YLOOPXXTRX I1RIF019MVO YLT AGABCCDGR B3DGGCCU13 YLOOPXXTRX I1RISYSTSYH YLT AGABCCDGR B3DGGCCU13	LOSS OF OFF-SITE POWER INITIATOR MIN FLOW VLV FAILS TO OPEN FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS DG A B AND C FAIL TO RUN - COMMON CAUSE FAILURE TO RECOVER FROM COMMON CAUSE DIESEL FAILURE WITH HPCS AND RCIC F		3.0E-3	0.000000 0.000000 0.000000 0.000000 0.000000	0.000000 0.000000 0.000000 0.000000 0.000000	8.66E-09
104)	YLOOPXXTRX I1RISYSTSYH YLT AGABCCDGR B3DGGCCU13 YLOOPXXTRX I1RISYSTSYH YLT AGABCCDGR B3DGGCCU13	LOSS OF OFF-SITE POWER INITIATOR RCIC IMPROPERLY RESTORED FROM MAINTENANCE FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS DG A B AND C FAIL TO RUN - COMMON CAUSE FAILURE TO RECOVER FROM COMMON CAUSE DIESEL FAILURE WITH HPCS AND RCIC F		2E-3	0.000000 0.000000 0.000000 0.000000 0.000000	0.000000 0.000000 0.000000 0.000000 0.000000	8.66E-09
105)	YLOOPXXTRX I1RISYSTSYH YLT AGABCCDGR B3DGGCCU13 YLOOPXXTRX H1STINJECT I1RISYSTSYH YLT B1STHPINJR XDSPRCCGTX BSXMANSTR	LOSS OF OFF-SITE POWER INITIATOR INDEPENDENT FAILURES OF HPCS SYSTEM RCIC DOWN FOR PREVENTIVE MAINTENANCE FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM COM CAUSE FAIL DIV 1 2&3 DISCHARGE PRESS INST OPERATOR FAILS TO MANUALLY START SX SYSTEM		3E-6	0.000000 0.000000 0.000000 0.000000 0.000000 0.000000	0.000000 0.000000 0.000000 0.000000 0.000000 0.000000	8.47E-09
106)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		3E-6	0.000000 0.000000	0.000000 0.000000	8.41E-09





120)	ADGBCCDGS	DG B AND C FAIL TO START - COMMON CAUSE	2E-2	0.010000	7.68E-09
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			
	A2DG1KCDGM	DG01KC OUT OF SERVICE - CORRECTIVE MAINTENANCE			
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM			
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			
121)	ADGABCCDGS	DG A AND B FAIL TO START - COMMON CAUSE	2E-2	0.010000	7.64E-09
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			
	PR1MAINLGH	RCIC FAILURE TO PROPERLY RESTORE FROM MAINT			
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	AVABCCDMD	DAMPERS V001YA B AND C FAIL TO OPEN - COMMON CAUSE			
122)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR	3E-3	0.024000	7.64E-09
	IR1F019MVO	MIN FLOW VLV FAILS TO OPEN			
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	3.0E-3	0.000000	
	AVABCCDMD	DAMPERS V001YA B AND C FAIL TO OPEN - COMMON CAUSE			
123)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR	3E-3	0.024000	7.64E-09
	IR1F013MVO	MOV F013 FAILS TO OPEN			
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	3.0E-3	0.000000	
	AVABCCDMD	DAMPERS V001YA B AND C FAIL TO OPEN - COMMON CAUSE			
124)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR	3E-3	0.024000	7.64E-09
	IR1SYSTSYH	RCIC IMPROPERLY RESTORED FROM MAINTENANCE			
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	AVABCCDMD	DAMPERS V001YA B AND C FAIL TO OPEN - COMMON CAUSE			
125)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR	3E-3	0.024000	7.63E-09
	HPSYST2SYM	HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE			
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM			
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			
	XDPABCCGX	COM CAUSE FAIL DIV 1&2 DISCHARGE PRESS INST			
	BSXMANSTR	OPERATOR FAILS TO MANUALLY START SX SYSTEM			
126)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR	3E-6	0.000000	7.52E-09
	A1STDGBRUN	DIVISION 2 DIESEL FAILS TO CONTINUE RUNNING			
	A1STDGARUN	DIVISION 1 DIESEL FAILS TO CONTINUE RUNNING			
	HPSYST2SYM	HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE			
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM			
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			
	BDGCCU1USR	FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPCS AND RCIC			
127)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			7.43E-09
	A2DG1KCDGM	DG01KC OUT OF SERVICE - CORRECTIVE MAINTENANCE			
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM			
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			
	XSXABCCMPS	COMMON CAUSE FAIL SX A&B PUMPS FAIL TO START			
	BSXXXCCMPS	OPERATOR FAILS TO RECOVER FAILED SX PUMP			
128)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR	3.0E-3	0.150000	7.39E-09
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM			
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM			
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM			
	AVDABCCDMD	FAILURE OF DAMPERS V001YA AND B TO OPEN - COMMON CAUSE			
129)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR	3E-3	0.047000	7.19E-09
	ADG01KCDGR	FAILURE OF DIESEL GENERATOR 01KC TO RUN			
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM	2E-3	0.000000	
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			
	BDGDIV3U3R	COM CAUSE FAIL DIV 1 2&3 DISCHARGE PRESS INST			
	XDSPRCCGX	OPERATOR FAILS TO MANUALLY START SX SYSTEM			
130)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR	3E-6	0.000000	7.07E-09
	BSXMANSTR	OPERATOR FAILS TO MANUALLY START SX SYSTEM			
	DC71S1ASSO	STATIC XFER SWITCH C71S001A FAILS OPEN			
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	1E-3	0.000000	
	AGABCCDGS	DG A B AND C FAIL TO START - COMMON CAUSE			
131)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR	2E-2	0.010000	7.10E-09
	A1STDGBSTR	DIVISION 2 DIESEL FAILS TO START			
	A1STDGCSTR	DIVISION 3 DIESEL FAILS TO START			
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	DDC01ECBYM	BATTERY 01E OUT OF SERVICE - CORRECTIVE MAINTENANCE			
132)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR	3.76E-4	0.000000	7.08E-09
	A1STDGCSTR	DIVISION 3 DIESEL FAILS TO START			
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM			
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			
	XMNFLCCMVO	COMMON CAUSE FAIL SX A&B MIN FLOW VALVES			
133)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR	3.0E-3	0.090000	7.01E-09
	A1STDGBSTR	DIVISION 2 DIESEL FAILS TO START			
	XD1CORRSYM	DIV 1 DOWN FOR CORRECTIVE MAINT			
	A2DG1KCDGM	DG01KC OUT OF SERVICE - CORRECTIVE MAINTENANCE			
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM			
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			
134)	A2DG1CB0GM	DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE			7.01E-09
	XD1CORRSYM	DIV 1 DOWN FOR CORRECTIVE MAINT			
	A1STDGCSTR	DIVISION 3 DIESEL FAILS TO START			
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM			
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			
135)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			7.01E-09







162)	BISTRINJR OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM	7.56E-01	7.56E-01
	B0GCCU1U3R FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPCS AND RCIC	4.00E-01	4.00E-01
	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR	4.00E-02	4.00E-02
	XISTSXDIV2 SHUTDOWN SERVICE WATER DIVISION 2 FAILURE	1.66E-02	1.66E-02
	ADGACCDGR DG A AND C FAIL TO RUN - COMMON CAUSE	1.00E-01	1.00E-01
	I1STINJECT INDEPENDENT FAILURES OF RCIC SYSTEM	1.00E-01	1.00E-01
	Y1 FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	1.00E-01	1.00E-01
	BISTRINJR OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM	4.00E-01	4.00E-01
	B0GCCU1U3R FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPCS AND RCIC	4.00E-01	4.00E-01
163)	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR	4.00E-02	4.00E-02
	A2DGIKBDGM DGO1KB OUT OF SERVICE - CORRECTIVE MAINTENANCE	1.00E-01	1.00E-01
	IRISYS2SYM RCIC DOWN FOR PREVENTIVE MAINTENANCE	1.00E-01	1.00E-01
	Y1 FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	1.00E-01	1.00E-01
	XDSPRCGTX COM CAUSE FAIL DIV 1 2&3 DISCHARGE PRESS INST	1.00E-01	1.00E-01
	BSXMANSTR OPERATOR FAILS TO MANUALLY START SX SYSTEM	1.00E-01	1.00E-01
	Y1 FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	1.00E-01	1.00E-01
164)	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR	4.00E-02	4.00E-02
	A2DGIKBDGM DGO1KB OUT OF SERVICE - CORRECTIVE MAINTENANCE	1.00E-01	1.00E-01
	A2DGIKADGM DGO1KA OUT OF SERVICE - CORRECTIVE MAINTENANCE	1.00E-01	1.00E-01
	HPSYST1SYM HP SYSTEM DOWN FOR PREVENTIVE MAINTENANCE	1.00E-01	1.00E-01
	I1STINJECT INDEPENDENT FAILURES OF RCIC SYSTEM	1.00E-01	1.00E-01
	Y1 FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	1.00E-01	1.00E-01
	BISTRINJR OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM	4.00E-01	4.00E-01
165)	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR	4.00E-02	4.00E-02
	A1STDGBSTR DIVISION 2 DIESEL FAILS TO START	1.00E-01	1.00E-01
	XD1CORRSYM DIV 1 DOWN FOR CORRECTIVE MAINT	1.00E-01	1.00E-01
	A1STDGCSTR DIVISION 3 DIESEL FAILS TO START	1.00E-01	1.00E-01
	I1STINJECT INDEPENDENT FAILURES OF RCIC SYSTEM	1.00E-01	1.00E-01
	Y1 FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	1.00E-01	1.00E-01
	BISTRINJR OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM	4.00E-01	4.00E-01
166)	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR	4.00E-02	4.00E-02
	A1STDGBSTR DIVISION 2 DIESEL FAILS TO START	1.00E-01	1.00E-01
	A1STDGASTR DIVISION 1 DIESEL FAILS TO START	1.00E-01	1.00E-01
	XD3CORRSYM DIV 3 DOWN FOR CORRECTIVE MAINT	1.00E-01	1.00E-01
	I1STINJECT INDEPENDENT FAILURES OF RCIC SYSTEM	1.00E-01	1.00E-01
	Y1 FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	1.00E-01	1.00E-01
	BISTRINJR OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM	4.00E-01	4.00E-01
167)	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR	4.00E-02	4.00E-02
	A1STDGBSTR DIVISION 2 DIESEL FAILS TO START	1.00E-01	1.00E-01
	A1STDGASTR DIVISION 1 DIESEL FAILS TO START	1.00E-01	1.00E-01
	XISTSXDIV3 SHUTDOWN SERVICE WATER DIVISION 3 FAILURE	1.66E-02	1.66E-02
	I1STINJECT INDEPENDENT FAILURES OF RCIC SYSTEM	1.00E-01	1.00E-01
	Y1 FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	1.00E-01	1.00E-01
	BISTRINJR OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM	4.00E-01	4.00E-01
168)	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR	4.00E-02	4.00E-02
	A1STDGASTR DIVISION 1 DIESEL FAILS TO START	1.00E-01	1.00E-01
	XD2CORRSYM DIV 2 DOWN FOR CORRECTIVE MAINT	1.00E-01	1.00E-01
	A1STDGCSTR DIVISION 3 DIESEL FAILS TO START	1.00E-01	1.00E-01
	I1STINJECT INDEPENDENT FAILURES OF RCIC SYSTEM	1.00E-01	1.00E-01
	Y1 FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	1.00E-01	1.00E-01
	BISTRINJR OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM	4.00E-01	4.00E-01
169)	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR	4.00E-02	4.00E-02
	Y1 FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	1.00E-01	1.00E-01
	AVABCDDMO DAMPER VDO1VA B AND C FAIL TO OPEN - COMMON CAUSE	1.00E-01	1.00E-01
	DCS001AIV FAILURE OF OUTPUT FROM INVERTER 0001A	1.00E-01	1.00E-01
170)	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR	4.00E-02	4.00E-02
	P12RC1CLGM RCIC COMPONENTS DOWN FOR MAINTENANCE	1.00E-01	1.00E-01
	Y1 FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	1.00E-01	1.00E-01
	AGABCCDGR DG A B AND C FAIL TO RUN - COMMON CAUSE	1.00E-01	1.00E-01
171)	B0GCCU1U3R FAILURE TO RECOVER FROM COMMON CAUSE DIESEL FAILURE WITH HPCS AND RCIC F	4.00E-01	4.00E-01
	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR	4.00E-02	4.00E-02
	A2DGIKBDGM DGO1KB OUT OF SERVICE - CORRECTIVE MAINTENANCE	1.00E-01	1.00E-01
	A2DGIKADGM DGO1KA OUT OF SERVICE - CORRECTIVE MAINTENANCE	1.00E-01	1.00E-01
	I1STINJECT INDEPENDENT FAILURES OF RCIC SYSTEM	1.00E-01	1.00E-01
	Y1 FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	1.00E-01	1.00E-01
	BISTRINJR OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM	4.00E-01	4.00E-01
172)	JST-85	4.00E-01	4.00E-01
	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR	4.00E-02	4.00E-02
	A2DGIKBDGM DGO1KB OUT OF SERVICE - CORRECTIVE MAINTENANCE	1.00E-01	1.00E-01
	A2DGIKADGM DGO1KA OUT OF SERVICE - CORRECTIVE MAINTENANCE	1.00E-01	1.00E-01
	I1STINJECT INDEPENDENT FAILURES OF RCIC SYSTEM	1.00E-01	1.00E-01
	Y1 FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	1.00E-01	1.00E-01
	BISTRINJR OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM	4.00E-01	4.00E-01
173)	JST-85	4.00E-01	4.00E-01
	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR	4.00E-02	4.00E-02
	A1STDGBSTR DIVISION 2 DIESEL FAILS TO START	1.00E-01	1.00E-01
	XISTSXDIV1 SHUTDOWN SERVICE WATER DIVISION 1 FAILURE	1.66E-02	1.66E-02
	HISTCOOLNG FAILURE OF COOLING SUPPORT FOR THE HPCS PUMP	1.00E-01	1.00E-01
	I1STINJECT INDEPENDENT FAILURES OF RCIC SYSTEM	1.00E-01	1.00E-01
	Y1 FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	1.00E-01	1.00E-01
	BISTRINJR OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM	4.00E-01	4.00E-01
174)	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR	4.00E-02	4.00E-02
	A1STDGASTR DIVISION 1 DIESEL FAILS TO START	1.00E-01	1.00E-01
	XISTSXDIV2 SHUTDOWN SERVICE WATER DIVISION 2 FAILURE	1.66E-02	1.66E-02
	HISTCOOLNG FAILURE OF COOLING SUPPORT FOR THE HPCS PUMP	1.00E-01	1.00E-01
	I1STINJECT INDEPENDENT FAILURES OF RCIC SYSTEM	1.00E-01	1.00E-01
	Y1 FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	1.00E-01	1.00E-01
	BISTRINJR OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM	4.00E-01	4.00E-01
175)	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR	4.00E-02	4.00E-02
	A1STDGARUN DIVISION 1 DIESEL FAILS TO CONTINUE RUNNING	1.00E-01	1.00E-01
	XISTSXDIV2 SHUTDOWN SERVICE WATER DIVISION 2 FAILURE	1.66E-02	1.66E-02













	IISTINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM			
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	BISTRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			
	ADGACCDGGS	COM CAUSE FAIL DIV 2 & DISCHARGE PRESS INST	2E-2	10000	4.83E-09
229)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			
	AISTDGBRUN	DIVISION 2 DIESEL FAILS TO CONTINUE RUNNING			
	AISTDGBRUN	DIVISION 1 DIESEL FAILS TO CONTINUE RUNNING			
	IISTINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM			
	IRISYS2SYM	RCIC DOWN FOR PREVENTIVE MAINTENANCE			
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	BISTHPINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			
	BDGCCU1U3R	FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPCS AND RCIC			
230)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			4.83E-09
	IRISYS2SYM	RCIC DOWN FOR PREVENTIVE MAINTENANCE			
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
231)	XSK14CCMVC	COM CAUSE FAILS TO OPEN A B&C VALVES FAIL TO CLOSE	3.0E-3	10000	4.83E-09
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			
	IRISYS2SYM	RCIC DOWN FOR PREVENTIVE MAINTENANCE			
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
232)	XDGKCCMVO	COMMON CAUSE FAILURE FOR DGHX DISCHARGE VALVES A B&C	3.0E-3	10000	4.74E-09
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			
	IRISYS2SYM	RCIC DOWN FOR PREVENTIVE MAINTENANCE			
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
233)	AVABCCCFNR	FANS VDD1CA B AND C FAIL TO RUN - COMMON CAUSE	1E-5	10000	4.75E-09
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			
	AISTDGCSTR	DIVISION 3 DIESEL FAILS TO START			
	IISTINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM			
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	BISTRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			
	AVDABCCDMO	FAILURE OF DAMPERS VDD1YA AND B TO OPEN - COMMON CAUSE	3E-3	10000	4.75E-09
234)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			
	AISTDGBSTR	DIVISION 2 DIESEL FAILS TO START			
	IISTINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM			
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	BISTRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			
	AVDABCCDMO	DAMPERS VDD1YA AND C FAIL TO OPEN - COMMON CAUSE	3E-3	10000	4.75E-09
235)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			
	AISTDGASTR	DIVISION 1 DIESEL FAILS TO START			
	IISTINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM			
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	BISTRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			
	AVDABCCDMO	DAMPERS VDD1B AND C FAIL TO OPEN - COMMON CAUSE	3E-3	10000	4.75E-09
236)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			
	AISTDGBSTR	DIVISION 2 DIESEL FAILS TO START			
	AISTDGASTR	DIVISION 1 DIESEL FAILS TO START			
	HPISYS1SYM	HP SYSTEM DOWN FOR PREVENTIVE MAINTENANCE			
	IISTINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM			
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	BISTRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			
237)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			4.75E-09
	AISTDGASTR	DIVISION 1 DIESEL FAILS TO START			
	AISTDOPMOP	DIVISION 2 DIESEL FUEL OIL PUMP FAILS			
	IISTINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM			
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	BISTRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			
	BISTRHPINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			
	BDGISTU1U3	FAILURE TO RECOVER FROM DIESEL FUEL PUMP FAILURES WITH HPCS AND RCIC FAI			
238)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			4.75E-09
	AISTDGBSTR	DIVISION 2 DIESEL FAILS TO START			
	AISTDOPMOP	DIVISION 4 DIESEL FUEL OIL PUMP FAILS			
	IISTINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM			
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	BISTRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			
	BISTRHPINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			
	BDGISTU1U3	FAILURE TO RECOVER FROM DIESEL FUEL PUMP FAILURES WITH HPCS AND RCIC FAI			
239)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			4.70E-09
	IISTINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM			
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	BISTRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			
	XSPRCCGTGX	COM CAUSE FAIL DIV 2 & DISCHARGE PRESS INST	3E-6	10000	4.67E-09
240)	BSXMANSTR	OPERATOR FAILS TO MANUAL Y STA 5X SYSTEM			
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			
	AISTDGBSTR	DIVISION 2 DIESEL FAILS TO START			
	AISTDGASTR	DIVISION 1 DIESEL FAILS TO START			
	IISTINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM			
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	BISTRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			
241)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			4.67E-09
	AISTDGBSTR	DIVISION 2 DIESEL FAILS TO START			
	AISTDGASTR	DIVISION 1 DIESEL FAILS TO START			
	IISTINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM			
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	BISTRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			
242)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			4.59E-09
	IRISYS1SYM	RCIC DOWN FOR CORRECTIVE MAINTENANCE			

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	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		4.21E-01	4.21E-01
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		4.18E-01	4.18E-01
	D1DC01EBYM	BATTERY ONE OUT OF SERVICE - PREVENTIVE MAINTENANCE	3.76E-4	4.3577E-02	4.3577E-02
268)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		4.4E-02	4.4E-02
	ADG01KCDGR	FAILURE OF DIESEL GENERATOR 01KC TO RUN	2E-3	0.000600	4.16E-09
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		4.26E-02	4.26E-02
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		4.26E-01	4.26E-01
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		4.26E-01	4.26E-01
	BDG01V3U3R			4.00E-01	4.00E-01
	XDPA8CCGTX	COM CAUSE FAIL DIV 1&2 DISCHARGE PRESS INST	3E-6	1.000000	1.000000
	BSXMANSTRT	OPERATOR FAILS TO MANUALLY START SX SYSTEM		4.00E-01	4.00E-01
269)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		4.4E-02	4.4E-02
	A2DG1KADGM	DG01KA OUT OF SERVICE - CORRECTIVE MAINTENANCE		4.00E-03	4.00E-03
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM		4.00E-03	4.00E-03
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		4.00E-03	4.00E-03
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		4.26E-01	4.26E-01
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		4.26E-01	4.26E-01
	D1DC01EBYM	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		4.26E-01	4.26E-01
	XSX0173AMVC	MINIMUM FLOW VALVE 1SX173B FAILS OPEN	3.0E-3	0.000000	4.13E-09
270)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		4.4E-02	4.4E-02
	A2DG1KADGM	DG01KA OUT OF SERVICE - CORRECTIVE MAINTENANCE		4.00E-03	4.00E-03
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM		4.00E-03	4.00E-03
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		4.00E-03	4.00E-03
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		4.26E-01	4.26E-01
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		4.26E-01	4.26E-01
	D1DC01EBYM	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		4.26E-01	4.26E-01
	XSX0173AMVC	MOD 1SX0173A FAILS TO CLOSE	3.0E-3	0.000000	4.13E-09
271)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		4.4E-02	4.4E-02
	A2DG1KADGM	DG01KA OUT OF SERVICE - CORRECTIVE MAINTENANCE		4.00E-03	4.00E-03
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM		4.00E-03	4.00E-03
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		4.00E-03	4.00E-03
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		4.26E-01	4.26E-01
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		4.26E-01	4.26E-01
	D1DC01EBYM	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		4.26E-01	4.26E-01
	AF221B1CBO	FAILURE OF CIRCUIT BREAKER 221B TO OPEN (ERAT)	3E-3	0.000000	4.13E-09
272)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		4.4E-02	4.4E-02
	A2DG1KADGM	DG01KA OUT OF SERVICE - CORRECTIVE MAINTENANCE		4.00E-03	4.00E-03
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM		4.00E-03	4.00E-03
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		4.00E-03	4.00E-03
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		4.26E-01	4.26E-01
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		4.26E-01	4.26E-01
	D1DC01EBYM	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		4.26E-01	4.26E-01
	AVD01YBDMO	FAILURE OF DAMPER VD01YB TO OPEN	3E-3	0.000000	4.13E-09
273)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		4.4E-02	4.4E-02
	A2DG1CBDMG	DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE		4.00E-03	4.00E-03
	XSX0173AMVC	MINIMUM FLOW VALVE 1SX173A FAILS OPEN	3.0E-3	0.000000	4.13E-09
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM		4.00E-03	4.00E-03
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		4.00E-03	4.00E-03
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		4.26E-01	4.26E-01
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		4.26E-01	4.26E-01
	D1DC01EBYM	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		4.26E-01	4.26E-01
	AVD01YBDMO	FAILURE OF DAMPER VD01YB TO OPEN	3E-3	0.000000	4.13E-09
274)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		4.4E-02	4.4E-02
	A2DG1CBDMG	DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE		4.00E-03	4.00E-03
	XSX0173AMVC	MOV 1SX0173A FAILS TO CLOSE	3.0E-3	0.000000	4.13E-09
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM		4.00E-03	4.00E-03
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		4.00E-03	4.00E-03
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		4.26E-01	4.26E-01
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		4.26E-01	4.26E-01
	D1DC01EBYM	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		4.26E-01	4.26E-01
	AF221B1CBO	FAILURE OF CIRCUIT BREAKER 221A TO OPEN (ERAT)	3E-3	0.000000	4.13E-09
275)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		4.4E-02	4.4E-02
	A2DG1CBDMG	DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE		4.00E-03	4.00E-03
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM		4.00E-03	4.00E-03
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		4.00E-03	4.00E-03
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		4.26E-01	4.26E-01
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		4.26E-01	4.26E-01
	D1DC01EBYM	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		4.26E-01	4.26E-01
	AVD01YADMO	FAILURE OF DAMPER VD01YA TO OPEN	3E-3	0.000000	4.13E-09
276)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		4.4E-02	4.4E-02
	A2DG1CBDMG	DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE		4.00E-03	4.00E-03
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM		4.00E-03	4.00E-03
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		4.00E-03	4.00E-03
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		4.26E-01	4.26E-01
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		4.26E-01	4.26E-01
	D1DC01EBYM	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		4.26E-01	4.26E-01
	AF221B1CBO	FAILURE OF CIRCUIT BREAKER 221A TO OPEN (ERAT)	3E-3	0.000000	4.13E-09
277)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		4.4E-02	4.4E-02
	A1STDGBRUN	DIVISION 2 DIESEL FAILS TO CONTINUE RUNNING	2E-3	0.000000	4.10E-09
	A1STDGARUN	DIVISION 1 DIESEL FAILS TO CONTINUE RUNNING		4.1E-02	4.1E-02
	ADG01KCDGR	FAILURE OF DIESEL GENERATOR 01KC TO RUN		4.00E-03	4.00E-03
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		4.26E-02	4.26E-02
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		4.26E-01	4.26E-01
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		4.26E-01	4.26E-01
	BDG01V3U3R	FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPCS AND RCIC		4.00E-01	4.00E-01
278)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		4.4E-02	4.4E-02
	H1STCOOLNG	FAILURE OF COOLING SUPPORT FOR THE HPCS PUMP		4.08E-02	4.08E-02
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		4.26E-02	4.26E-02
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		4.26E-01	4.26E-01
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		4.26E-01	4.26E-01
	BDG01V3U3R	FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPCS AND RCIC		2.00E-01	2.00E-01





	XISTSXDIV1	SHUTDOWN SERVICE WATER DIVISION 1 FAILURE			
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM			
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	B1STRIINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			
	I1ST-83				
292)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			3.82E-09
	A2DG1CB0GM	DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE			
	XISTSXDIV1	SHUTDOWN SERVICE WATER DIVISION 1 FAILURE			
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM			
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	B1STRIINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			
	I1ST-85				
293)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			3.82E-09
	A2DG1KAGGM	DG01KA OUT OF SERVICE - CORRECTIVE MAINTENANCE			
	XISTSXDIV2	SHUTDOWN SERVICE WATER DIVISION 2 FAILURE			
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM			
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	B1STRIINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			
	I1ST-83				
294)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			3.82E-09
	A2DG1KADGM	DG01KA OUT OF SERVICE - CORRECTIVE MAINTENANCE			
	XISTSXDIV2	SHUTDOWN SERVICE WATER DIVISION 2 FAILURE			
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM			
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	B1STRIINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			
	I1ST-85				
295)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			3.78E-09
	A2DG1CB0GM	DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE			
	H1STCOOLNG	FAILURE OF COOLING SUPPORT FOR THE HPCS PUMP			
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	DDC01ECBYM	BATTERY 01E OUT OF SERVICE - CORRECTIVE MAINTENANCE	3.76E-4		
296)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			3.78E-09
	A1STDGBRUN	DIVISION 2 DIESEL FAILS TO CONTINUE RUNNING			
	A2DG1KCDGM	DG01KC OUT OF SERVICE - CORRECTIVE MAINTENANCE			
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	BDGCCU1U3R	FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPCS AND RCIC			
	DDC01ECBYM	BATTERY 01E OUT OF SERVICE - CORRECTIVE MAINTENANCE	3.76E-4		
297)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			3.77E-09
	XD2CORRSYM	DIV 2 DOWN FOR CORRECTIVE MAINT			
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM			
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM			
	DDC01ECBYM	BATTERY 01E OUT OF SERVICE - CORRECTIVE MAINTENANCE	3.76E-4		
298)	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM			3.76E-09
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	B1STRIINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			
	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR			
	AP1LOOPBSD	LOSS OF ALL OFF-SITE POWER (RAT & ERAT)			
	AGABCCCDGS	DG A B AND C FAIL TO START - COMMON CAUSE	2E-2		
299)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			3.74E-09
	A2DG1CB0GM	DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE			
	A1STDGASTR	DIVISION 1 DIESEL FAILS TO START			
	ADG01KCDGM	DG01KC OUT OF SERVICE - PREVENTIVE MAINTENANCE			
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM			
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	B1STRIINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			
300)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			3.74E-09
	A1STDGBSTR	DIVISION 2 DIESEL FAILS TO START			
	A2DG1KADGM	DG01KA OUT OF SERVICE - CORRECTIVE MAINTENANCE			
	ADG01KCDGM	DG01KC OUT OF SERVICE - PREVENTIVE MAINTENANCE			
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM			
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	B1STRIINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			
301)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			3.74E-09
	A1STDGBSTR	DIVISION 2 DIESEL FAILS TO START			
	ADG01KADGM	DG01KA OUT OF SERVICE - PREVENTIVE MAINTENANCE			
	A2DG1KCDGM	DG01KC OUT OF SERVICE - CORRECTIVE MAINTENANCE			
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM			
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	B1STRIINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			
302)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			3.74E-09
	A2DG1CB0GM	DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE			
	ADG01KADGM	DG01KA OUT OF SERVICE - PREVENTIVE MAINTENANCE			
	A1STDGCSTR	DIVISION 3 DIESEL FAILS TO START			
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM			
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	B1STRIINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			
303)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			3.74E-09
	A1STDGASTR	DIVISION 1 DIESEL FAILS TO START			
	A2DG1KCDGM	DG01KC OUT OF SERVICE - CORRECTIVE MAINTENANCE			
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM			
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	B1STRIINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			
	ADG01KBDGM	DG01KB OUT OF SERVICE - PREVENTIVE MAINTENANCE			
304)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			3.74E-09
	A2DG1KADGM	DG01KA OUT OF SERVICE - CORRECTIVE MAINTENANCE			
	A1STDGCSTR	DIVISION 3 DIESEL FAILS TO START			
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM			
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	B1STRIINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			



305)	ADG01KBDGM DGO1KB OUT OF SERVICE - PREVENTIVE MAINTENANCE		0.004220	22-03	3.74E-09
	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR		0.000000	00-00	
	A1STDGBSTR DIVISION 2 DIESEL FAILS TO START		0.000000	00-00	
	A1STDGASTR DIVISION 1 DIESEL FAILS TO START		0.000000	00-00	
	ADG01KCDGR FAILURE OF DIESEL GENERATOR 01KC TO RUN	2E-3	0.000000	00-00	
	I1STINJECT INDEPENDENT FAILURES OF RCIC SYSTEM		0.000000	00-00	
	Y1 FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.000000	00-00	
	B1STR1INJR OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		0.000000	00-00	
306)	BDGDIV3U3R		0.000000	00-00	
	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR		0.000000	00-00	3.72E-09
	A1STDGBSTR DIVISION 2 DIESEL FAILS TO START		0.000000	00-00	
	H1STINJECT INDEPENDENT FAILURES OF HPCS SYSTEM		0.000000	00-00	
	Y1 FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.000000	00-00	
	B1STHP1NJR OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		0.000000	00-00	
	D1DC01EBYM BATTERY 01E OUT OF SERVICE - PREVENTIVE MAINTENANCE	3.76E-4	0.000000	00-00	
307)	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR		0.000000	00-00	3.67E-09
	A2DGC1BDGM DGO1KB OUT OF SERVICE - CORRECTIVE MAINTENANCE		0.000000	00-00	
	A1STDGASTR DIVISION 1 DIESEL FAILS TO START		0.000000	00-00	
	A2DGC1CDGM DGO1KC OUT OF SERVICE - CORRECTIVE MAINTENANCE		0.000000	00-00	
	TR1SYS2SYM RCIC DOWN FOR PREVENTIVE MAINTENANCE		0.000000	00-00	
	Y1 FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.000000	00-00	
308)	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR		0.000000	00-00	3.67E-09
	A2DGC1BDGM DGO1KB OUT OF SERVICE - CORRECTIVE MAINTENANCE		0.000000	00-00	
	A2DGC1KADGM DGO1KA OUT OF SERVICE - CORRECTIVE MAINTENANCE		0.000000	00-00	
	A1STDGASTR DIVISION 3 DIESEL FAILS TO START		0.000000	00-00	
	TR1SYS2SYM RCIC DOWN FOR PREVENTIVE MAINTENANCE		0.000000	00-00	
	Y1 FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.000000	00-00	
309)	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR		0.000000	00-00	3.67E-09
	X1STSXDIV2 SHUTDOWN SERVICE WATER DIVISION 2 FAILURE		0.000000	00-00	
	ADG01KADGM DGO1KA OUT OF SERVICE - PREVENTIVE MAINTENANCE		0.000000	00-00	
	H1STINJECT INDEPENDENT FAILURES OF HPCS SYSTEM		0.000000	00-00	
	I1STINJECT INDEPENDENT FAILURES OF RCIC SYSTEM		0.000000	00-00	
	Y1 FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.000000	00-00	
	B1STR1INJR OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		0.000000	00-00	
	B1STHP1NJR OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		0.000000	00-00	
310)	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR		0.000000	00-00	3.67E-09
	X1STSXDIV1 SHUTDOWN SERVICE WATER DIVISION 1 FAILURE		0.000000	00-00	
	H1STINJECT INDEPENDENT FAILURES OF HPCS SYSTEM		0.000000	00-00	
	I1STINJECT INDEPENDENT FAILURES OF RCIC SYSTEM		0.000000	00-00	
	Y1 FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.000000	00-00	
	B1STR1INJR OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		0.000000	00-00	
	B1STHP1NJR OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		0.000000	00-00	
311)	ADG01KBDGM DGO1KB OUT OF SERVICE - PREVENTIVE MAINTENANCE		0.000000	00-00	3.66E-09
	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR		0.000000	00-00	
	ADG01KCDGM DGO1KC OUT OF SERVICE - PREVENTIVE MAINTENANCE		0.000000	00-00	
	I1STINJECT INDEPENDENT FAILURES OF RCIC SYSTEM		0.000000	00-00	
	Y1 FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.000000	00-00	
	B1STR1INJR OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		0.000000	00-00	
	X0PABCCGTX COM CAUSE FAIL DIV 1&2 DISCHARGE PRESS INST	3E-6	0.000000	00-00	
312)	BSXMANSTR1 OPERATOR FAILS TO MANUALLY START SX SYSTEM		0.000000	00-00	3.66E-09
	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR		0.000000	00-00	
	A2DGC1BDGM DGO1KB OUT OF SERVICE - CORRECTIVE MAINTENANCE		0.000000	00-00	
	A1STDGARUN DIVISION 1 DIESEL FAILS TO CONTINUE RUNNING		0.000000	00-00	
	HPSYS12SYM HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE		0.000000	00-00	
	I1STINJECT INDEPENDENT FAILURES OF RCIC SYSTEM		0.000000	00-00	
	Y1 FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.000000	00-00	
	B1STR1INJR OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		0.000000	00-00	
313)	BDGCCU1U3R FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPCS AND RCIC		0.000000	00-00	3.66E-09
	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR		0.000000	00-00	
	A1STDGBRUN DIVISION 2 DIESEL FAILS TO CONTINUE RUNNING		0.000000	00-00	
	A2DGC1KADGM DGO1KA OUT OF SERVICE - CORRECTIVE MAINTENANCE		0.000000	00-00	
	HPSYS12SYM HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE		0.000000	00-00	
	I1STINJECT INDEPENDENT FAILURES OF RCIC SYSTEM		0.000000	00-00	
	Y1 FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.000000	00-00	
	B1STR1INJR OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		0.000000	00-00	
314)	BDGCCU1U3R FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPCS AND RCIC		0.000000	00-00	3.63E-09
	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR		0.000000	00-00	
	A1STDGASTR DIVISION 1 DIESEL FAILS TO START		0.000000	00-00	
	H1STINJECT INDEPENDENT FAILURES OF HPCS SYSTEM		0.000000	00-00	
	I1STINJECT INDEPENDENT FAILURES OF RCIC SYSTEM		0.000000	00-00	
	Y1 FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.000000	00-00	
	B1STR1INJR OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		0.000000	00-00	
	B1STHP1NJR OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		0.000000	00-00	
315)	XSX173BMVC MINIMUM FLOW VALVE 1SX173B FAILS OPEN	3.0E-3	0.000000	00-00	3.63E-09
	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR		0.000000	00-00	
	A1STDGASTR DIVISION 1 DIESEL FAILS TO START		0.000000	00-00	
	H1STINJECT INDEPENDENT FAILURES OF HPCS SYSTEM		0.000000	00-00	
	I1STINJECT INDEPENDENT FAILURES OF RCIC SYSTEM		0.000000	00-00	
	Y1 FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.000000	00-00	
	B1STR1INJR OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		0.000000	00-00	
	B1STHP1NJR OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		0.000000	00-00	
316)	XSX014BMVC MOV 1SX014B FAILS TO CLOSE	3.0E-3	0.000000	00-00	3.63E-09
	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR		0.000000	00-00	
	A1STDGASTR DIVISION 1 DIESEL FAILS TO START		0.000000	00-00	
	H1STINJECT INDEPENDENT FAILURES OF HPCS SYSTEM		0.000000	00-00	
	I1STINJECT INDEPENDENT FAILURES OF RCIC SYSTEM		0.000000	00-00	
	Y1 FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.000000	00-00	
	B1STR1INJR OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		0.000000	00-00	
	B1STHP1NJR OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		0.000000	00-00	
	AP221B1CBO FAILURE OF CIRCUIT BREAKER 221B1 TO OPEN (ERAT)	3E-3	1.000000	5.00E-03	













IISTINJECT INDEPENDENT FAILURES OF RCIC SYSTEM  
 YL1 FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS  
 B1STR1INJR OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM  
 368) BDGCCU1U3R FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPCS AND RCIC  
 YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR  
 A1STDGBRUN DIVISION 2 DIESEL FAILS TO CONTINUE RUNNING  
 A2DGIKADGM DGO1KA OUT OF SERVICE - CORRECTIVE MAINTENANCE  
 XD3CORRSYM DIV 3 DOWN FOR CORRECTIVE MAINT  
 IISTINJECT INDEPENDENT FAILURES OF RCIC SYSTEM  
 YL1 FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS  
 B1STR1INJR OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM  
 369) BDGCCU1U3R FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPCS AND RCIC  
 YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR  
 A1STDGBRUN DIVISION 2 DIESEL FAILS TO CONTINUE RUNNING  
 A2DGIKADGM DGO1KA OUT OF SERVICE - CORRECTIVE MAINTENANCE  
 XTSTSXDIV3 SHUTDOWN SERVICE WATER DIVISION 3 FAILURE  
 IISTINJECT INDEPENDENT FAILURES OF RCIC SYSTEM  
 YL1 FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS  
 B1STR1INJR OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM  
 370) BDGCCU1U3R FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPCS AND RCIC  
 YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR  
 A1STDGBSTR DIVISION 2 DIESEL FAILS TO START  
 A1STDGASTR DIVISION 1 DIESEL FAILS TO START  
 ADG01KCDGM DGO1KC OUT OF SERVICE - PREVENTIVE MAINTENANCE  
 IISTINJECT INDEPENDENT FAILURES OF RCIC SYSTEM  
 YL1 FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS  
 B1STR1INJR OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM  
 371) YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR  
 A1STDGASTR DIVISION 1 DIESEL FAILS TO START  
 A1STDGCSTR DIVISION 3 DIESEL FAILS TO START  
 IISTINJECT INDEPENDENT FAILURES OF RCIC SYSTEM  
 YL1 FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS  
 B1STR1INJR OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM  
 372) ADG01KBDGM DGO1KB OUT OF SERVICE - PREVENTIVE MAINTENANCE  
 YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR  
 A1STDGBSTR DIVISION 2 DIESEL FAILS TO START  
 ADG01KADGM DGO1KA OUT OF SERVICE - PREVENTIVE MAINTENANCE  
 A1STDGCSTR DIVISION 3 DIESEL FAILS TO START  
 IISTINJECT INDEPENDENT FAILURES OF RCIC SYSTEM  
 YL1 FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS  
 B1STR1INJR OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM  
 373) YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR  
 XD1CORRSYM DIV 1 DOWN FOR CORRECTIVE MAINT  
 XD2CORRSYM DIV 2 DOWN FOR CORRECTIVE MAINT  
 H1STINJECT INDEPENDENT FAILURES OF HPCS SYSTEM  
 I1STINJECT INDEPENDENT FAILURES OF RCIC SYSTEM  
 YL1 FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS  
 B1STR1INJR OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM  
 B1STH1INJR OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM  
 374) YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR  
 A2DGIKCDGM DGO1KC OUT OF SERVICE - CORRECTIVE MAINTENANCE  
 IISTINJECT INDEPENDENT FAILURES OF RCIC SYSTEM  
 YL1 FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS  
 B1STR1INJR OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM  
 375) XABVHCCAVO COM CAUSE FAIL FOR A AND B VH COOLER DISCHARGE VALVES  
 YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR  
 A1STDGARUN DIVISION 1 DIESEL FAILS TO CONTINUE RUNNING  
 ADGBCCCDGR DG B AND C FAIL TO RUN - COMMON CAUSE  
 IR1SYS2SYM RCIC DOWN FOR PREVENTIVE MAINTENANCE  
 YL1 FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS  
 376) BDGCCU1U3R FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPCS AND RCIC  
 YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR  
 A1STDGBRUN DIVISION 2 DIESEL FAILS TO CONTINUE RUNNING  
 ADGACCCDGR DG A AND C FAIL TO RUN - COMMON CAUSE  
 IR1SYS2SYM RCIC DOWN FOR PREVENTIVE MAINTENANCE  
 YL1 FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS  
 377) BDGCCU1U3R FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPCS AND RCIC  
 YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR  
 A2DGIKBDGM DGO1KB OUT OF SERVICE - CORRECTIVE MAINTENANCE  
 A1STDGASTR DIVISION 1 DIESEL FAILS TO START  
 A1STDGCSTR DIVISION 3 DIESEL FAILS TO START  
 IR1SYS2SYM RCIC DOWN FOR PREVENTIVE MAINTENANCE  
 YL1 FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS  
 378) YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR  
 A1STDGBSTR DIVISION 2 DIESEL FAILS TO START  
 A1STDGASTR DIVISION 1 DIESEL FAILS TO START  
 A2DGIKCDGM DGO1KC OUT OF SERVICE - CORRECTIVE MAINTENANCE  
 IR1SYS2SYM RCIC DOWN FOR PREVENTIVE MAINTENANCE  
 YL1 FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS  
 379) YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR  
 A1STDGBSTR DIVISION 2 DIESEL FAILS TO START  
 A2DGIKADGM DGO1KA OUT OF SERVICE - CORRECTIVE MAINTENANCE  
 A1STDGCSTR DIVISION 3 DIESEL FAILS TO START  
 IR1SYS2SYM RCIC DOWN FOR PREVENTIVE MAINTENANCE  
 YL1 FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS  
 380) YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR  
 A1STDGBSTR DIVISION 2 DIESEL FAILS TO START  
 A1STDGARUN DIVISION 1 DIESEL FAILS TO CONTINUE RUNNING  
 HPSYST2SYM HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE  
 IISTINJECT INDEPENDENT FAILURES OF RCIC SYSTEM

2E-3  
 2E-3  
 2E-3

3.28E-09  
 3.28E-09  
 3.29E-09  
 3.29E-09  
 3.29E-09  
 3.27E-09  
 3.26E-09  
 3.22E-09  
 3.22E-09  
 3.23E-09  
 3.23E-09  
 3.23E-09  
 3.21E-09













	IRIF013MVO	MOV F013 FAILS TO OPEN	3.0E-3		
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	XDSPRCCGT	COM CAUSE FAIL DIV 1 2&3 DISCHARGE PRESS INST	3E-6		
	BSXMANSTR	OPERATOR FAILS TO MANUALLY START SX SYSTEM			
433)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			
	A2DG1KCDGM	DG01KC OUT OF SERVICE - CORRECTIVE MAINTENANCE			2.86E-09
	PRIMAINLGH	RCIC FAILURE TO PROPERLY RESTORE FROM MAINT			
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	XDSPRCCGT	COM CAUSE FAIL DIV 1 2&3 DISCHARGE PRESS INST	3E-6		
	BSXMANSTR	OPERATOR FAILS TO MANUALLY START SX SYSTEM			
434)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			
	A2DG1KCDGM	DG01KC OUT OF SERVICE - CORRECTIVE MAINTENANCE			2.86E-09
	IRISYSTSYH	RCIC IMPROPERLY RESTORED FROM MAINTENANCE			
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	XDSPRCCGT	COM CAUSE FAIL DIV 1 2&3 DISCHARGE PRESS INST	3E-6		
	BSXMANSTR	OPERATOR FAILS TO MANUALLY START SX SYSTEM			
435)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			
	A2DG1KCDGM	DG01KC OUT OF SERVICE - CORRECTIVE MAINTENANCE			2.86E-09
	IRIF013MVO	MIN FLOW VLV FAILS TO OPEN	3.0E-3		
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	XDSPRCCGT	COM CAUSE FAIL DIV 1 2&3 DISCHARGE PRESS INST	3E-6		
	BSXMANSTR	OPERATOR FAILS TO MANUALLY START SX SYSTEM			
436)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			
	A1STDGCSTR	DIVISION 3 DIESEL FAILS TO START			2.87E-09
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM			
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			
	XABVHCCAVO	COM CAUSE FAIL FOR A AND B VH COOLER DISCHARGE VALVES	2E-3		
437)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			
	A1STDGARUN	DIVISION 1 DIESEL FAILS TO CONTINUE RUNNING			2.83E-09
	X1STSXDIV2	SHUTDOWN SERVICE WATER DIVISION 2 FAILURE			
	H1STCOOLNG	FAILURE OF COOLING SUPPORT FOR THE HPCS PUMP			
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM			
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			
	B0GCCU1USR	FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPCS AND RCIC			
438)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			
	A1STDGBRUN	DIVISION 2 DIESEL FAILS TO CONTINUE RUNNING			2.83E-09
	X1STSXDIV1	SHUTDOWN SERVICE WATER DIVISION 1 FAILURE			
	H1STCOOLNG	FAILURE OF COOLING SUPPORT FOR THE HPCS PUMP			
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM			
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			
	B0GCCU1USR	FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPCS AND RCIC			
439)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			
	A1STDGBSTR	DIVISION 2 DIESEL FAILS TO START			2.83E-09
	A1STDGASTR	DIVISION 1 DIESEL FAILS TO START			
	A1STDGCSTR	DIVISION 3 DIESEL FAILS TO START			
	IRISYSZSYM	RCIC DOWN FOR PREVENTIVE MAINTENANCE			
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
440)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			
	A2DG1CB0GM	DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE			2.78E-09
	A1STDGASTR	DIVISION 1 DIESEL FAILS TO START			
	I1ST-41	INDEPENDENT FAILURES OF RCIC SYSTEM			
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			
441)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			
	A1STDGBSTR	DIVISION 2 DIESEL FAILS TO START			2.78E-09
	A2DG1KADGM	DG01KA OUT OF SERVICE - CORRECTIVE MAINTENANCE			
	I1ST-41	INDEPENDENT FAILURES OF RCIC SYSTEM			
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			
442)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			
	XD2CORRSYM	DIV 2 DOWN FOR CORRECTIVE MAINT			2.76E-09
	A2DG1KCDGM	DG01KC OUT OF SERVICE - CORRECTIVE MAINTENANCE			
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	DDC01ECBYM	BATTERY 01E OUT OF SERVICE - CORRECTIVE MAINTENANCE	3.76E-4		
443)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			
	A2DG1CB0GM	DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE			2.76E-09
	X1STSXDIV3	SHUTDOWN SERVICE WATER DIVISION 3 FAILURE			
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	DDC01ECBYM	BATTERY 01E OUT OF SERVICE - CORRECTIVE MAINTENANCE	3.76E-4		
444)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			
	A2DG1CB0GM	DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE			2.76E-09
	XD3CORRSYM	DIV 3 DOWN FOR CORRECTIVE MAINT			
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	DDC01ECBYM	BATTERY 01E OUT OF SERVICE - CORRECTIVE MAINTENANCE	3.76E-4		
445)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM			2.74E-09
	P12RCICLGM	RCIC COMPONENTS DOWN FOR MAINTENANCE			
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	S1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM			
	XDSPRCCGT	COM CAUSE FAIL DIV 1 2&3 DISCHARGE PRESS INST	3E-6		
	BSXMANSTR	OPERATOR FAILS TO MANUALLY START SX SYSTEM			
446)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			
	A1STDGBSTR	DIVISION 2 DIESEL FAILS TO START			2.73E-09
	A2DG1KCDGM	DG01KC OUT OF SERVICE - CORRECTIVE MAINTENANCE			
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			



447)	D1DC01EBYM YLOOPXXTRX A2DGCBDGM A1STDGSTR	BATTERY 01E OUT OF SERVICE - PREVENTIVE MAINTENANCE LOSS OF OFF-SITE POWER INITIATOR DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE DIVISION 3 DIESEL FAILS TO START	3.76E-4	0.33777	1.27E-04	2.73E-09
	Y1 D1DC01EBYM YLOOPXXTRX	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS BATTERY 01E OUT OF SERVICE - PREVENTIVE MAINTENANCE LOSS OF OFF-SITE POWER INITIATOR	3.76E-4	0.33777	1.27E-04	2.72E-09
	IST-41 I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS				
	B1STRINJR XDPABCCGTX BSXMANSTR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM COMMON CAUSE FAIL DIV 1&2 DISCHARGE PRESS INST OPERATOR FAILS TO MANUALLY START SX SYSTEM	3E-6	0.00000	0.00000	2.70E-09
449)	YLOOPXXTRX A1STDGBSTR HPSYSTZSYM	LOSS OF OFF-SITE POWER INITIATOR DIVISION 2 DIESEL FAILS TO START HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE				
	Y1 DDC01ECBYM YLOOPXXTRX HPSYSTZSYM	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS BATTERY 01E OUT OF SERVICE - CORRECTIVE MAINTENANCE LOSS OF OFF-SITE POWER INITIATOR HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE	3.76E-4	0.00000	0.00000	2.70E-09
450)	I1STINJECT Y1 B1STRINJR XMNFLCCMVO	INDEPENDENT FAILURES OF RCIC SYSTEM FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM COMMON CAUSE FAIL SX A&B MIN FLOW VALVES	3.0E-3	0.00000	0.00000	2.68E-09
451)	YLOOPXXTRX H1STCOOLNG I1STINJECT Y1 B1STRINJR XCDVHCCAVO	LOSS OF OFF-SITE POWER INITIATOR FAILURE OF COOLING SUPPORT FOR THE HPCS PUMP INDEPENDENT FAILURES OF RCIC SYSTEM FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM COMMON CAUSE FAIL FOR A B AND C VH COOLER DISCHARGE VALVES	2E-3	0.00000	0.00000	2.69E-09
452)	YLOOPXXTRX X1STSXDIV1 A2DGIKCDGM I1STINJECT Y1 B1STRINJR ADG01KBDGM	LOSS OF OFF-SITE POWER INITIATOR SHUTDOWN SERVICE WATER DIVISION 1 FAILURE DG01KC OUT OF SERVICE - CORRECTIVE MAINTENANCE INDEPENDENT FAILURES OF RCIC SYSTEM FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM				
	Y1 YLOOPXXTRX A2DGCBDGM X1STSXDIV1 ADG01KCDGM I1STINJECT Y1 B1STRINJR	LOSS OF OFF-SITE POWER INITIATOR DG01KB OUT OF SERVICE - PREVENTIVE MAINTENANCE SHUTDOWN SERVICE WATER DIVISION 1 FAILURE DG01KC OUT OF SERVICE - PREVENTIVE MAINTENANCE INDEPENDENT FAILURES OF RCIC SYSTEM FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM				
453)	Y1 YLOOPXXTRX A2DGCBDGM X1STSXDIV1 ADG01KCDGM I1STINJECT Y1 B1STRINJR	LOSS OF OFF-SITE POWER INITIATOR DG01KB OUT OF SERVICE - PREVENTIVE MAINTENANCE SHUTDOWN SERVICE WATER DIVISION 1 FAILURE DG01KC OUT OF SERVICE - PREVENTIVE MAINTENANCE INDEPENDENT FAILURES OF RCIC SYSTEM FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM				
	Y1 YLOOPXXTRX A2DGCBDGM X1STSXDIV2 ADG01KCDGM I1STINJECT Y1 B1STRINJR	LOSS OF OFF-SITE POWER INITIATOR DG01KB OUT OF SERVICE - PREVENTIVE MAINTENANCE SHUTDOWN SERVICE WATER DIVISION 2 FAILURE DG01KA OUT OF SERVICE - CORRECTIVE MAINTENANCE INDEPENDENT FAILURES OF RCIC SYSTEM FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM				
454)	Y1 YLOOPXXTRX A2DGCBDGM X1STSXDIV2 ADG01KCDGM I1STINJECT Y1 B1STRINJR	LOSS OF OFF-SITE POWER INITIATOR DG01KB OUT OF SERVICE - PREVENTIVE MAINTENANCE SHUTDOWN SERVICE WATER DIVISION 2 FAILURE DG01KA OUT OF SERVICE - CORRECTIVE MAINTENANCE INDEPENDENT FAILURES OF RCIC SYSTEM FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM				
	Y1 YLOOPXXTRX A2DGCBDGM X1STSXDIV2 ADG01KCDGM I1STINJECT Y1 B1STRINJR	LOSS OF OFF-SITE POWER INITIATOR DG01KB OUT OF SERVICE - PREVENTIVE MAINTENANCE SHUTDOWN SERVICE WATER DIVISION 2 FAILURE DG01KA OUT OF SERVICE - CORRECTIVE MAINTENANCE INDEPENDENT FAILURES OF RCIC SYSTEM FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM				
455)	Y1 YLOOPXXTRX A2DGCBDGM X1STSXDIV2 ADG01KCDGM I1STINJECT Y1 B1STRINJR	LOSS OF OFF-SITE POWER INITIATOR DG01KB OUT OF SERVICE - PREVENTIVE MAINTENANCE SHUTDOWN SERVICE WATER DIVISION 2 FAILURE DG01KA OUT OF SERVICE - CORRECTIVE MAINTENANCE INDEPENDENT FAILURES OF RCIC SYSTEM FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM				
	Y1 YLOOPXXTRX A1STDGBRUN A1STDGARUN IST-41 I1STINJECT Y1 B1STRINJR	LOSS OF OFF-SITE POWER INITIATOR DIVISION 2 DIESEL FAILS TO CONTINUE RUNNING DIVISION 1 DIESEL FAILS TO CONTINUE RUNNING INDEPENDENT FAILURES OF RCIC SYSTEM FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM				
	Y1 YLOOPXXTRX BDGCU1U3R Y1 YLOOPXXTRX A1STDGBSTR X1STSXDIV1 ADG01KCDGR I1STINJECT Y1 B1STRINJR	LOSS OF OFF-SITE POWER INITIATOR FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPCS AND RCIC LOSS OF OFF-SITE POWER INITIATOR DIVISION 2 DIESEL FAILS TO START SHUTDOWN SERVICE WATER DIVISION 1 FAILURE FAILURE OF DIESEL GENERATOR 01KC TO RUN INDEPENDENT FAILURES OF RCIC SYSTEM FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM	2E-3	0.00000	0.00000	2.69E-09
457)	Y1 YLOOPXXTRX BDGDI1V3U3R Y1 YLOOPXXTRX A1STDGASTR X1STSXDIV2 ADG01KCDGR I1STINJECT Y1 B1STRINJR	LOSS OF OFF-SITE POWER INITIATOR DIVISION 1 DIESEL FAILS TO START SHUTDOWN SERVICE WATER DIVISION 2 FAILURE FAILURE OF DIESEL GENERATOR 01KC TO RUN INDEPENDENT FAILURES OF RCIC SYSTEM FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM	2E-3	0.00000	0.00000	2.69E-09
458)	Y1 YLOOPXXTRX BDGDI1V3U3R Y1 YLOOPXXTRX X1STSXDIV2 ADG01KCDGR I1STINJECT Y1 B1STRINJR	LOSS OF OFF-SITE POWER INITIATOR DIVISION 1 DIESEL FAILS TO START SHUTDOWN SERVICE WATER DIVISION 2 FAILURE FAILURE OF DIESEL GENERATOR 01KC TO RUN INDEPENDENT FAILURES OF RCIC SYSTEM FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM	2E-3	0.00000	0.00000	2.69E-09
	Y1 YLOOPXXTRX X1STSXDIV2 ADG01KCDGR I1STINJECT Y1 B1STRINJR	LOSS OF OFF-SITE POWER INITIATOR SHUTDOWN SERVICE WATER DIVISION 2 FAILURE FAILURE OF DIESEL GENERATOR 01KC TO RUN INDEPENDENT FAILURES OF RCIC SYSTEM FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM				
459)	Y1 YLOOPXXTRX X1STSXDIV2 ADG01KCDGR I1STINJECT Y1 B1STRINJR B1STHPINJR	LOSS OF OFF-SITE POWER INITIATOR SHUTDOWN SERVICE WATER DIVISION 2 FAILURE FAILURE OF DIESEL GENERATOR 01KC TO RUN INDEPENDENT FAILURES OF RCIC SYSTEM FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM	3E-6	0.00000	0.00000	2.68E-09
	Y1 YLOOPXXTRX X1STSXDIV2 ADG01KCDGR I1STINJECT Y1 B1STRINJR B1STHPINJR	LOSS OF OFF-SITE POWER INITIATOR SHUTDOWN SERVICE WATER DIVISION 2 FAILURE FAILURE OF DIESEL GENERATOR 01KC TO RUN INDEPENDENT FAILURES OF RCIC SYSTEM FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM				



460)	BXSX030GTX	OPERATOR FAILS TO START SX SYSTEM ON FAILURE OF LOW HEADER PRESSURE INIT		1.00E-01	1.00E-01
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		4.7E-2	4.7E-02
	A2DG1CBDGM	DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE		0.02E+00	0.02E+00
	XXSX028GTX	FAIL OF A STRAINER DISCHARGE PRESS INST (SX028)	3E-6	8.00E+00	8.00E+00
	HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM		1.00E-02	1.00E-02
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		1.00E-02	1.00E-02
	YLT	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		1.00E-01	1.00E-01
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		1.00E-01	1.00E-01
	B1STHP1NJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		1.00E-01	1.00E-01
	BXSX028GTX	OPERATOR FAILS TO START SX SYSTEM ON FAILURE OF LOW HEADER PRESSURE INIT		1.00E-01	1.00E-01
461)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		4.7E-2	4.7E-02
	X1STSXDIV2	SHUTDOWN SERVICE WATER DIVISION 2 FAILURE		1.00E-02	1.00E-02
	HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM		1.00E-02	1.00E-02
	YLT	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		1.00E-01	1.00E-01
	B1STHP1NJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		1.00E-01	1.00E-01
	D1DC01EBYM	BATTERY 01E OUT OF SERVICE - PREVENTIVE MAINTENANCE		1.00E-01	1.00E-01
462)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR	3.76E-4	4.7E-2	4.7E-02
	A2DG1CBDGM	DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE		0.02E+00	0.02E+00
	XD1CORRSYM	DIV 1 DOWN FOR CORRECTIVE MAINT		1.00E+00	1.00E+00
	HPSYST2SYM	HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE		1.00E+00	1.00E+00
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		1.00E-02	1.00E-02
	YLT	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		1.00E-01	1.00E-01
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		1.00E-01	1.00E-01
463)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		4.7E-2	4.7E-02
	A2DG1KADGM	DG01KA OUT OF SERVICE - CORRECTIVE MAINTENANCE		0.02E+00	0.02E+00
	XD2CORRSYM	DIV 2 DOWN FOR CORRECTIVE MAINT		1.00E+00	1.00E+00
	HPSYST2SYM	HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE		1.00E+00	1.00E+00
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		1.00E-02	1.00E-02
	YLT	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		1.00E-01	1.00E-01
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		1.00E-01	1.00E-01
464)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		4.7E-2	4.7E-02
	A2DG1CBDGM	DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE		0.02E+00	0.02E+00
	A1STDGASTR	DIVISION 1 DIESEL FAILS TO START		1.00E+00	1.00E+00
	P3MAINTLGH	HPCS FAILURE TO PROPERLY RESTORE FROM MAINT		1.00E+00	1.00E+00
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		1.00E-02	1.00E-02
	YLT	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		1.00E-01	1.00E-01
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		1.00E-01	1.00E-01
465)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		4.7E-2	4.7E-02
	A2DG1CBDGM	DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE		0.02E+00	0.02E+00
	A1STDGASTR	DIVISION 1 DIESEL FAILS TO START		1.00E+00	1.00E+00
	HPXN026FSH	MISCALIBRATION OF HPCS FLOW TRANSMITTER		1.00E+00	1.00E+00
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		1.00E-02	1.00E-02
	YLT	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		1.00E-01	1.00E-01
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		1.00E-01	1.00E-01
466)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		4.7E-2	4.7E-02
	A2DG1CBDGM	DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE		0.02E+00	0.02E+00
	A1STDGASTR	DIVISION 1 DIESEL FAILS TO START		1.00E+00	1.00E+00
	AP221C1CBO	FAILURE OF CIRCUIT BREAKER 221C1 TO OPEN (ERAT)	3E-3	1.00E+00	1.00E+00
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		1.00E-02	1.00E-02
	YLT	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		1.00E-01	1.00E-01
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		1.00E-01	1.00E-01
467)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		4.7E-2	4.7E-02
	A2DG1CBDGM	DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE		0.02E+00	0.02E+00
	A1STDGASTR	DIVISION 1 DIESEL FAILS TO START		1.00E+00	1.00E+00
	AVD01YCDMO	FAILURE OF DAMPER AVD01Y TO OPEN	3E-3	1.00E+00	1.00E+00
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		1.00E-02	1.00E-02
	YLT	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		1.00E-01	1.00E-01
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		1.00E-01	1.00E-01
468)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		4.7E-2	4.7E-02
	A2DG1CBDGM	DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE		0.02E+00	0.02E+00
	A1STDGASTR	DIVISION 1 DIESEL FAILS TO START		1.00E+00	1.00E+00
	XXS014CMVC	MOV 1SX014C FAILS TO CLOSE	3.0E-3	1.00E+00	1.00E+00
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		1.00E-02	1.00E-02
	YLT	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		1.00E-01	1.00E-01
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		1.00E-01	1.00E-01
469)	YLOOPXXTRX	LOSS OF OFF-SITE SERVICE INITIATOR		4.7E-2	4.7E-02
	A2DG1CBDGM	DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE		0.02E+00	0.02E+00
	A1STDGASTR	DIVISION 1 DIESEL FAILS TO START		1.00E+00	1.00E+00
	XXS006CMVO	D1S VALVE 1SX006C FAILS TO OPEN (MIN FLOW DIV 3)	3.0E-3	1.00E+00	1.00E+00
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		1.00E-02	1.00E-02
	YLT	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		1.00E-01	1.00E-01
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		1.00E-01	1.00E-01
470)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		4.7E-2	4.7E-02
	A1STDGBSTR	DIVISION 2 DIESEL FAILS TO START		1.00E+00	1.00E+00
	A2DG1KADGM	DG01KA OUT OF SERVICE - CORRECTIVE MAINTENANCE		0.02E+00	0.02E+00
	P3MAINTLGH	HPCS FAILURE TO PROPERLY RESTORE FROM MAINT		1.00E+00	1.00E+00
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		1.00E-02	1.00E-02
	YLT	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		1.00E-01	1.00E-01
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		1.00E-01	1.00E-01
471)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		4.7E-2	4.7E-02
	A1STDGBSTR	DIVISION 2 DIESEL FAILS TO START		1.00E+00	1.00E+00
	A2DG1KADGM	DG01KA OUT OF SERVICE - CORRECTIVE MAINTENANCE		0.02E+00	0.02E+00
	HPXN056FSH	MISCALIBRATION OF HPCS FLOW TRANSMITTER		1.00E+00	1.00E+00
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		1.00E-02	1.00E-02
	YLT	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		1.00E-01	1.00E-01
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		1.00E-01	1.00E-01
472)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		4.7E-2	4.7E-02
	A1STDGBSTR	DIVISION 2 DIESEL FAILS TO START		1.00E+00	1.00E+00
	A2DG1KADGM	DG01KA OUT OF SERVICE - CORRECTIVE MAINTENANCE		0.02E+00	0.02E+00
	AP221C1CBO	FAILURE OF CIRCUIT BREAKER 221C1 TO OPEN (ERAT)	3E-3	1.00E+00	1.00E+00



	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM			
	Y11	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			
	XSX014BMVC	MOV 1SX014B FAILS TO CLOSE	3.0E-3		
486)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			2.66E-09
	A1STDGASTR	DIVISION 1 DIESEL FAILS TO START			
	A2DG1KCDGM	DG01KC OUT OF SERVICE - CORRECTIVE MAINTENANCE			
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM			
	Y11	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			
	AP221B1C30	FAILURE OF CIRCUIT BREAKER 221B1 TO OPEN (ERAT)	3E-3		
487)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			2.66E-09
	A1STDGASTR	DIVISION 1 DIESEL FAILS TO START			
	A2DG1KCDGM	DG01KC OUT OF SERVICE - CORRECTIVE MAINTENANCE			
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM			
	Y11	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			
	AVD01YBDM0	FAILURE OF DAMPER VD01YB TO OPEN	3E-3		
488)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			2.66E-09
	A2DG1KADGM	DG01KA OUT OF SERVICE - CORRECTIVE MAINTENANCE			
	A1STDGCSTR	DIVISION 3 DIESEL FAILS TO START			
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM			
	Y11	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			
	XSX173BMVC	MINIMUM FLOW VALVE 1SX173B FAILS OPEN	3.0E-3		
489)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			2.66E-09
	A2DG1KADGM	DG01KA OUT OF SERVICE - CORRECTIVE MAINTENANCE			
	A1STDGCSTR	DIVISION 3 DIESEL FAILS TO START			
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM			
	Y11	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			
	XSX014BMVC	MOV 1SX014B FAILS TO CLOSE	3.0E-3		
490)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			2.66E-09
	A2DG1KADGM	DG01KA OUT OF SERVICE - CORRECTIVE MAINTENANCE			
	A1STDGCSTR	DIVISION 3 DIESEL FAILS TO START			
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM			
	Y11	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			
	AP221B1C30	FAILURE OF CIRCUIT BREAKER 221B1 TO OPEN (ERAT)	3E-3		
491)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			2.66E-09
	A2DG1KADGM	DG01KA OUT OF SERVICE - CORRECTIVE MAINTENANCE			
	A1STDGCSTR	DIVISION 3 DIESEL FAILS TO START			
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM			
	Y11	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			
	AVD01YBDM0	FAILURE OF DAMPER VD01YB TO OPEN	3E-3		
492)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			2.64E-09
	A2DG1CBDGM	DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE			
	X1STXDIV1	SHUTDOWN SERVICE WATER DIVISION 1 FAILURE			
	A2DG1KCDGM	DG01KC OUT OF SERVICE - CORRECTIVE MAINTENANCE			
	IRISYSZSYM	RCIC DOWN FOR PREVENTIVE MAINTENANCE			
	Y11	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			2.63E-09
493)	A2DG1CBDGM	DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE			
	A2DG1KADGM	DG01KA OUT OF SERVICE - CORRECTIVE MAINTENANCE			
	I1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM			
	IRIF013MVO	MOV F013 FAILS TO OPEN	3.0E-3		
	Y11	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM			
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			2.63E-09
494)	A2DG1CBDGM	DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE			
	A2DG1KADGM	DG01KA OUT OF SERVICE - CORRECTIVE MAINTENANCE			
	I1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM			
	IRISYSTSYH	RCIC IMPROPERLY RESTORED FROM MAINTENANCE			
	Y11	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM			
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			2.63E-09
495)	A2DG1CBDGM	DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE			
	A2DG1KADGM	DG01KA OUT OF SERVICE - CORRECTIVE MAINTENANCE			
	I1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM			
	IRIF013MVO	MIN FLOW VLV FAILS TO OPEN	3.0E-3		
	Y11	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM			
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			2.63E-09
496)	A2DG1CBDGM	DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE			
	A2DG1KADGM	DG01KA OUT OF SERVICE - CORRECTIVE MAINTENANCE			
	I1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM			
	PR1MAINLGH	RCIC FAILURE TO PROPERLY RESTORE FROM MAINT			
	Y11	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM			
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			2.61E-09
497)	X1STXDIV2	SHUTDOWN SERVICE WATER DIVISION 2 FAILURE			
	XSX173AMVC	MINIMUM FLOW VALVE 1SX173A FAILS OPEN	3.0E-3		
	I1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM			
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM			
	Y11	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM			
498)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			2.61E-09
	X1STXDIV2	SHUTDOWN SERVICE WATER DIVISION 2 FAILURE			



	YXSX014AMVC	MOV 1SX014A	FAILS TO CLOSE	3.0E-3	1.000000	3.000000
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM				
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM				
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS				
	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM				
	XDPABCCGTX	COM CAUSE FAIL DIV 1&2 DISCHARGE PRESS INST				
	BSXMANSTR	OPERATOR FAILS TO MANUALLY START SX SYSTEM				
499)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR				2.61E-09
	X1STSXDIV2	SHUTDOWN SERVICE WATER DIVISION 2 FAILURE				
	AP221A1CBO	FAILURE OF CIRCUIT BREAKER 221A1 TO OPEN (ERAT)		3E-3	1.000000	
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM				
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM				
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS				
	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM				
	XDPABCCGTX	COM CAUSE FAIL DIV 1&2 DISCHARGE PRESS INST				
	BSXMANSTR	OPERATOR FAILS TO MANUALLY START SX SYSTEM				
500)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR				2.61E-09
	X1STSXDIV2	SHUTDOWN SERVICE WATER DIVISION 2 FAILURE				
	AVD01YAOMO	FAILURE OF DAMPER VD01YA TO OPEN		3E-3	1.000000	
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM				
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM				
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS				
	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM				
	XDPABCCGTX	COM CAUSE FAIL DIV 1&2 DISCHARGE PRESS INST				
	BSXMANSTR	OPERATOR FAILS TO MANUALLY START SX SYSTEM				
501)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR				2.61E-09
	X1STSXDIV1	SHUTDOWN SERVICE WATER DIVISION 1 FAILURE				
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM				
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM				
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS				
	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM				
	XDPABCCGTX	COM CAUSE FAIL DIV 1&2 DISCHARGE PRESS INST				
	BSXMANSTR	OPERATOR FAILS TO MANUALLY START SX SYSTEM				
502)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		3.0E-3	1.000000	2.61E-09
	X1STSXDIV1	SHUTDOWN SERVICE WATER DIVISION 1 FAILURE				
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM				
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM				
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS				
	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM				
	XDPABCCGTX	COM CAUSE FAIL DIV 1&2 DISCHARGE PRESS INST				
	BSXMANSTR	OPERATOR FAILS TO MANUALLY START SX SYSTEM				
503)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		3.0E-3	1.000000	2.61E-09
	X1STSXDIV1	SHUTDOWN SERVICE WATER DIVISION 1 FAILURE				
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM				
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM				
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS				
	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM				
	XDPABCCGTX	COM CAUSE FAIL DIV 1&2 DISCHARGE PRESS INST				
	BSXMANSTR	OPERATOR FAILS TO MANUALLY START SX SYSTEM				
504)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		3E-3	1.000000	2.61E-09
	X1STSXDIV1	SHUTDOWN SERVICE WATER DIVISION 1 FAILURE				
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM				
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM				
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS				
	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM				
	XDPABCCGTX	COM CAUSE FAIL DIV 1&2 DISCHARGE PRESS INST				
	BSXMANSTR	OPERATOR FAILS TO MANUALLY START SX SYSTEM				
505)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		3E-3	1.000000	2.60E-09
	AVD01YBDMO	FAILURE OF DAMPER VD01YB TO OPEN				
	P3MAINTLGH	HPCS FAILURE TO PROPERLY RESTORE FROM MAINT				
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM				
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS				
	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM				
	XDPABCCGTX	COM CAUSE FAIL DIV 1&2 DISCHARGE PRESS INST				
	BSXMANSTR	OPERATOR FAILS TO MANUALLY START SX SYSTEM		3E-6	1.000000	
506)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR				2.60E-09
	HPXN056FSH	MISCALIBRATION OF HPCS FLOW TRANSMITTER				
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM				
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS				
	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM				
	XDPABCCGTX	COM CAUSE FAIL DIV 1&2 DISCHARGE PRESS INST				
	BSXMANSTR	OPERATOR FAILS TO MANUALLY START SX SYSTEM		3E-6	1.000000	
507)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR				2.60E-09
	AP221C1CBO	FAILURE OF CIRCUIT BREAKER 221C1 TO OPEN (ERAT)		3E-3	1.000000	
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM				
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS				
	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM				
	XDPABCCGTX	COM CAUSE FAIL DIV 1&2 DISCHARGE PRESS INST				
	BSXMANSTR	OPERATOR FAILS TO MANUALLY START SX SYSTEM		3E-6	1.000000	
508)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR				2.60E-09
	AVD01YCOMO	FAILURE OF DAMPER VD01YC TO OPEN		3E-3	1.000000	
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM				
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS				
	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM				
	XDPABCCGTX	COM CAUSE FAIL DIV 1&2 DISCHARGE PRESS INST				
	BSXMANSTR	OPERATOR FAILS TO MANUALLY START SX SYSTEM		3E-6	1.000000	
509)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR				2.60E-09
	XXSX014CMVC	MOV 1SX014C FAILS TO CLOSE		3.0E-3	1.000000	
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM				
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS				
	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM				
	XDPABCCGTX	COM CAUSE FAIL DIV 1&2 DISCHARGE PRESS INST				
	BSXMANSTR	OPERATOR FAILS TO MANUALLY START SX SYSTEM		3E-6	1.000000	
510)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		8.4E-2	1.000000	2.60E-09















	Y11	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	
562)	BDGCCU1USR	FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPCS AND RCIC	
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR	
	A2DGCBDGM	DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE	
	A1STDGARUN	DIVISION 1 DIESEL FAILS TO CONTINUE RUNNING	
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM	
	IRISYS25YM	RCIC DOWN FOR PREVENTIVE MAINTENANCE	
	Y11	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	
563)	BDGCCU1USR	FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPCS AND RCIC	
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR	
	XXSX030GTX	FAIL OF B STRAINER DISCHARGE PRESS INST (SX030)	3E-6
	A1STDGASTR	DIVISION 1 DIESEL FAILS TO START	
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM	
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM	
	Y11	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM	
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	
564)	9XSX030GTX	OPERATOR FAILS TO START SX SYSTEM ON FAILURE OF LOW HEADER PRESSURE INIT	
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR	
	A1STDGBSTR	DIVISION 2 DIESEL FAILS TO START	
	XXSX028GTX	FAIL OF A STRAINER DISCHARGE PRESS INST (SX028)	3E-6
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM	
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM	
	Y11	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM	
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	
565)	9XSX028GTX	OPERATOR FAILS TO START SX SYSTEM ON FAILURE OF LOW HEADER PRESSURE INIT	
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR	
	A2DGIKADGM	DG01KA OUT OF SERVICE - CORRECTIVE MAINTENANCE	
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM	
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM	
	Y11	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM	
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	
566)	XD2PREVSYM	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR	
	A2DGCBDGM	DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE	
	XD1PREVSYM	DIV 1 DOWN FOR PREVENTATIVE MAINT	
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM	
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM	
	Y11	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM	
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	
567)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR	
	A1STDGASTR	DIVISION 1 DIESEL FAILS TO START	
	XD2CORRSYM	DIV 2 DOWN FOR CORRECTIVE MAINT	
	HPSYST25YM	HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE	
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM	
	Y11	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM	
568)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR	
	A1STDGBSTR	DIVISION 2 DIESEL FAILS TO START	
	XD1CORRSYM	DIV 1 DOWN FOR CORRECTIVE MAINT	
	HPSYST25YM	HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE	
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM	
	Y11	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM	
569)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR	
	A1STDGBSTR	DIVISION 2 DIESEL FAILS TO START	
	A1STDGASTR	DIVISION 1 DIESEL FAILS TO START	
	D3MAINTLGH	HPCS FAILURE TO PROPERLY RESTORE FROM MAINT	
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM	
	Y11	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM	
570)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR	
	A1STDGBSTR	DIVISION 2 DIESEL FAILS TO START	
	A1STDGASTR	DIVISION 1 DIESEL FAILS TO START	
	HPXN05GFSH	MISCALIBRATION OF HPCS FLOW TRANSMITTER	
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM	
	Y11	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM	
571)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR	
	A1STDGBSTR	DIVISION 2 DIESEL FAILS TO START	
	A1STDGASTR	DIVISION 1 DIESEL FAILS TO START	
	AP221C1CBO	FAILURE OF CIRCUIT BREAKER 221C1 TO OPEN (ERAT)	3E-3
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM	
	Y11	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM	
572)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR	
	A1STDGBSTR	DIVISION 2 DIESEL FAILS TO START	
	A1STDGASTR	DIVISION 1 DIESEL FAILS TO START	
	AVD01YCDMO	FAILURE OF DAMPER VD01YC TO OPEN	3E-3
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM	
	Y11	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM	
573)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR	
	A1STDGBSTR	DIVISION 2 DIESEL FAILS TO START	
	A1STDGASTR	DIVISION 1 DIESEL FAILS TO START	

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	XSX014CMVC	MOV 1SX014C FAILS TO CLOSE	3.0E-3	1.000000	00	03
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		00	00	00
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		00	00	00
574)	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		01	00	00
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		02	00	00
	A1STDGBSTR	DIVISION 2 DIESEL FAILS TO START		00	00	00
	A1STDGASTR	DIVISION 1 DIESEL FAILS TO START		00	00	00
	XSX006CMVC	DIS VALVE 1SX006C FAILS TO OPEN (MIN FLOW DIV 3)	3.0E-3	0.000000	00	00
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		00	00	00
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		00	00	00
575)	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		01	00	00
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		02	00	00
	A1STDGASTR	DIVISION 1 DIESEL FAILS TO START		00	00	00
	A1STDGCSTR	DIVISION 3 DIESEL FAILS TO START		00	00	00
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		00	00	00
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		00	00	00
576)	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		01	00	00
	XSX173BMVC	MINIMUM FLOW VALVE 1SX173B FAILS OPEN	3.0E-3	0.000000	00	00
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		02	00	00
	A1STDGASTR	DIVISION 1 DIESEL FAILS TO START		00	00	00
	A1STDGCSTR	DIVISION 3 DIESEL FAILS TO START		00	00	00
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		00	00	00
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		00	00	00
577)	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		01	00	00
	XSX014BMVC	MOV 1SX014B FAILS TO CLOSE	3.0E-3	0.000000	00	00
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		02	00	00
	A1STDGASTR	DIVISION 1 DIESEL FAILS TO START		00	00	00
	A1STDGCSTR	DIVISION 3 DIESEL FAILS TO START		00	00	00
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		00	00	00
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		00	00	00
578)	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		01	00	00
	AF221B1CB0	FAILURE OF CIRCUIT BREAKER 221B1 TO OPEN (ERAT)	3E-3	0.000000	00	00
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		02	00	00
	A1STDGASTR	DIVISION 1 DIESEL FAILS TO START		00	00	00
	A1STDGCSTR	DIVISION 3 DIESEL FAILS TO START		00	00	00
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		00	00	00
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		00	00	00
579)	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		01	00	00
	AVD01YBDMO	FAILURE OF DAMPER VD01YB TO OPEN	3E-3	0.000000	00	00
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		02	00	00
	A1STDGBSTR	DIVISION 2 DIESEL FAILS TO START		00	00	00
	XSX173AMVC	MINIMUM FLOW VALVE 1SX173A FAILS OPEN	3.0E-3	0.000000	00	00
	A1STDGCSTR	DIVISION 3 DIESEL FAILS TO START		00	00	00
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		00	00	00
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		00	00	00
580)	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		01	00	00
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		02	00	00
	A1STDGBSTR	DIVISION 2 DIESEL FAILS TO START		00	00	00
	XSX014AMVC	MOV 1SX014A FAILS TO CLOSE	3.0E-3	0.000000	00	00
	A1STDGCSTR	DIVISION 3 DIESEL FAILS TO START		00	00	00
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		00	00	00
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		00	00	00
581)	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		01	00	00
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		02	00	00
	A1STDGBSTR	DIVISION 2 DIESEL FAILS TO START		00	00	00
	AF221A1CB0	FAILURE OF CIRCUIT BREAKER 221A1 TO OPEN (ERAT)	3E-3	0.000000	00	00
	A1STDGCSTR	DIVISION 3 DIESEL FAILS TO START		00	00	00
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		00	00	00
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		00	00	00
582)	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		01	00	00
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		02	00	00
	A1STDGBSTR	DIVISION 2 DIESEL FAILS TO START		00	00	00
	AVD01YADMO	FAILURE OF DAMPER VD01YA TO OPEN	3E-3	0.000000	00	00
	A1STDGCSTR	DIVISION 3 DIESEL FAILS TO START		00	00	00
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		00	00	00
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		00	00	00
583)	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		01	00	00
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		02	00	00
	A1STDGASTR	DIVISION 1 DIESEL FAILS TO START		00	00	00
	X1STSXD1V2	SHUTDOWN SERVICE WATER DIVISION 2 FAILURE		00	00	00
	AZDG1KCDGM	DG01KC OUT OF SERVICE - CORRECTIVE MAINTENANCE		00	00	00
	IR1SYS2SYM	RCIC DOWN FOR PREVENTIVE MAINTENANCE		00	00	00
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		01	00	00
584)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		02	00	00
	A1STDGBSTR	DIVISION 2 DIESEL FAILS TO START		00	00	00
	X1STSXD1V1	SHUTDOWN SERVICE WATER DIVISION 1 FAILURE		00	00	00
	AZDG1KCDGM	DG01KC OUT OF SERVICE - CORRECTIVE MAINTENANCE		00	00	00
	IR1SYS2SYM	RCIC DOWN FOR PREVENTIVE MAINTENANCE		00	00	00
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		01	00	00
585)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		02	00	00
	AZDG1KCDGM	DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE		00	00	00
	X1STSXD1V1	SHUTDOWN SERVICE WATER DIVISION 1 FAILURE		00	00	00
	A1STDGCSTR	DIVISION 3 DIESEL FAILS TO START		00	00	00
	IR1SYS2SYM	RCIC DOWN FOR PREVENTIVE MAINTENANCE		00	00	00
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		01	00	00
586)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		02	00	00
	AZDG1KADGM	DG01KA OUT OF SERVICE - CORRECTIVE MAINTENANCE		00	00	00
	X1STSXD1V2	SHUTDOWN SERVICE WATER DIVISION 2 FAILURE		00	00	00
	A1STDGCSTR	DIVISION 3 DIESEL FAILS TO START		00	00	00
	IR1SYS2SYM	RCIC DOWN FOR PREVENTIVE MAINTENANCE		00	00	00





	X1STSXDIV2	SHUTDOWN SERVICE WATER DIVISION 2 FAILURE			
	HPSYST2SYM	HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE			
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM			
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			
601)	BDGCCU1U3R	FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPCS AND RCIC			
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			2.31E-09
	A1STDGBRUN	DIVISION 2 DIESEL FAILS TO CONTINUE RUNNING			
	X1STSXDIV1	SHUTDOWN SERVICE WATER DIVISION 1 FAILURE			
	HPSYST2SYM	HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE			
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM			
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			
602)	BDGCCU1U3R	FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPCS AND RCIC			
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			2.29E-09
	PR1MAINLGH	RCIC FAILURE TO PROPERLY RESTOKE FROM MAINT			
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	ADABCCCMPS	PUMPS D00TA B AND C FAIL TO START - COMMON CAUSE	3.0E-3		
603)	B3DOCCU1US	FAILURE TO RECOVER FROM COMMON CAUSE START FAILURE OF DIESEL FUEL PUMPS			
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			2.29E-09
	IRIFD19MVO	MIN FLOW VLV FAILS TO OPEN	3.0E-3		
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	ADABCCCMPS	PUMPS D00TA B AND C FAIL TO START - COMMON CAUSE	3.0E-3		
604)	B3DOCCU1US	FAILURE TO RECOVER FROM COMMON CAUSE START FAILURE OF DIESEL FUEL PUMPS			
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			2.29E-09
	IRIFD13MVO	MOV F013 FAILS TO OPEN	3.0E-3		
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	ADABCCCMPS	PUMPS D00TA B AND C FAIL TO START - COMMON CAUSE	3.0E-3		
605)	B3DOCCU1US	FAILURE TO RECOVER FROM COMMON CAUSE START FAILURE OF DIESEL FUEL PUMPS			
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			2.29E-09
	IRISYSTSYH	RCIC IMPROPERLY RESTORED FROM MAINTENANCE			
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	ADABCCCMPS	PUMPS D00TA B AND C FAIL TO START - COMMON CAUSE	3.0E-3		
606)	B3DOCCU1US	FAILURE TO RECOVER FROM COMMON CAUSE START FAILURE OF DIESEL FUEL PUMPS			
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			2.29E-09
	A2DGIKCDGM	DG01KC OUT OF SERVICE - CORRECTIVE MAINTENANCE			
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	XDSPRCGTX	COM CAUSE FAIL DIV 1 2&3 DISCHARGE PRESS INST	3E-6		
	DCS00TAIVD	FAILURE OF OUTPUT FROM INVERTER S00TA	1E-4		
607)	BSXMANSTR	OPERATOR FAILS TO MANUALLY START SX SYSTEM			
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			2.28E-09
	A1STDGARUN	DIVISION 1 DIESEL FAILS TO CONTINUE RUNNING			
	ADGBCCCDGR	DG B AND C FAIL TO RUN - COMMON CAUSE	2E-3		
	IRISYSTSYM	RCIC DOWN FOR CORRECTIVE MAINTENANCE			
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
608)	BDGCCU1U3R	FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPCS AND RCIC			
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			2.28E-09
	A1STDGBRUN	DIVISION 2 DIESEL FAILS TO CONTINUE RUNNING			
	ADGACCCDGR	DG A AND C FAIL TO RUN - COMMON CAUSE	2E-3		
	IRISYSTSYM	RCIC DOWN FOR CORRECTIVE MAINTENANCE			
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
609)	BDGCCU1U3R	FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPCS AND RCIC			
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			2.28E-09
	A1STDGBSTR	DIVISION 2 DIESEL FAILS TO START			
	A1STDGASTR	DIVISION 1 DIESEL FAILS TO START			
	A2DGIKCDGM	DG01KC OUT OF SERVICE - CORRECTIVE MAINTENANCE			
	IRISYSTSYM	RCIC DOWN FOR CORRECTIVE MAINTENANCE			
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
610)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			2.28E-09
	A2DGIKCDGM	DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE			
	A1STDGASTR	DIVISION 1 DIESEL FAILS TO START			
	A1STDGCSTR	DIVISION 3 DIESEL FAILS TO START			
	IRISYSTSYM	RCIC DOWN FOR CORRECTIVE MAINTENANCE			
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
611)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			2.28E-09
	A1STDGBSTR	DIVISION 2 DIESEL FAILS TO START			
	A2DGIKADGM	DG01KA OUT OF SERVICE - CORRECTIVE MAINTENANCE			
	A1STDGCSTR	DIVISION 3 DIESEL FAILS TO START			
	IRISYSTSYM	RCIC DOWN FOR CORRECTIVE MAINTENANCE			
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
612)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			2.27E-09
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM			
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			
	BDGCCU1U3R	FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPCS AND RCIC			
	ADGABCCDGR	DG A AND B FAIL TO RUN - COMMON CAUSE	2E-3		
613)	JST-85	LOSS OF OFF-SITE POWER INITIATOR			2.27E-09
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM			
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			
	BDGCCU1U3R	FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPCS AND RCIC			
	ADGABCCDGR	DG A AND B FAIL TO RUN - COMMON CAUSE	2E-3		
614)	JST-85	LOSS OF OFF-SITE POWER INITIATOR			2.27E-09
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			
	X1STSXDIV1	SHUTDOWN SERVICE WATER DIVISION 1 FAILURE			
	X1STSXDIV2	SHUTDOWN SERVICE WATER DIVISION 2 FAILURE			
	I1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM			
	IRISYS2SYM	RCIC DOWN FOR PREVENTIVE MAINTENANCE			
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			















665)	Y11 BISTRINJR BDGCCUUSR YLOOPXXTRX A1STDGBRUN X1STSXDIV1 X1STSXDIV3 I1STINJECT Y11 BISTRINJR BDGCCUUSR YLOOPXXTRX A1STDGBSTR A1STDGARUN H1STINJECT I1RISYSZSYM Y11 B1STHPINJR BDGCCUUSR YLOOPXXTRX A1STDGBRUN A1STDGASTR H1STINJECT I1RISYSZSYM Y11 B1STHPINJR BDGCCUUSR YLOOPXXTRX A1STDGBSTR XDIPREVSYM H1STINJECT I1STINJECT Y11 BISTRINJR B1STHPINJR YLOOPXXTRX A1STDGASTR H1STINJECT I1STINJECT Y11 BISTRINJR B1STHPINJR XD2PREVSYM YLOOPXXTRX A1STDGBSTR X1STSXDIV1 A1STDGCSTR I1RISYSZSYM Y11 YLOOPXXTRX A1STDGASTR X1STSXDIV2 A1STDGCSTR I1RISYSZSYM Y11 YLOOPXXTRX A1STDGBSTR A1STDGASTR H1STINJECT I1RISYSYH Y11 B1STHPINJR YLOOPXXTRX A1STDGBSTR A1STDGASTR H1STINJECT I1RIF013MVO Y11 B1STHPINJR YLOOPXXTRX A1STDGBSTR A1STDGASTR H1STINJECT I1RIF019MVO Y11 B1STHPINJR YLOOPXXTRX H1STINJECT Y11 B1STHPINJR ADG01KBDGM DDC01ECBYM 677)	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPCCS AND RCIC LOSS OF OFF-SITE POWER INITIATOR DIVISION 2 DIESEL FAILS TO CONTINUE RUNNING SHUTDOWN SERVICE WATER DIVISION 1 FAILURE SHUTDOWN SERVICE WATER DIVISION 3 FAILURE INDEPENDENT FAILURES OF RCIC SYSTEM FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPCCS AND RCIC LOSS OF OFF-SITE POWER INITIATOR DIVISION 2 DIESEL FAILS TO START DIVISION 1 DIESEL FAILS TO CONTINUE RUNNING INDEPENDENT FAILURES OF HPCCS SYSTEM RCIC DOWN FOR PREVENTIVE MAINTENANCE FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS OPERATOR FAILS TO RECOVER FAILED HPCCS SYSTEM FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPCCS AND RCIC LOSS OF OFF-SITE POWER INITIATOR DIVISION 2 DIESEL FAILS TO CONTINUE RUNNING DIVISION 1 DIESEL FAILS TO START INDEPENDENT FAILURES OF HPCCS SYSTEM RCIC DOWN FOR PREVENTIVE MAINTENANCE FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS OPERATOR FAILS TO RECOVER FAILED HPCCS SYSTEM FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPCCS AND RCIC LOSS OF OFF-SITE POWER INITIATOR DIVISION 2 DIESEL FAILS TO START DIVISION 1 DIESEL FAILS TO START INDEPENDENT FAILURES OF HPCCS SYSTEM RCIC DOWN FOR PREVENTATIVE MAINT INDEPENDENT FAILURES OF HPCCS SYSTEM INDEPENDENT FAILURES OF RCIC SYSTEM FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM OPERATOR FAILS TO RECOVER FAILED HPCCS SYSTEM LOSS OF OFF-SITE POWER INITIATOR DIVISION 1 DIESEL FAILS TO START INDEPENDENT FAILURES OF HPCCS SYSTEM INDEPENDENT FAILURES OF RCIC SYSTEM FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM OPERATOR FAILS TO RECOVER FAILED HPCCS SYSTEM DIV 2 DOWN FOR PREVENTATIVE MAINT LOSS OF OFF-SITE POWER INITIATOR DIVISION 2 DIESEL FAILS TO START SHUTDOWN SERVICE WATER DIVISION 1 FAILURE DIVISION 3 DIESEL FAILS TO START RCIC DOWN FOR PREVENTIVE MAINTENANCE FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS LOSS OF OFF-SITE POWER INITIATOR DIVISION 1 DIESEL FAILS TO START SHUTDOWN SERVICE WATER DIVISION 2 FAILURE DIVISION 3 DIESEL FAILS TO START RCIC DOWN FOR PREVENTIVE MAINTENANCE FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS LOSS OF OFF-SITE POWER INITIATOR DIVISION 2 DIESEL FAILS TO START DIVISION 1 DIESEL FAILS TO START INDEPENDENT FAILURES OF HPCCS SYSTEM RCIC IMPROPERLY RESTORED FROM MAINTENANCE FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS OPERATOR FAILS TO RECOVER FAILED HPCCS SYSTEM LOSS OF OFF-SITE POWER INITIATOR DIVISION 2 DIESEL FAILS TO START DIVISION 1 DIESEL FAILS TO START INDEPENDENT FAILURES OF HPCCS SYSTEM MOV F013 FAILS TO OPEN FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS OPERATOR FAILS TO RECOVER FAILED HPCCS SYSTEM LOSS OF OFF-SITE POWER INITIATOR DIVISION 2 DIESEL FAILS TO START DIVISION 1 DIESEL FAILS TO START INDEPENDENT FAILURES OF HPCCS SYSTEM RCIC FAILURE TO PROPERLY RESTORE FROM MAINT FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS OPERATOR FAILS TO RECOVER FAILED HPCCS SYSTEM LOSS OF OFF-SITE POWER INITIATOR DIVISION 2 DIESEL FAILS TO START DIVISION 1 DIESEL FAILS TO START INDEPENDENT FAILURES OF HPCCS SYSTEM MIN FLOW VLV FAILS TO OPEN FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS OPERATOR FAILS TO RECOVER FAILED HPCCS SYSTEM LOSS OF OFF-SITE POWER INITIATOR INDEPENDENT FAILURES OF HPCCS SYSTEM FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS OPERATOR FAILS TO RECOVER FAILED HPCCS SYSTEM DGO1KB OUT OF SERVICE PREVENTIVE MAINTENANCE BATTERY 01E OUT OF SERVICE CORRECTIVE MAINTENANCE LOSS OF OFF-SITE POWER INITIATOR	2.07E-09 2.06E-09 2.06E-09 2.06E-09 2.06E-09 2.06E-09 2.06E-09 2.06E-09 2.06E-09 2.06E-09 2.04E-09 2.04E-09 2.03E-09 2.03E-09 3.0E-3 2.03E-09 2.03E-09 2.03E-09 3.0E-3 2.01E-09 3.76E-4 2.01E-09
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	A1STDGSTR	DIVISION 3 DIESEL FAILS TO START							
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS							
	XDSPRCCTGX	COM CAUSE FAIL DIV 1 2&3 DISCHARGE PRESS INST							
	DCS00AIVD	FAILURE OF OUTPUT FROM INVERTER S00A							
	BSXMANSTR	OPERATOR FAILS TO MANUALLY START SX SYSTEM							
678)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR							2.00E-09
	A2DGIKCDGM	DG01KC OUT OF SERVICE - CORRECTIVE MAINTENANCE							
	P12RCICLGM	RCIC COMPONENTS DOWN FOR MAINTENANCE							
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS							
	XDSPRCCTGX	COM CAUSE FAIL DIV 1 2&3 DISCHARGE PRESS INST							
	BSXMANSTR	OPERATOR FAILS TO MANUALLY START SX SYSTEM							
679)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR							2.00E-09
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM							
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM							
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS							
	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM							
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM							
	XSXABCCMPR	COMMON CAUSE FAIL SX A&B PUMPS FAIL TO RUN							
680)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR							2.00E-09
	A2DGIKCDGM	DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE							
	X1STSXDIV1	SHUTDOWN SERVICE WATER DIVISION 1 FAILURE							
	I1ST-41								
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM							
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS							
	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM							
681)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR							2.00E-09
	A2DGIKADGM	DG01KA OUT OF SERVICE - CORRECTIVE MAINTENANCE							
	X1STSXDIV2	SHUTDOWN SERVICE WATER DIVISION 2 FAILURE							
	I1ST-41								
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM							
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS							
	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM							
682)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR							1.99E-09
	A2DGIKCDGM	DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE							
	A1STDGARUN	DIVISION 1 DIESEL FAILS TO CONTINUE RUNNING							
	ADG01KCDGR	FAILURE OF DIESEL GENERATOR 01KC TO RUN							
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM							
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS							
	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM							
683)	B0GCCU1U3R	FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPCS AND RCIC							1.99E-09
	B0GDIV3U3R								
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR							
	A1STDGBRUN	DIVISION 2 DIESEL FAILS TO CONTINUE RUNNING							
	A2DGIKADGM	DG01KA OUT OF SERVICE - CORRECTIVE MAINTENANCE							
	ADG01KCDGR	FAILURE OF DIESEL GENERATOR 01KC TO RUN							
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM							
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS							
	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM							
684)	B0GCCU1U3R	FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPCS AND RCIC							2.01E-09
	B0GDIV3U3R								
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR							
	A1STDGBSTR	DIVISION 2 DIESEL FAILS TO START							
	A1STDGASTR	DIVISION 1 DIESEL FAILS TO START							
	A1STDGSTR	DIVISION 3 DIESEL FAILS TO START							
	I1RISYSISM	RCIC DOWN FOR CORRECTIVE MAINTENANCE							
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS							
685)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR							1.96E-09
	A2DGIKCDGM	DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE							
	XXSXU20GTX	FAIL OF A STRAINER DISCHARGE PRESS INST (SX02B)							
	A2DGIKCDGM	DG01KC OUT OF SERVICE - CORRECTIVE MAINTENANCE							
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM							
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS							
	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM							
686)	BXSX028GTX	OPERATOR FAILS TO START SX SYSTEM OR FAILURE OF LOW HEADER PRESSURE INIT							1.96E-09
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR							
	XD3CORRSM	DIV 3 DOWN FOR CORRECTIVE MAINT							
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM							
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS							
	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM							
687)	XCDVHCCAVO	COM CAUSE FAIL FOR A B AND C VH COOLER DISCHARGE VALVES							1.96E-09
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR							
	X1STSXDIV3	SHUTDOWN SERVICE WATER DIVISION 3 FAILURE							
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM							
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS							
	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM							
688)	XCDVHCCAVO	COM CAUSE FAIL FOR A B AND C VH COOLER DISCHARGE VALVES							1.96E-09
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR							
	X1STSXDIV2	SHUTDOWN SERVICE WATER DIVISION 2 FAILURE							
	A2DGIKCDGM	DG01KC OUT OF SERVICE - CORRECTIVE MAINTENANCE							
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS							
689)	D1DC01EBYM	BATTERY D1E OUT OF SERVICE - PREVENTIVE MAINTENANCE							3.76E-4
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR							
	X1STSXDIV2	SHUTDOWN SERVICE WATER DIVISION 2 FAILURE							
	HPSYST2SYM	HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE							
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS							
	D1DC01EBYM	BATTERY D1E OUT OF SERVICE - CORRECTIVE MAINTENANCE							
690)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR							1.93E-09
	X1STSXDIV1	SHUTDOWN SERVICE WATER DIVISION 1 FAILURE							
	X1STSXDIV2	SHUTDOWN SERVICE WATER DIVISION 2 FAILURE							
	ADG01KCDGR	FAILURE OF DIESEL GENERATOR 01KC TO RUN							

	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		5.46E-02	
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		5.46E-02	
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		5.46E-02	
	B0G01V3U3R			5.46E-02	
691)	Y1OOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		1.91E-09	
	X1STSXDIV1	SHUTDOWN SERVICE WATER DIVISION 1 FAILURE		1.91E-09	
	A2DGIKCDGM	DG01KC OUT OF SERVICE - CORRECTIVE MAINTENANCE		1.91E-09	
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		1.91E-09	
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		1.91E-09	
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		1.91E-09	
	K5X173BMVC	MINIMUM FLOW VALVE 1SX173B FAILS OPEN	3.0E-3	1.91E-09	
692)	Y1OOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		1.91E-09	
	X1STSXDIV1	SHUTDOWN SERVICE WATER DIVISION 1 FAILURE		1.91E-09	
	A2DGIKCDGM	DG01KC OUT OF SERVICE - CORRECTIVE MAINTENANCE		1.91E-09	
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		1.91E-09	
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		1.91E-09	
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		1.91E-09	
	K5X014BMVC	MOV 1SX014B FAILS TO CLOSE	3.0E-3	1.91E-09	
693)	Y1OOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		1.91E-09	
	X1STSXDIV1	SHUTDOWN SERVICE WATER DIVISION 1 FAILURE		1.91E-09	
	A2DGIKCDGM	DG01KC OUT OF SERVICE - CORRECTIVE MAINTENANCE		1.91E-09	
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		1.91E-09	
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		1.91E-09	
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		1.91E-09	
	AP221A1CBO	FAILURE OF CIRCUIT BREAKER 221B1 TO OPEN (ERAT)	3E-3	1.91E-09	
694)	Y1OOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		1.91E-09	
	X1STSXDIV1	SHUTDOWN SERVICE WATER DIVISION 1 FAILURE		1.91E-09	
	A2DGIKCDGM	DG01KC OUT OF SERVICE - CORRECTIVE MAINTENANCE		1.91E-09	
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		1.91E-09	
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		1.91E-09	
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		1.91E-09	
	AVD01YBDMO	FAILURE OF DAMPER VDD01YB TO OPEN	3E-3	1.91E-09	
695)	Y1OOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		1.91E-09	
	X1STSXDIV2	SHUTDOWN SERVICE WATER DIVISION 2 FAILURE		1.91E-09	
	K5X173AMVC	MINIMUM FLOW VALVE 1SX173A FAILS OPEN	3.0E-3	1.91E-09	
	A2DGIKCDGM	DG01KC OUT OF SERVICE - CORRECTIVE MAINTENANCE		1.91E-09	
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		1.91E-09	
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		1.91E-09	
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		1.91E-09	
	X1STSXDIV2	SHUTDOWN SERVICE WATER DIVISION 2 FAILURE		1.91E-09	
	K5X014AMVC	MOV 1SX014A FAILS TO CLOSE	3.0E-3	1.91E-09	
696)	A2DGIKCDGM	DG01KC OUT OF SERVICE - CORRECTIVE MAINTENANCE		1.91E-09	
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		1.91E-09	
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		1.91E-09	
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		1.91E-09	
	Y1OOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		1.91E-09	
	X1STSXDIV2	SHUTDOWN SERVICE WATER DIVISION 2 FAILURE		1.91E-09	
	AP221A1CBO	FAILURE OF CIRCUIT BREAKER 221A1 TO OPEN (ERAT)	3E-3	1.91E-09	
	A2DGIKCDGM	DG01KC OUT OF SERVICE - CORRECTIVE MAINTENANCE		1.91E-09	
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		1.91E-09	
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		1.91E-09	
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		1.91E-09	
	Y1OOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		1.91E-09	
	X1STSXDIV2	SHUTDOWN SERVICE WATER DIVISION 2 FAILURE		1.91E-09	
	AVD01YADMO	FAILURE OF DAMPER VDD01YA TO OPEN	3E-3	1.91E-09	
	A2DGIKCDGM	DG01KC OUT OF SERVICE - CORRECTIVE MAINTENANCE		1.91E-09	
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		1.91E-09	
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		1.91E-09	
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		1.91E-09	
	Y1OOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		1.91E-09	
	A2DGIKADGM	DG01KA OUT OF SERVICE - CORRECTIVE MAINTENANCE		1.91E-09	
	X1STSXDIV2	SHUTDOWN SERVICE WATER DIVISION 2 FAILURE		1.91E-09	
	K5X014CMVC	MOV 1SX014C FAILS TO CLOSE	3.0E-3	1.91E-09	
699)	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		1.91E-09	
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		1.91E-09	
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		1.91E-09	
	Y1OOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		1.91E-09	
	A2DGIKADGM	DG01KA OUT OF SERVICE - CORRECTIVE MAINTENANCE		1.91E-09	
	X1STSXDIV2	SHUTDOWN SERVICE WATER DIVISION 2 FAILURE		1.91E-09	
	K5X006CMVO	DIS VALVE 1SX006C FAILS TO OPEN (MIN FLOW DIV 3)	3.0E-3	1.91E-09	
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		1.91E-09	
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		1.91E-09	
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		1.91E-09	
	Y1OOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		1.91E-09	
	A2DGIKADGM	DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE		1.91E-09	
	X1STSXDIV1	SHUTDOWN SERVICE WATER DIVISION 1 FAILURE		1.91E-09	
	K5X006CMVO	DIS VALVE 1SX006C FAILS TO OPEN (MIN FLOW DIV 3)	3.0E-3	1.91E-09	
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		1.91E-09	
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		1.91E-09	
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		1.91E-09	
	Y1OOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		1.91E-09	
	A2DGIKADGM	DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE		1.91E-09	
	X1STSXDIV1	SHUTDOWN SERVICE WATER DIVISION 1 FAILURE		1.91E-09	
	HPXN056FESH	MISCALIBRATION OF HPCS FLOW TRANSMITTER		1.91E-09	
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		1.91E-09	
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		1.91E-09	
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		1.91E-09	
703)	Y1OOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		1.91E-09	
	A2DGIKADGM	DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE		1.91E-09	



	XISTSXDIV1 SHUTDOWN SERVICE WATER DIVISION 1 FAILURE		1.66E-02
	P3MAINTLGH HPCS FAILURE TO PROPERLY RESTORE FROM MAINT		0.000000
	I1STINJECT INDEPENDENT FAILURES OF RCIC SYSTEM		0.000000
	Y1 FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.000000
704)	B1STRINJR OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		0.000000
	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR		0.000000
	A2DGIKADGM DGO1KA OUT OF SERVICE - CORRECTIVE MAINTENANCE		0.000000
	XISTSXDIV2 SHUTDOWN SERVICE WATER DIVISION 2 FAILURE		0.000000
	HPXNO6FSR MISCALIBRATION OF HPCS FLOW TRANSMITTER		0.000000
	I1STINJECT INDEPENDENT FAILURES OF RCIC SYSTEM		0.000000
	Y1 FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.000000
	B1STRINJR OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		0.000000
705)	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR		0.000000
	A2DGIKADGM DGO1KA OUT OF SERVICE - CORRECTIVE MAINTENANCE		0.000000
	XISTSXDIV2 SHUTDOWN SERVICE WATER DIVISION 2 FAILURE		0.000000
	AP221C1CBO FAILURE OF CIRCUIT BREAKER 221C1 TO OPEN (ERAT)	3E-3	0.000000
	I1STINJECT INDEPENDENT FAILURES OF RCIC SYSTEM		0.000000
	Y1 FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.000000
	B1STRINJR OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		0.000000
706)	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR		0.000000
	A2DGIKADGM DGO1KA OUT OF SERVICE - CORRECTIVE MAINTENANCE		0.000000
	XISTSXDIV2 SHUTDOWN SERVICE WATER DIVISION 2 FAILURE		0.000000
	AVD01YCDMO FAILURE OF DAMPER VD01YC TO OPEN	3E-3	0.000000
	I1STINJECT INDEPENDENT FAILURES OF RCIC SYSTEM		0.000000
	Y1 FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.000000
	B1STRINJR OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		0.000000
707)	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR		0.000000
	A2DGIKADGM DGO1KB OUT OF SERVICE - CORRECTIVE MAINTENANCE		0.000000
	XISTSXDIV1 SHUTDOWN SERVICE WATER DIVISION 1 FAILURE		0.000000
	AVD01YCDMO FAILURE OF DAMPER VD01YC TO OPEN	3E-3	0.000000
	I1STINJECT INDEPENDENT FAILURES OF RCIC SYSTEM		0.000000
	Y1 FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.000000
	B1STRINJR OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		0.000000
708)	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR		0.000000
	A2DGIKADGM DGO1KA OUT OF SERVICE - CORRECTIVE MAINTENANCE		0.000000
	XISTSXDIV2 SHUTDOWN SERVICE WATER DIVISION 2 FAILURE		0.000000
	P3MAINTLGH HPCS FAILURE TO PROPERLY RESTORE FROM MAINT		0.000000
	I1STINJECT INDEPENDENT FAILURES OF RCIC SYSTEM		0.000000
	Y1 FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.000000
	B1STRINJR OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		0.000000
709)	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR		0.000000
	A2DGIKADGM DGO1KB OUT OF SERVICE - CORRECTIVE MAINTENANCE		0.000000
	XISTSXDIV1 SHUTDOWN SERVICE WATER DIVISION 1 FAILURE		0.000000
	XSX014CMVC MOV 1SX014C FAILS TO CLOSE	3.0E-3	0.000000
	I1STINJECT INDEPENDENT FAILURES OF RCIC SYSTEM		0.000000
	Y1 FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.000000
	B1STRINJR OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		0.000000
710)	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR		0.000000
	A2DGIKADGM DGO1KB OUT OF SERVICE - CORRECTIVE MAINTENANCE		0.000000
	XISTSXDIV1 SHUTDOWN SERVICE WATER DIVISION 1 FAILURE		0.000000
	AP221C1CBO FAILURE OF CIRCUIT BREAKER 221C1 TO OPEN (ERAT)	3E-3	0.000000
	I1STINJECT INDEPENDENT FAILURES OF RCIC SYSTEM		0.000000
	Y1 FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.000000
	B1STRINJR OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		0.000000
711)	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR		0.000000
	A1STDGBSTR DIVISION 2 DIESEL FAILS TO START		0.000000
	HPSYST1SYM HP SYSTEM DOWN FOR PREVENTIVE MAINTENANCE		0.000000
	Y1 FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.000000
712)	DDC01ECBYM BATTERY D1E OUT OF SERVICE - CORRECTIVE MAINTENANCE	3.76E-4	0.000000
	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR		0.000000
	A1STDOPMPB DIVISION 2 DIESEL FUEL OIL PUMP FAILS		0.000000
	H1STINJECT INDEPENDENT FAILURES OF HPCS SYSTEM		0.000000
	Y1 FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.000000
	B1STHPINJR OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		0.000000
	BDC1STUIU3 FAILURE TO RECOVER FROM DIESEL FUEL PUMP FAILURES WITH HPCS AND RCIC FAI		0.000000
713)	DDC01ECBYM BATTERY D1E OUT OF SERVICE - CORRECTIVE MAINTENANCE	3.76E-4	0.000000
	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR		0.000000
	HPSYST1SYM HP SYSTEM DOWN FOR PREVENTIVE MAINTENANCE		0.000000
	I1STINJECT INDEPENDENT FAILURES OF RCIC SYSTEM		0.000000
	Y1 FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.000000
	B1STRINJR OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		0.000000
714)	XMF1CCMVO COMMON CAUSE FAIL SX A&B MIN FLOW VALVES	3.0E-3	0.000000
	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR		0.000000
	A2DGIKADGM DGO1KB OUT OF SERVICE - CORRECTIVE MAINTENANCE		0.000000
	XISTSXDIV1 SHUTDOWN SERVICE WATER DIVISION 1 FAILURE		0.000000
	A2DGIKADGM DGO1KC OUT OF SERVICE - CORRECTIVE MAINTENANCE		0.000000
	IRISYS2SYM RCIC DOWN FOR CORRECTIVE MAINTENANCE		0.000000
	Y1 FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.000000
715)	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR		0.000000
	XD3CORRSYM DIV 3 DOWN FOR CORRECTIVE MAINT		0.000000
	IRISYS2SYM RCIC DOWN FOR PREVENTIVE MAINTENANCE		0.000000
	Y1 FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.000000
	XDSPRCCGTX COM CAUSE FAIL DIV 1 2&3 DISCHARGE PRESS INST	3E-6	0.000000
716)	BSXMANSTR OPERATOR FAILS TO MANUALLY START SX SYSTEM		0.000000
	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR		0.000000
	XISTSXDIV3 SHUTDOWN SERVICE WATER DIVISION 3 FAILURE		0.000000
	IRISYS2SYM RCIC DOWN FOR PREVENTIVE MAINTENANCE		0.000000
	Y1 FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.000000
	XDSPRCCGTX COM CAUSE FAIL DIV 1 2&3 DISCHARGE PRESS INST	3E-6	0.000000
	BSXMANSTR OPERATOR FAILS TO MANUALLY START SX SYSTEM		0.000000



	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			1.86E-09
	A2DGCBDGM	DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE			
	A1STDGASTR	DIVISION 1 DIESEL FAILS TO START			
	P3LOGICLGM	HPCS COMPONENTS DOWN FOR MAINTENANCE			
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM			
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
718)	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			1.86E-09
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			
	A1STDGBSTR	DIVISION 2 DIESEL FAILS TO START			
	A2DGIKADGM	DG01KA OUT OF SERVICE - CORRECTIVE MAINTENANCE			
	P3LOGICLGM	HPCS COMPONENTS DOWN FOR MAINTENANCE			
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM			
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
719)	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			1.85E-09
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			
	A2DGIKADGM	DG01KA OUT OF SERVICE - CORRECTIVE MAINTENANCE			
	XD2CORRSYM	DIV 2 DOWN FOR CORRECTIVE MAINT			
	HPSYST1SYM	HP SYSTEM DOWN FOR PREVENTIVE MAINTENANCE			
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM			
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
720)	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			1.85E-09
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			
	A2DGCBDGM	DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE			
	XD1CORRSYM	DIV SYSTEM DOWN FOR CORRECTIVE MAINT			
	HPSYST1SYM	HP SYSTEM DOWN FOR PREVENTIVE MAINTENANCE			
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM			
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
721)	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			1.85E-09
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			
	A2DGCBDGM	DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE			
	A1STDGASTR	DIVISION 1 DIESEL FAILS TO START			
	H1STINJECT	INDEPENDENT FAILURES OF HPSCS SYSTEM			
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
722)	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPSCS SYSTEM			1.85E-09
	DCS001A1VD	FAILURE OF OUTPUT FROM INVERTER S001A	1E-4		
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			
	A1STDGBSTR	DIVISION 2 DIESEL FAILS TO START			
	A2DGIKADGM	DG01KA OUT OF SERVICE - CORRECTIVE MAINTENANCE			
	H1STINJECT	INDEPENDENT FAILURES OF HPSCS SYSTEM			
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
723)	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPSCS SYSTEM			1.84E-09
	DCS001A1VD	FAILURE OF OUTPUT FROM INVERTER S001A	1E-4		
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			
	A2DGCBDGM	DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE			
	A2DGIKADGM	DG01KA OUT OF SERVICE - CORRECTIVE MAINTENANCE			
	H1STINJECT	INDEPENDENT FAILURES OF HPSCS SYSTEM			
	P12RCICLGM	RCIC COMPONENTS DOWN FOR MAINTENANCE			
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
724)	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPSCS SYSTEM			1.83E-09
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			
	ADABCCCMPS	PUMPS D001A B AND C FAIL TO START - COMMON CAUSE	3.0E-3		
	DCS001A1VD	FAILURE OF OUTPUT FROM INVERTER S001A	1E-4		
	B3DOCCUUSX	FAILURE TO RECOVER FROM COMMON CAUSE START FAILURE OF DIESEL FUEL PUMPS			
725)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			1.82E-09
	P3LOGICLGM	HPCS COMPONENTS DOWN FOR MAINTENANCE			
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM			
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
726)	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			1.82E-09
	XDPABCCGTX	COM CAUSE FAIL DIV 1&2 DISCHARGE PRESS INST	3E-6		
	BSXMANSTR	OPERATOR FAILS TO MANUALLY START SX SYSTEM			
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			
	ADG01KCDGR	FAILURE OF DIESEL GENERATOR 01KC TO RUN	2E-3		
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM			
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			
	B0GCCU1U3R	FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPSCS AND RCIC			
	B0GDIV3U3R				
727)	ADGABCCDGR	DG A AND B FAIL TO RUN - COMMON CAUSE	2E-3		
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			
	HPSYST2SYM	HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE			
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM			
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			
	AVLABCCDMO	FAILURE OF DAMPERS V001A AND B TO OPEN - COMMON CAUSE	3E-3		
728)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			1.81E-09
	H1STINJECT	INDEPENDENT FAILURES OF HPSCS SYSTEM			
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPSCS SYSTEM			
	XDPABCCGTX	COM CAUSE FAIL DIV 1&2 DISCHARGE PRESS INST	3E-6		
	DCS001A1VD	FAILURE OF OUTPUT FROM INVERTER S001A	1E-4		
	BSXMANSTR	OPERATOR FAILS TO MANUALLY START SX SYSTEM			
729)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			1.80E-09
	H1STCOOLING	FAILURE OF COOLING SUPPORT FOR THE HPSCS PUMP			
	IRISYS1SYM	RCIC DOWN FOR CORRECTIVE MAINTENANCE			
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	XDSPRCCGTX	COM CAUSE FAIL DIV 1 2&3 DISCHARGE PRESS INST	3E-6		
	BSXMANSTR	OPERATOR FAILS TO MANUALLY START SX SYSTEM			
730)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			1.79E-09
	A1STDGBRUN	DIVISION 2 DIESEL FAILS TO CONTINUE RUNNING			







	XYSX028GTX	FAIL OF A STRAINER DISCHARGE PRESS INST (SX028)	3E-6	18.000000	1.00E-09
	A1STDCGSTR	DIVISION 3 DIESEL FAILS TO START			
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM			
	YL	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			
756)	BXSX028GTX	OPERATOR FAILS TO START SX SYSTEM ON FAILURE OF LOW HEADER PRESSURE INIT			
	YL	LOSS OF OFF-SITE POWER INITIATOR			
	XX	FAIL OF B STRAINER DISCHARGE PRESS INST (SX030)	3E-6	8.000000	1.72E-09
	A1STDCGSTR	DIVISION 1 DIESEL FAILS TO START			
	A2DGTCKCDGM	DG01KC OUT OF SERVICE - CORRECTIVE MAINTENANCE			
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM			
	YL	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			
	BXSX030GTX	OPERATOR FAILS TO START SX SYSTEM ON FAILURE OF LOW HEADER PRESSURE INIT			
757)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			
	A1STDCGSTR	DIVISION 2 DIESEL FAILS TO START			
	XYSX028GTX	FAIL OF A STRAINER DISCHARGE PRESS INST (SX028)	3E-6	8.000000	1.72E-09
	A2DGTCKCDGM	DG01KC OUT OF SERVICE - CORRECTIVE MAINTENANCE			
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM			
	YL	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			
	BXSX028GTX	OPERATOR FAILS TO START SX SYSTEM ON FAILURE OF LOW HEADER PRESSURE INIT			
758)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			
	X1STSXDIV2	SHUTDOWN SERVICE WATER DIVISION 2 FAILURE			
	A1STDCGSTR	DIVISION 3 DIESEL FAILS TO START			
	YL	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
759)	D1DC01EBYM	BATTERY DTE OUT OF SERVICE - PREVENTIVE MAINTENANCE	3.76E-4	0.000000	1.72E-09
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			
	A2DGTCKBDGM	DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE			
	XD1PREVSYM	DIV 1 DOWN FOR PREVENTATIVE MAINT			
	A2DGTCKCDGM	DG01KC OUT OF SERVICE - CORRECTIVE MAINTENANCE			
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM			
	YL	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
760)	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			
	A2DGTCKBDGM	DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE			
	A2DGTCKADGM	DG01KA OUT OF SERVICE - CORRECTIVE MAINTENANCE			
	XD3PREVSYM	DIV 3 DOWN FOR PREVENTATIVE MAINT			
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM			
	YL	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
761)	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			
	A2DGTCKADGM	DG01KA OUT OF SERVICE - CORRECTIVE MAINTENANCE			
	XD2CORRSYM	DIV 2 DOWN FOR CORRECTIVE MAINT			
	I1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM			
	R1SYS2SYM	RCIC DOWN FOR PREVENTIVE MAINTENANCE			
	YL	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
762)	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM			
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			
	A2DGTCKBDGM	DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE			
	XD1CORRSYM	DIV 1 DOWN FOR CORRECTIVE MAINT			
	I1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM			
	R1SYS2SYM	RCIC DOWN FOR PREVENTIVE MAINTENANCE			
	YL	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
763)	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM			
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			
	A1STDCGARUN	DIVISION 1 DIESEL FAILS TO CONTINUE RUNNING			
	I1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM			
	I2STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM			
	YL	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM			
	BDDGCUU3R	FAILURE OF TIME PHASED DIESEL RECOVERY WITH FAILURE OF HPCS AND RCIC			
764)	XSX173BMVC	MINIMUM FLOW VALVE MOVES TO OPEN	3.0E-3	0.000000	1.70E-09
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			
	A1STDCGARUN	DIVISION 1 DIESEL FAILS TO CONTINUE RUNNING			
	I1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM			
	I2STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM			
	YL	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM			
	BDDGCUU3R	FAILURE OF TIME PHASED DIESEL RECOVERY WITH FAILURE OF HPCS AND RCIC			
765)	XSX014BMVC	MOV (SX014B) FAILS TO CLOSE	3.0E-3	0.000000	1.70E-09
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			
	A1STDCGARUN	DIVISION 1 DIESEL FAILS TO CONTINUE RUNNING			
	I1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM			
	I2STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM			
	YL	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM			
	BDDGCUU3R	FAILURE OF TIME PHASED DIESEL RECOVERY WITH FAILURE OF HPCS AND RCIC			
766)	AP221B1CBO	FAILURE OF CIRCUIT BREAKER 221B1 TO OPEN (ERAT)	3E-3	0.000000	1.70E-09
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			
	A1STDCGARUN	DIVISION 1 DIESEL FAILS TO CONTINUE RUNNING			
	I1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM			
	I2STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM			
	YL	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM			
	BDDGCUU3R	FAILURE OF TIME PHASED DIESEL RECOVERY WITH FAILURE OF HPCS AND RCIC			











805)	XSX1738MVC YLOOPXXTRX X1STSXD1V1 A1STDGCSTR I1STINJECT Y1 B1STRIINJR KXK0148MVC	MINIMUM FLOW VALVE 1SX173B FAILS OPEN LOSS OF OFF-SITE POWER INITIATOR SHUTDOWN SERVICE WATER DIVISION 1 FAILURE DIVISION 3 DIESEL FAILS TO START INDEPENDENT FAILURES OF RCIC SYSTEM FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM MOV 1SX0148 FAILS TO CLOSE	3.0E-3	1.000000	3.00E-03	1.68E-09
806)	YLOOPXXTRX X1STSXD1V1 A1STDGCSTR I1STINJECT Y1 B1STRIINJR AP221B1CBO	LOSS OF OFF-SITE POWER INITIATOR SHUTDOWN SERVICE WATER DIVISION 1 FAILURE DIVISION 3 DIESEL FAILS TO START INDEPENDENT FAILURES OF RCIC SYSTEM FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM FAILURE OF CIRCUIT BREAKER 221B1 TO OPEN (ERAT)	3.0E-3	1.000000	3.00E-03	1.68E-09
807)	YLOOPXXTRX X1STSXD1V1 A1STDGCSTR I1STINJECT Y1 B1STRIINJR AVD01YBDMO	LOSS OF OFF-SITE POWER INITIATOR SHUTDOWN SERVICE WATER DIVISION 1 FAILURE DIVISION 3 DIESEL FAILS TO START INDEPENDENT FAILURES OF RCIC SYSTEM FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM FAILURE OF DAMPER VD01YB TO OPEN	3E-3	1.000000	3.00E-03	1.68E-09
808)	YLOOPXXTRX A1STDGGBRUN A2DGIKADGM H1STINJECT IRISYS1SYM Y1 B1STHPINJR BDGCCU1U3R	LOSS OF OFF-SITE POWER INITIATOR DIVISION 2 DIESEL FAILS TO CONTINUE RUNNING DGO1KA OUT OF SERVICE - CORRECTIVE MAINTENANCE INDEPENDENT FAILURES OF HPCS SYSTEM RCIC DOWN FOR CORRECTIVE MAINTENANCE FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	3E-3	1.000000	3.00E-03	1.66E-09
809)	YLOOPXXTRX A2DGIKADGM A1STDGARUN H1STINJECT IRISYS1SYM Y1 B1STHPINJR BDGCCU1U3R	LOSS OF OFF-SITE POWER INITIATOR DGO1KB OUT OF SERVICE - CORRECTIVE MAINTENANCE DIVISION 1 DIESEL FAILS TO CONTINUE RUNNING INDEPENDENT FAILURES OF HPCS SYSTEM RCIC DOWN FOR CORRECTIVE MAINTENANCE FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		1.000000	3.00E-01	1.66E-09
810)	YLOOPXXTRX X1STSXD1V1 X1STSXD1V2 A2DGIKADGM IRISYS2SYM Y1 B1STHPINJR BDGCCU1U3R	LOSS OF OFF-SITE POWER INITIATOR SHUTDOWN SERVICE WATER DIVISION 1 FAILURE SHUTDOWN SERVICE WATER DIVISION 2 FAILURE DGO1KC OUT OF SERVICE - CORRECTIVE MAINTENANCE RCIC DOWN FOR PREVENTIVE MAINTENANCE FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		1.000000	3.00E-01	1.67E-09
811)	YLOOPXXTRX A2DGIKADGM X1STSXD1V1 H1STINJECT PR1MAINLGH Y1 B1STHPINJR YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR DGO1KB OUT OF SERVICE - CORRECTIVE MAINTENANCE SHUTDOWN SERVICE WATER DIVISION 1 FAILURE INDEPENDENT FAILURES OF HPCS SYSTEM RCIC FAILURE TO PROPERLY RESTORE FROM MAINT FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		1.000000	3.00E-01	1.66E-09
812)	YLOOPXXTRX A2DGIKADGM X1STSXD1V2 H1STINJECT PR1MAINLGH Y1 B1STHPINJR YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR DGO1KA OUT OF SERVICE - CORRECTIVE MAINTENANCE SHUTDOWN SERVICE WATER DIVISION 2 FAILURE INDEPENDENT FAILURES OF HPCS SYSTEM RCIC FAILURE TO PROPERLY RESTORE FROM MAINT FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		1.000000	3.00E-01	1.66E-09
813)	YLOOPXXTRX A2DGIKADGM X1STSXD1V1 H1STINJECT IR1F013MVO Y1 B1STHPINJR YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR DGO1KB OUT OF SERVICE - CORRECTIVE MAINTENANCE SHUTDOWN SERVICE WATER DIVISION 1 FAILURE INDEPENDENT FAILURES OF HPCS SYSTEM MOV F013 FAILS TO OPEN FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	3.0E-3	1.000000	3.00E-01	1.66E-09
814)	YLOOPXXTRX A2DGIKADGM X1STSXD1V1 H1STINJECT IR1F013MVO Y1 B1STHPINJR YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR DGO1KB OUT OF SERVICE - CORRECTIVE MAINTENANCE SHUTDOWN SERVICE WATER DIVISION 1 FAILURE INDEPENDENT FAILURES OF HPCS SYSTEM MIN FLOW VLV FAILS TO OPEN FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	3.0E-3	1.000000	3.00E-01	1.66E-09
815)	YLOOPXXTRX A2DGIKADGM X1STSXD1V2 H1STINJECT IR1F013MVO Y1 B1STHPINJR YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR DGO1KA OUT OF SERVICE - CORRECTIVE MAINTENANCE SHUTDOWN SERVICE WATER DIVISION 2 FAILURE INDEPENDENT FAILURES OF HPCS SYSTEM MOV F013 FAILS TO OPEN FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	3.0E-3	1.000000	3.00E-01	1.66E-09
816)	YLOOPXXTRX A2DGIKADGM X1STSXD1V2 H1STINJECT IR1F013MVO Y1 B1STHPINJR YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR DGO1KA OUT OF SERVICE - CORRECTIVE MAINTENANCE SHUTDOWN SERVICE WATER DIVISION 2 FAILURE INDEPENDENT FAILURES OF HPCS SYSTEM MIN FLOW VLV FAILS TO OPEN FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	3.0E-3	1.000000	3.00E-01	1.66E-09
817)	YLOOPXXTRX A2DGIKADGM X1STSXD1V1 H1STINJECT	LOSS OF OFF-SITE POWER INITIATOR DGO1KB OUT OF SERVICE - CORRECTIVE MAINTENANCE SHUTDOWN SERVICE WATER DIVISION 1 FAILURE INDEPENDENT FAILURES OF HPCS SYSTEM		1.000000	3.00E-01	1.66E-09



	IRISYSTSYH	RCIC IMPROPERLY RESTORED FROM MAINTENANCE			0.003000	3.00E-03
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			0.000000	
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM			0.000000	
818)	YLOOPXXTRX	LOSS OF OFF-SITE POWER - INITIATOR			0.000000	1.66E-09
	A2DG1KADGM	DG01KA OUT OF SERVICE - CORRECTIVE MAINTENANCE			0.000000	
	X1STSDIV2	SHUTDOWN SERVICE WATER DIVISION 2 FAILURE			0.000000	
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM			0.000000	
	IRISYSTSYH	RCIC IMPROPERLY RESTORED FROM MAINTENANCE			0.000000	
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			0.000000	
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM			0.000000	
819)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			0.000000	1.66E-09
	A2DG1KCDGM	DG01KC OUT OF SERVICE - CORRECTIVE MAINTENANCE			0.000000	
	IRIF013MVO	MOV F013 FAILS TO OPEN	3.0E-3		0.000000	
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			0.000000	
	XDPABCCGTX	COM CAUSE FAIL DIV 1&2 DISCHARGE PRESS INST	3E-6		0.000000	
	BSXMANSTR1	OPERATOR FAILS TO MANUALLY START SX SYSTEM			0.000000	
820)	YLOOPXXTRX	LOSS OF OFF-SITE POWER - INITIATOR			0.000000	1.66E-09
	A2DG1KCDGM	DG01KC OUT OF SERVICE - CORRECTIVE MAINTENANCE			0.000000	
	PR1MAINLGH	RCIC FAILURE TO PROPERLY RESTORE FROM MAINT			0.000000	
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			0.000000	
	XDPABCCGTX	COM CAUSE FAIL DIV 1&2 DISCHARGE PRESS INST	3E-6		0.000000	
	BSXMANSTR1	OPERATOR FAILS TO MANUALLY START SX SYSTEM			0.000000	
821)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			0.000000	1.66E-09
	A2DG1KCDGM	DG01KC OUT OF SERVICE - CORRECTIVE MAINTENANCE			0.000000	
	IRIF019MVO	MIN FLOW VLV FAILS TO OPEN	3.0E-3		0.000000	
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			0.000000	
	XDPABCCGTX	COM CAUSE FAIL DIV 1&2 DISCHARGE PRESS INST	3E-6		0.000000	
	BSXMANSTR1	OPERATOR FAILS TO MANUALLY START SX SYSTEM			0.000000	
822)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			0.000000	1.66E-09
	A2DG1KCDGM	DG01KC OUT OF SERVICE - CORRECTIVE MAINTENANCE			0.000000	
	IRISYSTSYH	RCIC IMPROPERLY RESTORED FROM MAINTENANCE			0.000000	
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			0.000000	
	XDPABCCGTX	COM CAUSE FAIL DIV 1&2 DISCHARGE PRESS INST	3E-6		0.000000	
	BSXMANSTR1	OPERATOR FAILS TO MANUALLY START SX SYSTEM			0.000000	
823)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			0.000000	1.65E-09
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM			0.000000	
	IRISYSTSYH	RCIC DOWN FOR PREVENTIVE MAINTENANCE			0.000000	
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			0.000000	
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM			0.000000	
824)	ADGABCCDGS	DG A AND B FAIL TO START - COMMON CAUSE	2E-2		0.000000	
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			0.000000	1.63E-09
	A1STDGBRUN	DIVISION 2 DIESEL FAILS TO CONTINUE RUNNING			0.000000	
	A1STDGARUN	DIVISION 1 DIESEL FAILS TO CONTINUE RUNNING			0.000000	
	A2DG1KCDGM	DG01KC OUT OF SERVICE - CORRECTIVE MAINTENANCE			0.000000	
	PR1MAINLGH	RCIC FAILURE TO PROPERLY RESTORE FROM MAINT			0.000000	
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			0.000000	
825)	B0GCCU1U3R	FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPCS AND RCIC			0.000000	1.63E-09
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			0.000000	
	A1STDGBRUN	DIVISION 2 DIESEL FAILS TO CONTINUE RUNNING			0.000000	
	A1STDGARUN	DIVISION 1 DIESEL FAILS TO CONTINUE RUNNING			0.000000	
	A2DG1KCDGM	DG01KC OUT OF SERVICE - CORRECTIVE MAINTENANCE			0.000000	
	IRISYSTSYH	RCIC IMPROPERLY RESTORED FROM MAINTENANCE			0.000000	
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			0.000000	
826)	B0GCCU1U3R	FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPCS AND RCIC			0.000000	1.63E-09
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			0.000000	
	A1STDGBRUN	DIVISION 2 DIESEL FAILS TO CONTINUE RUNNING			0.000000	
	A1STDGARUN	DIVISION 1 DIESEL FAILS TO CONTINUE RUNNING			0.000000	
	A2DG1KCDGM	DG01KC OUT OF SERVICE - CORRECTIVE MAINTENANCE			0.000000	
	IRIF013MVO	MOV F013 FAILS TO OPEN	3.0E-3		0.000000	
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			0.000000	
827)	B0GCCU1U3R	FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPCS AND RCIC			0.000000	1.63E-09
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			0.000000	
	A1STDGBRUN	DIVISION 2 DIESEL FAILS TO CONTINUE RUNNING			0.000000	
	A1STDGARUN	DIVISION 1 DIESEL FAILS TO CONTINUE RUNNING			0.000000	
	A2DG1KCDGM	DG01KC OUT OF SERVICE - CORRECTIVE MAINTENANCE			0.000000	
	IRIF019MVO	MIN FLOW VLV FAILS TO OPEN	3.0E-3		0.000000	
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			0.000000	
828)	B0GCCU1U3R	FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPCS AND RCIC			0.000000	1.64E-09
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			0.000000	
	A2DG1KADGM	DG01KA OUT OF SERVICE - CORRECTIVE MAINTENANCE			0.000000	
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM			0.000000	
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM			0.000000	
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			0.000000	
	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			0.000000	
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM			0.000000	
829)	XDPBCCGTX	COM CAUSE FAIL DIV 2&3 DISCHARGE PRESS INST	3E-6		0.000000	1.64E-09
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			0.000000	
	A2DG1CB0GM	DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE			0.000000	
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM			0.000000	
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM			0.000000	
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			0.000000	
	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			0.000000	
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM			0.000000	
830)	XDPACCGTX	COM CAUSE FAIL DIV 1&3 DISCHARGE PRESS INST	3E-6		0.000000	1.64E-09
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			0.000000	
	A1STDGBSTR	DIVISION 2 DIESEL FAILS TO START			0.000000	
	X1STSDIV1	SHUTDOWN SERVICE WATER DIVISION 1 FAILURE			0.000000	
	A2DG1KCDGM	DG01KC OUT OF SERVICE - CORRECTIVE MAINTENANCE			0.000000	
	IRISYSTSYH	RCIC DOWN FOR CORRECTIVE MAINTENANCE			0.000000	
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			0.000000	

	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		1.64E-09
	A1STDGASTR	DIVISION 1 DIESEL FAILS TO START		
	X1STSDIV2	SHUTDOWN SERVICE WATER DIVISION 2 FAILURE		
	A2DGIKCDGM	DG01KC OUT OF SERVICE - CORRECTIVE MAINTENANCE		
	IRISYSTSYM	RCIC DOWN FOR CORRECTIVE MAINTENANCE		
832)	YLOOPXXTRX	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		1.64E-09
	A2DGIKADGM	DG01KA OUT OF SERVICE - CORRECTIVE MAINTENANCE		
	X1STSDIV2	SHUTDOWN SERVICE WATER DIVISION 2 FAILURE		
	A1STDGCSTR	DIVISION 3 DIESEL FAILS TO START		
	IRISYSTSYM	RCIC DOWN FOR CORRECTIVE MAINTENANCE		
833)	YLOOPXXTRX	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		1.64E-09
	A2DGIKBDGM	DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE		
	X1STSDIV1	SHUTDOWN SERVICE WATER DIVISION 1 FAILURE		
	A1STDGCSTR	DIVISION 3 DIESEL FAILS TO START		
	IRISYSTSYM	RCIC DOWN FOR CORRECTIVE MAINTENANCE		
834)	YLOOPXXTRX	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		1.63E-09
	A2DGIKBDGM	DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE		
	A1STDOPMPA	DIVISION 1 DIESEL FUEL OIL PUMP FAILS		
	H1STCOOLNG	FAILURE OF COOLING SUPPORT FOR THE HPCS PUMP		
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		
	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		
	B0O1STUIU3	FAILURE TO RECOVER FROM DIESEL FUEL PUMP FAILURES WITH HPCS AND RCIC FAI		
835)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		1.63E-09
	A2DGIKADGM	DG01KA OUT OF SERVICE - CORRECTIVE MAINTENANCE		
	A1STDOPMPB	DIVISION 2 DIESEL FUEL OIL PUMP FAILS		
	H1STCOOLNG	FAILURE OF COOLING SUPPORT FOR THE HPCS PUMP		
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		
	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		
	B0O1STUIU3	FAILURE TO RECOVER FROM DIESEL FUEL PUMP FAILURES WITH HPCS AND RCIC FAI		
836)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		1.63E-09
	A1STDGARUN	DIVISION 1 DIESEL FAILS TO CONTINUE RUNNING		
	A1STDOPMPB	DIVISION 2 DIESEL FUEL OIL PUMP FAILS		
	A2DGIKCDGM	DG01KC OUT OF SERVICE - CORRECTIVE MAINTENANCE		
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		
	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		
	B0GCCU1U3R	FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPCS AND RCIC		
	B0O1STUIU3	FAILURE TO RECOVER FROM DIESEL FUEL PUMP FAILURES WITH HPCS AND RCIC FAI		
837)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		1.63E-09
	A2DGIKBDGM	DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE		
	A1STDGARUN	DIVISION 1 DIESEL FAILS TO CONTINUE RUNNING		
	A1STDOPMPC	DIVISION 3 DIESEL FUEL OIL PUMP FAILS		
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		
	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		
	B0GCCU1U3R	FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPCS AND RCIC		
	B0O1STUIU3	FAILURE TO RECOVER FROM DIESEL FUEL PUMP FAILURES WITH HPCS AND RCIC FAI		
838)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		1.63E-09
	A1STDGBRUN	DIVISION 2 DIESEL FAILS TO CONTINUE RUNNING		
	A1STDOPMPA	DIVISION 1 DIESEL FUEL OIL PUMP FAILS		
	A2DGIKCDGM	DG01KC OUT OF SERVICE - CORRECTIVE MAINTENANCE		
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		
	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		
	B0GCCU1U3R	FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPCS AND RCIC		
	B0O1STUIU3	FAILURE TO RECOVER FROM DIESEL FUEL PUMP FAILURES WITH HPCS AND RCIC FAI		
839)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		1.63E-09
	A1STDGBRUN	DIVISION 2 DIESEL FAILS TO CONTINUE RUNNING		
	A2DGIKADGM	DG01KA OUT OF SERVICE - CORRECTIVE MAINTENANCE		
	A1STDOPMPC	DIVISION 3 DIESEL FUEL OIL PUMP FAILS		
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		
	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		
	B0GCCU1U3R	FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPCS AND RCIC		
	B0O1STUIU3	FAILURE TO RECOVER FROM DIESEL FUEL PUMP FAILURES WITH HPCS AND RCIC FAI		
840)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		1.64E-09
	A1STDGBSTR	DIVISION 2 DIESEL FAILS TO START		
	A1STDGASTR	DIVISION 1 DIESEL FAILS TO START		
	P3LOGICLGM	HPCS COMPONENTS DOWN FOR MAINTENANCE		
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		
	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		
841)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		1.63E-09
	XD1CORRSYM	DIV 1 DOWN FOR CORRECTIVE MAINT		
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		
	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		
	AVDBCCDMO	DAMPERS VDO1YB AND C FAIL TO OPEN - COMMON CAUSE	3E-3	
842)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		1.63E-09
	XD2CORRSYM	DIV 2 DOWN FOR CORRECTIVE MAINT		
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		
	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		
	AVDACCDMO	DAMPERS VDO1YA AND C FAIL TO OPEN - COMMON CAUSE	3E-3	
843)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		1.63E-09









	A2DG1KADGM	DG01KA OUT OF SERVICE - CORRECTIVE MAINTENANCE		0.026300	
	ADGBCCDGR	DG B AND C FAIL TO RUN - COMMON CAUSE	2E-3	0.017000	
	TR1SYS2SYM	RCIC DOWN FOR PREVENTIVE MAINTENANCE		0.005000	
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.005000	
869)	BDGCCU1U3R	FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPSCS AND RCIC		0.005000	1.57E-09
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0.005000	
	A2DG1CBDM	DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE	2E-3	0.017000	
	ADGACCCDGR	DG A AND C FAIL TO RUN - COMMON CAUSE		0.017000	
	TR1SYS2SYM	RCIC DOWN FOR PREVENTIVE MAINTENANCE		0.005000	
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.005000	
870)	BDGCCU1U3R	FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPSCS AND RCIC		0.005000	1.56E-09
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0.005000	
	A1STDGBRUN	DIVISION 2 DIESEL FAILS TO CONTINUE RUNNING		0.005000	
	A1STDGARUN	DIVISION 1 DIESEL FAILS TO CONTINUE RUNNING		0.005000	
	H1STINJECT	INDEPENDENT FAILURES OF HPSCS SYSTEM		0.005000	
	P12RCICLGM	RCIC COMPONENTS DOWN FOR MAINTENANCE		0.005000	
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.005000	
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPSCS SYSTEM		0.005000	
871)	BDGCCU1U3R	FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPSCS AND RCIC		0.005000	1.55E-09
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0.005000	
	A1STDGBRUN	DIVISION 2 DIESEL FAILS TO CONTINUE RUNNING		0.005000	
	H1STCOOLNG	FAILURE OF COOLING SUPPORT FOR THE HPSCS PUMP		0.005000	
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.005000	
	BDGCCU1U3R	FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPSCS AND RCIC		0.005000	
872)	DDCOTECBYM	BATTERY 01E OUT OF SERVICE - CORRECTIVE MAINTENANCE	3.76E-4	0.000000	1.54E-09
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0.005000	
	A1STDGASTR	DIVISION 1 DIESEL FAILS TO START		0.005000	
	H1STCOOLNG	FAILURE OF COOLING SUPPORT FOR THE HPSCS PUMP		0.005000	
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		0.005000	
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.005000	
	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		0.005000	
873)	ADG01KBDGM	DG01KB OUT OF SERVICE - PREVENTIVE MAINTENANCE		0.005000	1.54E-09
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0.005000	
	A1STDGBSTR	DIVISION 2 DIESEL FAILS TO START		0.005000	
	ADG01KADGM	DG01KA OUT OF SERVICE - PREVENTIVE MAINTENANCE		0.005000	
	H1STCOOLNG	FAILURE OF COOLING SUPPORT FOR THE HPSCS PUMP		0.005000	
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		0.005000	
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.005000	
874)	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		0.005000	1.54E-09
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0.005000	
	A1STDGARUN	DIVISION 1 DIESEL FAILS TO CONTINUE RUNNING		0.005000	
	A1STDGCSTR	DIVISION 3 DIESEL FAILS TO START		0.005000	
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		0.005000	
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.005000	
	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		0.005000	
875)	BDGCCU1U3R	FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPSCS AND RCIC		0.005000	1.54E-09
	ADG01KBDGM	DG01KB OUT OF SERVICE - PREVENTIVE MAINTENANCE		0.005000	
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0.005000	
	A1STDGBSTR	DIVISION 2 DIESEL FAILS TO START		0.005000	
	A1STDGARUN	DIVISION 1 DIESEL FAILS TO CONTINUE RUNNING		0.005000	
	ADG01KCDGM	DG01KC OUT OF SERVICE - PREVENTIVE MAINTENANCE		0.005000	
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		0.005000	
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.005000	
	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		0.005000	
876)	BDGCCU1U3R	FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPSCS AND RCIC		0.005000	1.54E-09
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0.005000	
	A1STDGBRUN	DIVISION 2 DIESEL FAILS TO CONTINUE RUNNING		0.005000	
	ADG01KADGM	DG01KA OUT OF SERVICE - PREVENTIVE MAINTENANCE		0.005000	
	A1STDGCSTR	DIVISION 3 DIESEL FAILS TO START		0.005000	
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		0.005000	
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.005000	
	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		0.005000	
877)	BDGCCU1U3R	FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPSCS AND RCIC		0.005000	1.54E-09
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0.005000	
	A1STDGBRUN	DIVISION 2 DIESEL FAILS TO CONTINUE RUNNING		0.005000	
	A1STDGASTR	DIVISION 1 DIESEL FAILS TO START		0.005000	
	ADG01KCDGM	DG01KC OUT OF SERVICE - PREVENTIVE MAINTENANCE		0.005000	
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		0.005000	
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.005000	
	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		0.005000	
878)	BDGCCU1U3R	FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPSCS AND RCIC		0.005000	1.53E-09
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		0.005000	
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.005000	
	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		0.005000	
	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR		0.005000	
	AP1LOOPBSD	LOSS OF ALL OFF-SITE POWER (RAT & ERAT)		0.002300	
879)	ADGBCCDGR	DG A B AND C FAIL TO RUN - COMMON CAUSE	2E-3	0.017000	1.51E-09
	BDGCCU1U3R	FAILURE TO RECOVER FROM COMMON CAUSE DIESEL FAILURE WITH HPSCS AND RCIC F		0.005000	
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0.005000	
	HPSYST1SYM	HP SYSTEM DOWN FOR PREVENTIVE MAINTENANCE		0.005000	
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		0.005000	
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.005000	
	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		0.005000	
880)	KCDVHCCAVO	COMMON CAUSE FAILS TO RECOVER FAILED RCIC SYSTEM	2E-3	0.005000	1.51E-09
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0.005000	
	H1STINJECT	INDEPENDENT FAILURES OF HPSCS SYSTEM		0.005000	
	TR1SYS1SYM	RCIC DOWN FOR CORRECTIVE MAINTENANCE		0.005000	
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.005000	
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPSCS SYSTEM		0.005000	
	BDGCCU1U3R	FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPSCS AND RCIC		0.005000	











	IRIF013MVO	MOV F013 FAILS TO OPEN	3.0E-3	1.000000	3.00E-03
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		1E-01	
922)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		1E-02	1.49E-09
	A1STDGBSTR	DIVISION 2 DIESEL FAILS TO START		1E-02	
	A1STDGASTR	DIVISION 1 DIESEL FAILS TO START		1E-02	
	A2DG1KCDGM	DG01KC OUT OF SERVICE - CORRECTIVE MAINTENANCE		1E-02	
	IRIF019MVO	MIN FLOW VLV FAILS TO OPEN	3.0E-3	1.000000	
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		1E-01	
923)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		1E-02	1.48E-09
	A1STDOPMPC	DIVISION 3 DIESEL FUEL OIL PUMP FAILS		1E-03	
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		1E-03	
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		1E-03	
	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		1E-03	
	B0GCCU1U3R	FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPCCS AND RCIC		1E-03	
	B0D1STU1U3	FAILURE TO RECOVER FROM DIESEL FUEL PUMP FAILURES WITH HPCCS AND RCIC FAI		1E-03	
	ADGABCCDGR	DG A AND B FAIL TO RUN - COMMON CAUSE	2E-3	1.000000	1.48E-09
924)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		1E-02	1.48E-09
	ADGBCCCDGR	DG B AND C FAIL TO RUN - COMMON CAUSE	2E-3	1.000000	
	A1STDOPMFA	DIVISION 1 DIESEL FUEL OIL PUMP FAILS		1E-03	
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		1E-03	
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		1E-03	
	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		1E-03	
	B0GCCU1U3R	FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPCCS AND RCIC		1E-03	
	B0D1STU1U3	FAILURE TO RECOVER FROM DIESEL FUEL PUMP FAILURES WITH HPCCS AND RCIC FAI		1E-03	
925)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		1E-02	1.48E-09
	A1STDOPMPB	DIVISION 2 DIESEL FUEL OIL PUMP FAILS		1E-03	
	ADGACCCDGR	DG A AND C FAIL TO RUN - COMMON CAUSE	2E-3	1.000000	
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		1E-03	
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		1E-03	
	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		1E-03	
	B0GCCU1U3R	FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPCCS AND RCIC		1E-03	
	B0D1STU1U3	FAILURE TO RECOVER FROM DIESEL FUEL PUMP FAILURES WITH HPCCS AND RCIC FAI		1E-03	
926)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		1E-02	1.48E-09
	A1STDGARUN	DIVISION 1 DIESEL FAILS TO CONTINUE RUNNING		1E-03	
	X1STSXD1V2	SHUTDOWN SERVICE WATER DIVISION 2 FAILURE		1E-03	
	H1STINJECT	INDEPENDENT FAILURES OF HPCCS SYSTEM		1E-03	
	IR1SYSZSYM	RCIC DOWN FOR PREVENTIVE MAINTENANCE		1E-03	
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		1E-03	
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCCS SYSTEM		1E-03	
	B0GCCU1U3R	FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPCCS AND RCIC		1E-03	
927)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		1E-02	1.48E-09
	A1STDGBRUN	DIVISION 2 DIESEL FAILS TO CONTINUE RUNNING		1E-03	
	X1STSXD1V1	SHUTDOWN SERVICE WATER DIVISION 1 FAILURE		1E-03	
	H1STINJECT	INDEPENDENT FAILURES OF HPCCS SYSTEM		1E-03	
	IR1SYSZSYM	RCIC DOWN FOR PREVENTIVE MAINTENANCE		1E-03	
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		1E-03	
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCCS SYSTEM		1E-03	
	B0GCCU1U3R	FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPCCS AND RCIC		1E-03	
928)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		1E-02	1.47E-09
	H1STCOOLNG	FAILURE OF COOLING SUPPORT FOR THE HPCCS PUMP		1E-03	
	IR1SYSZSYM	RCIC DOWN FOR PREVENTIVE MAINTENANCE		1E-03	
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		1E-03	
	XDPABCCGTX	COM CAUSE FAIL DIV 1&2 DISCHARGE PRESS INST	3E-6	1.000000	
929)	BSXMANSTR	OPERATOR FAILS TO MANUALLY START SX SYSTEM		1E-01	1.48E-09
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		1E-02	
	A2DG1KBDGM	DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE		1E-02	
	ADG01KCDGM	DG01KC OUT OF SERVICE - PREVENTIVE MAINTENANCE		1E-02	
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		1E-02	
930)	DDC01ECBYM	BATTERY 01E OUT OF SERVICE - CORRECTIVE MAINTENANCE	3.76E-4	1.000000	1.48E-09
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		1E-02	
	A2DG1KCDGM	DG01KC OUT OF SERVICE - CORRECTIVE MAINTENANCE		1E-02	
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		1E-02	
	ADG01KBDGM	DG01KB OUT OF SERVICE - PREVENTIVE MAINTENANCE		1E-02	
	DDC01ECBYM	BATTERY 01E OUT OF SERVICE - CORRECTIVE MAINTENANCE	3.76E-4	1.000000	1.48E-09
931)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		1E-02	1.48E-09
	X1STSXD1V1	SHUTDOWN SERVICE WATER DIVISION 1 FAILURE		1E-03	
	H1STINJECT	INDEPENDENT FAILURES OF HPCCS SYSTEM		1E-03	
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		1E-03	
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		1E-03	
	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		1E-03	
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCCS SYSTEM		1E-03	
	XD2PREVSYM	DIV 2 DOWN FOR PREVENTATIVE MAINT		1E-03	
932)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		1E-02	1.48E-09
	X1STSXD1V2	SHUTDOWN SERVICE WATER DIVISION 2 FAILURE		1E-03	
	XD1PREVSYM	DIV 1 DOWN FOR PREVENTATIVE MAINT		1E-03	
	H1STINJECT	INDEPENDENT FAILURES OF HPCCS SYSTEM		1E-03	
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		1E-03	
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		1E-03	
	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		1E-03	
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCCS SYSTEM		1E-03	
933)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		1E-02	1.47E-09
	XD3PREVSYM	DIV 3 DOWN FOR PREVENTATIVE MAINT		1E-03	
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		1E-03	
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		1E-03	
	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		1E-03	
	XDPABCCGTX	COM CAUSE FAIL DIV 1&2 DISCHARGE PRESS INST	3E-6	1.000000	
	BSXMANSTR	OPERATOR FAILS TO MANUALLY START SX SYSTEM		1E-01	
934)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		1E-02	1.47E-09
	A1STDGBSTR	DIVISION 2 DIESEL FAILS TO START		1E-02	
	ADG01KCDGR	FAILURE OF DIESEL GENERATOR 01KC TO RUN	2E-3	1.000000	

	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		4.21E-01	4.21E-01
	BGGD1V3U3R			1.00E-01	1.00E-01
	DDC01ECBYM	BATTERY OTE OUT OF SERVICE - CORRECTIVE MAINTENANCE	3.76E-4	1.00E-01	1.00E-01
935)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		2E-3	1.47E-09
	ADG01KCDGR	FAILURE OF DIESEL GENERATOR O1KC TO RUN		1.00E-01	1.00E-01
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		1.00E-01	1.00E-01
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		1.00E-01	1.00E-01
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		1.00E-01	1.00E-01
	BGGD1V3U3R			1.00E-01	1.00E-01
	XMNFLCCMVO	COMMON CAUSE FAIL SX A&B MIN FLOW VALVES	3.0E-3	1.00E-01	1.47E-09
936)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		1.00E-01	1.00E-01
	H1STCOOLNG	FAILURE OF COOLING SUPPORT FOR THE HPCS PUMP		1.00E-01	1.00E-01
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		1.00E-01	1.00E-01
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		1.00E-01	1.00E-01
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		1.00E-01	1.00E-01
	X14ABCCMVC	COM CAUSE WS TO SX A&B VALVES FAIL TO CLOSE	3.0E-3	1.00E-01	1.47E-09
937)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		1.00E-01	1.00E-01
	H1STCOOLNG	FAILURE OF COOLING SUPPORT FOR THE HPCS PUMP		1.00E-01	1.00E-01
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		1.00E-01	1.00E-01
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		1.00E-01	1.00E-01
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		1.00E-01	1.00E-01
	XDGABCCMVO	COMMON CAUSE FAIL FOR DG HX DISCHARGE VALVES A&B	3.0E-3	1.00E-01	1.47E-09
938)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		1.00E-01	1.00E-01
	A1STDGARUN	DIVISION 1 DIESEL FAILS TO CONTINUE RUNNING		1.00E-01	1.00E-01
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		1.00E-01	1.00E-01
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		1.00E-01	1.00E-01
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		1.00E-01	1.00E-01
	BGGCCU1U3R	FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPCS AND RCIC		1.00E-01	1.00E-01
	XDGBCCCMVO	COMMON CAUSE FAIL FOR DG HX DISCHARGE VALVES B&C	3.0E-3	1.00E-01	1.47E-09
939)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		1.00E-01	1.00E-01
	A1STDGBRUN	DIVISION 2 DIESEL FAILS TO CONTINUE RUNNING		1.00E-01	1.00E-01
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		1.00E-01	1.00E-01
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		1.00E-01	1.00E-01
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		1.00E-01	1.00E-01
	BGGCCU1U3R	FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPCS AND RCIC		1.00E-01	1.00E-01
	X14ACCCMVC	COM CAUSE WS TO SX A&C VALVES FAIL TO CLOSE	3.0E-3	1.00E-01	1.47E-09
940)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		1.00E-01	1.00E-01
	A1STDGARUN	DIVISION 1 DIESEL FAILS TO CONTINUE RUNNING		1.00E-01	1.00E-01
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		1.00E-01	1.00E-01
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		1.00E-01	1.00E-01
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		1.00E-01	1.00E-01
	BGGCCU1U3R	FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPCS AND RCIC		1.00E-01	1.00E-01
	X14BCCCMVC	COM CAUSE WS TO SX B&C VALVES FAIL TO CLOSE	3.0E-3	1.00E-01	1.47E-09
941)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		1.00E-01	1.00E-01
	A1STDGBRUN	DIVISION 2 DIESEL FAILS TO CONTINUE RUNNING		1.00E-01	1.00E-01
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		1.00E-01	1.00E-01
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		1.00E-01	1.00E-01
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		1.00E-01	1.00E-01
	BGGCCU1U3R	FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPCS AND RCIC		1.00E-01	1.00E-01
	XDGACCCMVO	COMMON CAUSE FAIL FOR DG HX DISCHARGE VALVES A&C	3.0E-3	1.00E-01	1.47E-09
942)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		1.00E-01	1.00E-01
	HPSYS2SYM	HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE		1.00E-01	1.00E-01
	IRISYS2SYM	RCIC DOWN FOR CORRECTIVE MAINTENANCE		1.00E-01	1.00E-01
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		1.00E-01	1.00E-01
	XDSPRCCGTX	COM CAUSE FAIL DIV 1 2&3 DISCHARGE PRESS INST	3E-6	1.00E-01	1.00E-01
	BSXMANSTRT	OPERATOR FAILS TO MANUALLY START SX SYSTEM		1.00E-01	1.00E-01
943)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		1.00E-01	1.00E-01
	A2DG1KCDGM	DG O1KC OUT OF SERVICE - CORRECTIVE MAINTENANCE		1.00E-01	1.00E-01
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		1.00E-01	1.00E-01
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		1.00E-01	1.00E-01
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		1.00E-01	1.00E-01
	XSXABCCMPR	COMMON CAUSE FAIL SX A&B PUMPS FAIL TO RUN	3.0E-5	1.00E-01	1.45E-09
944)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		1.00E-01	1.00E-01
	A1STDGBRUN	DIVISION 2 DIESEL FAILS TO CONTINUE RUNNING		1.00E-01	1.00E-01
	A1STDGARUN	DIVISION 1 DIESEL FAILS TO CONTINUE RUNNING		1.00E-01	1.00E-01
	H1STCOOLNG	FAILURE OF COOLING SUPPORT FOR THE HPCS PUMP		1.00E-01	1.00E-01
	IRISYS2SYM	RCIC DOWN FOR PREVENTIVE MAINTENANCE		1.00E-01	1.00E-01
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		1.00E-01	1.00E-01
	BGGCCU1U3R	FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPCS AND RCIC		1.00E-01	1.00E-01
945)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		1.00E-01	1.00E-01
	A1STDGBRUN	DIVISION 2 DIESEL FAILS TO CONTINUE RUNNING		1.00E-01	1.00E-01
	A1STDGASTR	DIVISION 1 DIESEL FAILS TO START		1.00E-01	1.00E-01
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM		1.00E-01	1.00E-01
	IRISYS2SYM	RCIC DOWN FOR CORRECTIVE MAINTENANCE		1.00E-01	1.00E-01
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		1.00E-01	1.00E-01
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		1.00E-01	1.00E-01
	BGGCCU1U3R	FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPCS AND RCIC		1.00E-01	1.00E-01
946)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		1.00E-01	1.00E-01
	A1STDGBSTR	DIVISION 2 DIESEL FAILS TO START		1.00E-01	1.00E-01
	A1STDGARUN	DIVISION 1 DIESEL FAILS TO CONTINUE RUNNING		1.00E-01	1.00E-01
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM		1.00E-01	1.00E-01
	IRISYS2SYM	RCIC DOWN FOR CORRECTIVE MAINTENANCE		1.00E-01	1.00E-01
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		1.00E-01	1.00E-01
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		1.00E-01	1.00E-01
	BGGCCU1U3R	FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPCS AND RCIC		1.00E-01	1.00E-01
947)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		1.00E-01	1.00E-01
	X1STXSDIV1	SHUTDOWN SERVICE WATER DIVISION 1 FAILURE		1.00E-01	1.00E-01
	X1STXSDIV2	SHUTDOWN SERVICE WATER DIVISION 2 FAILURE		1.00E-01	1.00E-01
	A1STDGCSTR	DIVISION 3 DIESEL FAILS TO START		1.00E-01	1.00E-01
	IRISYS2SYM	RCIC DOWN FOR PREVENTIVE MAINTENANCE		1.00E-01	1.00E-01

948)	YLT YLOOPXXTRX A2DG1CB0GM XD1CORRSYM ADG0TKCDGR I1STINJECT YLT B1STR1NJR BDGD1V3U3R	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS LOSS OF OFF-SITE POWER INITIATOR DGO1KB OUT OF SERVICE - CORRECTIVE MAINTENANCE DIV 1 DOWN FOR CORRECTIVE MAINT FAILURE OF DIESEL GENERATOR 01KC TO RUN INDEPENDENT FAILURES OF RCIC SYSTEM FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM	2E-3	1.46E-09
949)	YLOOPXXTRX A2DG1KADGM XD2CORRSYM ADG0TKCDGR I1STINJECT YLT B1STR1NJR BDGD1V3U3R	LOSS OF OFF-SITE POWER INITIATOR DGO1KA OUT OF SERVICE - CORRECTIVE MAINTENANCE DIV 2 DOWN FOR CORRECTIVE MAINT FAILURE OF DIESEL GENERATOR 01KC TO RUN INDEPENDENT FAILURES OF RCIC SYSTEM FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM	2E-3	1.46E-09
950)	YLOOPXXTRX A1STDGASTR X1STSXDIV2 H1STINJECT IRIF013MVO YLT B1STHP1NJR	LOSS OF OFF-SITE POWER INITIATOR DIVISION 1 DIESEL FAILS TO START SHUTDOWN SERVICE WATER DIVISION 2 FAILURE INDEPENDENT FAILURES OF HPCS SYSTEM MOV F013 FAILS TO OPEN FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	3.0E-3	1.46E-09
951)	YLOOPXXTRX A1STDGASTR X1STSXDIV2 H1STINJECT IRISYSTSYH YLT B1STHP1NJR	LOSS OF OFF-SITE POWER INITIATOR DIVISION 1 DIESEL FAILS TO START SHUTDOWN SERVICE WATER DIVISION 2 FAILURE INDEPENDENT FAILURES OF HPCS SYSTEM RCIC IMPROPERLY RESTORED FROM MAINTENANCE FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	2E-3	1.46E-09
952)	YLOOPXXTRX A1STDGBSTR X1STSXDIV1 H1STINJECT IRIF019MVO YLT B1STHP1NJR	LOSS OF OFF-SITE POWER INITIATOR DIVISION 2 DIESEL FAILS TO START SHUTDOWN SERVICE WATER DIVISION 1 FAILURE INDEPENDENT FAILURES OF HPCS SYSTEM MIN FLOW VLV FAILS TO OPEN FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	3.0E-3	1.46E-09
953)	YLOOPXXTRX A1STDGBSTR X1STSXDIV1 H1STINJECT PR1MAINLGH YLT B1STHP1NJR	LOSS OF OFF-SITE POWER INITIATOR DIVISION 2 DIESEL FAILS TO START SHUTDOWN SERVICE WATER DIVISION 1 FAILURE INDEPENDENT FAILURES OF HPCS SYSTEM RCIC FAILURE TO PROPERLY RESTORE FROM MAINT FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	2E-3	1.46E-09
954)	YLOOPXXTRX A1STDGASTR X1STSXDIV2 H1STINJECT PR1MAINLGH YLT B1STHP1NJR	LOSS OF OFF-SITE POWER INITIATOR DIVISION 1 DIESEL FAILS TO START SHUTDOWN SERVICE WATER DIVISION 2 FAILURE INDEPENDENT FAILURES OF HPCS SYSTEM RCIC FAILURE TO PROPERLY RESTORE FROM MAINT FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	2E-3	1.46E-09
955)	YLOOPXXTRX A1STDGBSTR X1STSXDIV1 H1STINJECT IRISYSTSYH YLT B1STHP1NJR	LOSS OF OFF-SITE POWER INITIATOR DIVISION 2 DIESEL FAILS TO START SHUTDOWN SERVICE WATER DIVISION 1 FAILURE INDEPENDENT FAILURES OF HPCS SYSTEM RCIC IMPROPERLY RESTORED FROM MAINTENANCE FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	2E-3	1.46E-09
956)	YLOOPXXTRX A1STDGBSTR X1STSXDIV1 H1STINJECT IRIF013MVO YLT B1STHP1NJR	LOSS OF OFF-SITE POWER INITIATOR DIVISION 2 DIESEL FAILS TO START SHUTDOWN SERVICE WATER DIVISION 1 FAILURE INDEPENDENT FAILURES OF HPCS SYSTEM MOV F013 FAILS TO OPEN FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	3.0E-3	1.46E-09
957)	YLOOPXXTRX A1STDGASTR X1STSXDIV2 H1STINJECT IRIF019MVO YLT B1STHP1NJR	LOSS OF OFF-SITE POWER INITIATOR DIVISION 1 DIESEL FAILS TO START SHUTDOWN SERVICE WATER DIVISION 2 FAILURE INDEPENDENT FAILURES OF HPCS SYSTEM MIN FLOW VLV FAILS TO OPEN FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	3.0E-3	1.46E-09
958)	YLOOPXXTRX A1STDGBRUN A1STDGARUN XD3PREVSYM I1STINJECT YLT B1STR1NJR BDGCCU1U3R	LOSS OF OFF-SITE POWER INITIATOR DIVISION 2 DIESEL FAILS TO CONTINUE RUNNING DIVISION 1 DIESEL FAILS TO CONTINUE RUNNING DIV 3 DOWN FOR PREVENTATIVE MAINT INDEPENDENT FAILURES OF RCIC SYSTEM FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM	2E-3	1.45E-09
959)	YLOOPXXTRX A1STDGCTR IRIF019MVO YLT XDPABCCGTX BSXMANSTR	LOSS OF OFF-SITE POWER INITIATOR DIVISION 3 DIESEL FAILS TO START MIN FLOW VLV FAILS TO OPEN FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS COM CAUSE FAIL DIV 1&2 DISCHARGE PRESS INST OPERATOR FAILS TO MANUALLY START SX SYSTEM	3.0E-3	1.46E-09
960)	YLOOPXXTRX A1STDGCTR PR1MAINLGH	LOSS OF OFF-SITE POWER INITIATOR DIVISION 3 DIESEL FAILS TO START RCIC FAILURE TO PROPERLY RESTORE FROM MAINT	3E-6	1.46E-09



	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		3E-6	4.21E-01	4.21E-01
	XDPABCCGTX	COM CAUSE FAIL DIV 1&2 DISCHARGE PRESS INST			1.00000	1.00000
	BSXMANSTR	OPERATOR FAILS TO MANUALLY START SX SYSTEM			0.00E-01	0.00E-01
961)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			2.00E-02	2.00E-02
	A1STDGCSTR	DIVISION 3 DIESEL FAILS TO START			0.00E-01	0.00E-01
	IRISYSYSYH	RCIC IMPROPERLY RESTORED FROM MAINTENANCE			0.003000	0.003000
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		3E-6	4.21E-01	4.21E-01
	XDPABCCGTX	COM CAUSE FAIL DIV 1&2 DISCHARGE PRESS INST			1.00000	1.00000
	BSXMANSTR	OPERATOR FAILS TO MANUALLY START SX SYSTEM			0.00E-01	0.00E-01
962)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			2.00E-02	2.00E-02
	A1STDGCSTR	DIVISION 3 DIESEL FAILS TO START			0.00E-01	0.00E-01
	IRIFD13MVO	MOV F013 FAILS TO OPEN		3.0E-3	0.00000	0.00000
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			4.21E-01	4.21E-01
	XDPABCCGTX	COM CAUSE FAIL DIV 1&2 DISCHARGE PRESS INST		3E-6	1.00000	1.00000
	BSXMANSTR	OPERATOR FAILS TO MANUALLY START SX SYSTEM			0.00E-01	0.00E-01
963)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			2.00E-02	2.00E-02
	HPYSYSTSYM	HP SYSTEM DOWN FOR PREVENTIVE MAINTENANCE			0.00E-100	0.00E-100
	IRISYS2SYM	RCIC DOWN FOR PREVENTIVE MAINTENANCE			0.00E-500	0.00E-500
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			4.21E-01	4.21E-01
	XDSPRCCGTX	COM CAUSE FAIL DIV 1 2&3 DISCHARGE PRESS INST		3E-6	1.00000	1.00000
	BSXMANSTR	OPERATOR FAILS TO MANUALLY START SX SYSTEM			0.00E-01	0.00E-01
964)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			2.00E-02	2.00E-02
	A1STDGBRUN	DIVISION 2 DIESEL FAILS TO CONTINUE RUNNING			0.00E-02	0.00E-02
	A1STDGARUN	DIVISION 2 DIESEL FAILS TO CONTINUE RUNNING			0.00E-02	0.00E-02
	A1STDGCSTR	DIVISION 3 DIESEL FAILS TO START			0.00E-01	0.00E-01
	PRMAINLGH	RCIC FAILURE TO PROPERLY RECOVER FROM MAINT			0.00E-100	0.00E-100
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			4.21E-01	4.21E-01
	BDGCCU1U3R	FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPCS AND RCIC			0.00E-01	0.00E-01
965)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			2.00E-02	2.00E-02
	A1STDGBRUN	DIVISION 2 DIESEL FAILS TO CONTINUE RUNNING			0.00E-02	0.00E-02
	A1STDGARUN	DIVISION 2 DIESEL FAILS TO CONTINUE RUNNING			0.00E-02	0.00E-02
	A1STDGCSTR	DIVISION 3 DIESEL FAILS TO START			0.00E-01	0.00E-01
	IRIFD13MVO	MOV F013 FAILS TO OPEN		3.0E-3	0.00000	0.00000
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			4.21E-01	4.21E-01
	BDGCCU1U3R	FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPCS AND RCIC			0.00E-01	0.00E-01
966)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			2.00E-02	2.00E-02
	A1STDGBRUN	DIVISION 2 DIESEL FAILS TO CONTINUE RUNNING			0.00E-02	0.00E-02
	A1STDGARUN	DIVISION 2 DIESEL FAILS TO CONTINUE RUNNING			0.00E-02	0.00E-02
	A1STDGCSTR	DIVISION 3 DIESEL FAILS TO START			0.00E-01	0.00E-01
	IRISYSYSYH	RCIC IMPROPERLY RESTORED FROM MAINTENANCE			0.003000	0.003000
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			4.21E-01	4.21E-01
	BDGCCU1U3R	FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPCS AND RCIC			0.00E-01	0.00E-01
967)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			2.00E-02	2.00E-02
	A1STDGBRUN	DIVISION 2 DIESEL FAILS TO CONTINUE RUNNING			0.00E-02	0.00E-02
	A1STDGARUN	DIVISION 2 DIESEL FAILS TO CONTINUE RUNNING			0.00E-02	0.00E-02
	A1STDGCSTR	DIVISION 3 DIESEL FAILS TO START			0.00E-01	0.00E-01
	IRIFD19MVO	MIN FLOW VLV FAILS TO OPEN		3.0E-3	0.00000	0.00000
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			4.21E-01	4.21E-01
	BDGCCU1U3R	FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPCS AND RCIC			0.00E-01	0.00E-01
968)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			2.00E-02	2.00E-02
	A1STDGASTR	DIVISION 1 DIESEL FAILS TO START			0.00E-02	0.00E-02
	HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM			0.00E-02	0.00E-02
	IISTINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM			0.00E-02	0.00E-02
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			4.21E-01	4.21E-01
	BISTRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			0.00E-01	0.00E-01
	BISTHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM			0.00E-01	0.00E-01
969)	XDPBCCCGTX	COM CAUSE FAIL DIV 2&3 DISCHARGE PRESS INST		3E-6	1.00000	1.00000
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			2.00E-02	2.00E-02
	A1STDGBSTR	DIVISION 2 DIESEL FAILS TO START			0.00E-02	0.00E-02
	HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM			0.00E-02	0.00E-02
	IISTINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM			0.00E-02	0.00E-02
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			4.21E-01	4.21E-01
	BISTRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			0.00E-01	0.00E-01
	BISTHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM			0.00E-01	0.00E-01
970)	XDPACCCGTX	COM CAUSE FAIL DIV 1&3 DISCHARGE PRESS INST		3E-6	1.00000	1.00000
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			2.00E-02	2.00E-02
	A1STDGASTR	DIVISION 1 DIESEL FAILS TO START			0.00E-02	0.00E-02
	XISTSXDIV2	SHUTDOWN SERVICE WATER DIVISION 2 FAILURE			0.00E-02	0.00E-02
	A1STDGCSTR	DIVISION 3 DIESEL FAILS TO START			0.00E-01	0.00E-01
	IRISYSYSYM	RCIC DOWN FOR CORRECTIVE MAINTENANCE			0.004600	0.004600
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			4.21E-01	4.21E-01
971)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			2.00E-02	2.00E-02
	A1STDGBSTR	DIVISION 2 DIESEL FAILS TO START			0.00E-02	0.00E-02
	XISTSXDIV1	SHUTDOWN SERVICE WATER DIVISION 1 FAILURE			0.00E-02	0.00E-02
	A1STDGCSTR	DIVISION 3 DIESEL FAILS TO START			0.00E-01	0.00E-01
	IRISYSYSYM	RCIC DOWN FOR CORRECTIVE MAINTENANCE			0.004600	0.004600
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			4.21E-01	4.21E-01
972)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			2.00E-02	2.00E-02
	HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM			0.00E-02	0.00E-02
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			4.21E-01	4.21E-01
	BISTRINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM			0.00E-01	0.00E-01
	XSX173BMVC	MINIMUM FLOW VALVE ISX173B FAILS OPEN		3.0E-3	0.00000	0.00000
973)	DDC01ECBYM	BATTERY 01E OUT OF SERVICE - CORRECTIVE MAINTENANCE		3.78E-4	0.00	0.00
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			2.00E-02	2.00E-02
	HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM			0.00E-02	0.00E-02
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			4.21E-01	4.21E-01
	BISTRHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM			0.00E-01	0.00E-01
	XSX014BMVC	MOV ISX014B FAILS TO CLOSE		3.0E-3	0.00000	0.00000
974)	DDC01ECBYM	BATTERY 01E OUT OF SERVICE - CORRECTIVE MAINTENANCE		3.78E-4	0.00	0.00
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			2.00E-02	2.00E-02











	A1STDGASTR	DIVISION 1 DIESEL FAILS TO START			
	A1STDGCSTR	DIVISION 3 DIESEL FAILS TO START			
	IRISYS2SYM	RCIC DOWN FOR PREVENTIVE MAINTENANCE			
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
1914)	BDGCCU1U3R	FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPCS AND RCIC			
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			1.32E-09
	A1STDGASTR	DIVISION 1 DIESEL FAILS TO START			
	A1STDGCSTR	DIVISION 3 DIESEL FAILS TO START			
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM			
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			
1015)	X02PREVSYM	DIV 2 DOWN FOR PREVENTATIVE MAINT			
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			1.32E-09
	A1STDGBSTR	DIVISION 2 DIESEL FAILS TO START			
	A1STDGASTR	DIVISION 1 DIESEL FAILS TO START			
	X03PREVSYM	DIV 3 DOWN FOR PREVENTATIVE MAINT			
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM			
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			
1016)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			1.32E-09
	A1STDGBSTR	DIVISION 2 DIESEL FAILS TO START			
	X01PREVSYM	DIV 1 DOWN FOR PREVENTATIVE MAINT			
	A1STDGCSTR	DIVISION 3 DIESEL FAILS TO START			
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM			
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			
1017)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			1.32E-09
	X1STSXDIV3	SHUTDOWN SERVICE WATER DIVISION 3 FAILURE			
	IRISYS1SYM	RCIC DOWN FOR CORRECTIVE MAINTENANCE			
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	X0SPRCCGTX	COM CAUSE FAIL DIV 1 2&3 DISCHARGE PRESS INST	3E-6		
	B5XMANSTR	OPERATOR FAILS TO MANUALLY START SX SYSTEM			
1018)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			1.32E-09
	X03CORRSYM	DIV 3 DOWN FOR CORRECTIVE MAINT			
	IRISYS1SYM	RCIC DOWN FOR CORRECTIVE MAINTENANCE			
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	X0SPRCCGTX	COM CAUSE FAIL DIV 1 2&3 DISCHARGE PRESS INST	3E-6		
	B5XMANSTR	OPERATOR FAILS TO MANUALLY START SX SYSTEM			
1019)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			1.31E-09
	A1STDGBRUN	DIVISION 2 DIESEL FAILS TO CONTINUE RUNNING			
	A1STDGARUN	DIVISION 1 DIESEL FAILS TO CONTINUE RUNNING			
	A2DGIKCDGM	DG01KC OUT OF SERVICE - CORRECTIVE MAINTENANCE			
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	BDGCCU1U3R	FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPCS AND RCIC			
1020)	DCS001AIVD	FAILURE OF OUTPUT FROM INVERTER SO01A	1E-4		
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			1.30E-09
	A2DGIKBDGM	DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE			
	A1STDGARUN	DIVISION 1 DIESEL FAILS TO CONTINUE RUNNING			
	I1ST-41	INDEPENDENT FAILURES OF RCIC SYSTEM			
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			
1021)	BDGCCU1U3R	FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPCS AND RCIC			1.30E-09
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			
	A1STDGBRUN	DIVISION 2 DIESEL FAILS TO CONTINUE RUNNING			
	A2DGIKADGM	DG01KA OUT OF SERVICE - CORRECTIVE MAINTENANCE			
	I1ST-41	INDEPENDENT FAILURES OF RCIC SYSTEM			
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM			
1022)	BDGCCU1U3R	FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPCS AND RCIC			1.30E-09
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM			
	DC71STASSO	STATIC XFER SWITCH C71S11A FAILS OPEN	1E-3		
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM			
	X0SPRCCGTX	COM CAUSE FAIL DIV 1 2&3 DISCHARGE PRESS INST	3E-6		
	B5XMANSTR	OPERATOR FAILS TO MANUALLY START SX SYSTEM			
1023)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			1.31E-09
	A1STDGBSTR	DIVISION 2 DIESEL FAILS TO START			
	A1STDGASTR	DIVISION 1 DIESEL FAILS TO START			
	A1STDGCSTR	DIVISION 3 DIESEL FAILS TO START			
	IRISYSTSYH	RCIC IMPROPERLY RESTORED FROM MAINTENANCE			
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
1024)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			1.31E-09
	A1STDGBSTR	DIVISION 2 DIESEL FAILS TO START			
	A1STDGASTR	DIVISION 1 DIESEL FAILS TO START			
	A1STDGCSTR	DIVISION 3 DIESEL FAILS TO START			
	IRIF01MVO	MIN FLOW VLV FAILS TO OPEN	3.0E-3		
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
1025)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			1.31E-09
	A1STDGBSTR	DIVISION 2 DIESEL FAILS TO START			
	A1STDGASTR	DIVISION 1 DIESEL FAILS TO START			
	A1STDGCSTR	DIVISION 3 DIESEL FAILS TO START			
	IRIF01MVO	MOV F013 FAILS TO OPEN	3.0E-3		
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
1026)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			1.31E-09
	A1STDGBSTR	DIVISION 2 DIESEL FAILS TO START			
	A1STDGASTR	DIVISION 1 DIESEL FAILS TO START			
	A1STDGCSTR	DIVISION 3 DIESEL FAILS TO START			



















1103)	YLOOPXXTRX A1STDG8STR A2DGCADGM HPSYST2SYM IRISYS2SYM YL1	LOSS OF OFF-SITE POWER INITIATOR DIVISION 2 DIESEL FAILS TO START DGO1KA OUT OF SERVICE - CORRECTIVE MAINTENANCE HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE RCIC DOWN FOR PREVENTIVE MAINTENANCE FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			1.23E-09
1104)	YLOOPXXTRX A2DGCBDGM A1STDGASTR HPSYST2SYM IRISYS2SYM YL1	LOSS OF OFF-SITE POWER INITIATOR DGO1KB OUT OF SERVICE - CORRECTIVE MAINTENANCE DIVISION 1 DIESEL FAILS TO START HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE RCIC DOWN FOR PREVENTIVE MAINTENANCE FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			1.23E-09
1105)	YLOOPXXTRX A2DGCBDGM A2DGCADGM HISTCOOLNG IRISYS1SYM YL1	LOSS OF OFF-SITE POWER INITIATOR DGO1KB OUT OF SERVICE - CORRECTIVE MAINTENANCE DGO1KA OUT OF SERVICE - CORRECTIVE MAINTENANCE FAILURE OF COOLING SUPPORT FOR THE HPCS PUMP RCIC DOWN FOR CORRECTIVE MAINTENANCE FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	3.0E-3		1.22E-09
1106)	YLOOPXXTRX A2DGCBDGM A1STDGARUN A2DGCADGM IRISYS1SYM YL1	LOSS OF OFF-SITE POWER INITIATOR DGO1KB OUT OF SERVICE - CORRECTIVE MAINTENANCE DIVISION 1 DIESEL FAILS TO CONTINUE RUNNING DGO1KC OUT OF SERVICE - CORRECTIVE MAINTENANCE RCIC DOWN FOR CORRECTIVE MAINTENANCE FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			1.22E-09
1107)	YLOOPXXTRX A2DGCBDGM X1STSXDIV1 A2DGCADGM PR1MAINLGH YL1	LOSS OF OFF-SITE POWER INITIATOR DGO1KB OUT OF SERVICE - CORRECTIVE MAINTENANCE SHUTDOWN SERVICE WATER DIVISION 1 FAILURE DGO1KC OUT OF SERVICE - CORRECTIVE MAINTENANCE RCIC FAILURE TO PROPERLY RESTORE FROM MAINT FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			1.22E-09
1108)	YLOOPXXTRX A2DGCBDGM X1STSXDIV1 A2DGCADGM IRIF013MVO YL1	LOSS OF OFF-SITE POWER INITIATOR DGO1KB OUT OF SERVICE - CORRECTIVE MAINTENANCE SHUTDOWN SERVICE WATER DIVISION 1 FAILURE DGO1KC OUT OF SERVICE - CORRECTIVE MAINTENANCE MOV F013 FAILS TO OPEN FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	3.0E-3		1.22E-09
1109)	YLOOPXXTRX A2DGCBDGM X1STSXDIV1 A2DGCADGM IRISYS1SYM YL1	LOSS OF OFF-SITE POWER INITIATOR DGO1KB OUT OF SERVICE - CORRECTIVE MAINTENANCE SHUTDOWN SERVICE WATER DIVISION 1 FAILURE DGO1KC OUT OF SERVICE - CORRECTIVE MAINTENANCE RCIC IMPROPERLY RESTORED FROM MAINTENANCE FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			1.22E-09
1110)	YLOOPXXTRX A2DGCBDGM X1STSXDIV1 A2DGCADGM IRIF019MVO YL1	LOSS OF OFF-SITE POWER INITIATOR DGO1KB OUT OF SERVICE - CORRECTIVE MAINTENANCE SHUTDOWN SERVICE WATER DIVISION 1 FAILURE DGO1KC OUT OF SERVICE - CORRECTIVE MAINTENANCE MIN FLOW VLV FAILS TO OPEN FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	3.0E-3		1.22E-09
1111)	YLOOPXXTRX A2DGCADGM XD2CORRSYM HISTINJECT IRISYS1SYM YL1	LOSS OF OFF-SITE POWER INITIATOR DGO1KA OUT OF SERVICE - CORRECTIVE MAINTENANCE DIV 2 DOWN FOR CORRECTIVE MAINT INDEPENDENT FAILURES OF HPCS SYSTEM RCIC DOWN FOR CORRECTIVE MAINTENANCE FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			1.21E-09
1112)	YLOOPXXTRX A2DGCBDGM XD1CORRSYM HISTINJECT IRISYS1SYM YL1	LOSS OF OFF-SITE POWER INITIATOR DGO1KB OUT OF SERVICE - CORRECTIVE MAINTENANCE DIV 1 DOWN FOR CORRECTIVE MAINT INDEPENDENT FAILURES OF HPCS SYSTEM RCIC DOWN FOR CORRECTIVE MAINTENANCE FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			1.21E-09
1113)	YLOOPXXTRX A2DGCADGM IRISYS2SYM YL1	LOSS OF OFF-SITE POWER INITIATOR DGO1KC OUT OF SERVICE - CORRECTIVE MAINTENANCE RCIC DOWN FOR PREVENTIVE MAINTENANCE FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			1.21E-09
1114)	ADGABCCDGS YLOOPXXTRX A2DGCBDGM IRISYS2SYM YL1	DG A AND B FAIL TO START - COMMON CAUSE LOSS OF OFF-SITE POWER INITIATOR DGO1KB OUT OF SERVICE - CORRECTIVE MAINTENANCE RCIC DOWN FOR PREVENTIVE MAINTENANCE FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	2E-2		1.21E-09
1115)	ADGACCCDGS YLOOPXXTRX A2DGCADGM IRISYS2SYM YL1	DG A AND C FAIL TO START - COMMON CAUSE LOSS OF OFF-SITE POWER INITIATOR DGO1KA OUT OF SERVICE - CORRECTIVE MAINTENANCE RCIC DOWN FOR PREVENTIVE MAINTENANCE FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	2E-2		1.21E-09
1116)	ADGBCCCDGS YLOOPXXTRX X1STSXDIV1 X1STSXDIV2 P3MAINTLGH HISTINJECT YL1	DG B AND C FAIL TO START - COMMON CAUSE LOSS OF OFF-SITE POWER INITIATOR SHUTDOWN SERVICE WATER DIVISION 1 FAILURE SHUTDOWN SERVICE WATER DIVISION 2 FAILURE HPCS FAILURE TO PROPERLY RESTORE FROM MAINT INDEPENDENT FAILURES OF RCIC SYSTEM FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	2E-2		1.21E-09



1117)	BISTRINJR YLOOPXXTRX X1STSXDIV1 X1STSXDIV2 XSX006CMVO I1STINJECT Y1	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM LOSS OF OFF-SITE POWER INITIATOR SHUTDOWN SERVICE WATER DIVISION 1 FAILURE SHUTDOWN SERVICE WATER DIVISION 2 FAILURE DIS VALVE 1SX006C FAILS TO OPEN (MIN FLOW DIV 3) INDEPENDENT FAILURES OF RCIC SYSTEM FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	3.0E-3	7.56E-01 4.4E-02 6.6E-03 6.6E-03 0.000000 4.4E-02 5.0E-01	7.56E-01 4.4E-02 6.6E-03 6.6E-03 0.000000 4.4E-02 5.0E-01	1.21E-09
1118)	BISTRINJR YLOOPXXTRX X1STSXDIV1 X1STSXDIV2 HPXN056FSH I1STINJECT Y1	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM LOSS OF OFF-SITE POWER INITIATOR SHUTDOWN SERVICE WATER DIVISION 1 FAILURE SHUTDOWN SERVICE WATER DIVISION 2 FAILURE MISCALIBRATION OF HFCS FLOW TRANSMITTER INDEPENDENT FAILURES OF RCIC SYSTEM FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		7.56E-01 4.4E-02 6.6E-03 6.6E-03 0.003000 4.4E-02 5.0E-01	7.56E-01 4.4E-02 6.6E-03 6.6E-03 0.003000 4.4E-02 5.0E-01	1.21E-09
1119)	BISTRINJR YLOOPXXTRX X1STSXDIV1 X1STSXDIV2 XSX014CMVC I1STINJECT Y1	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM LOSS OF OFF-SITE POWER INITIATOR SHUTDOWN SERVICE WATER DIVISION 1 FAILURE SHUTDOWN SERVICE WATER DIVISION 2 FAILURE MOV 1SX014C FAILS TO CLOSE INDEPENDENT FAILURES OF RCIC SYSTEM FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	3.0E-3	7.56E-01 4.4E-02 6.6E-03 6.6E-03 0.000000 4.4E-02 5.0E-01	7.56E-01 4.4E-02 6.6E-03 6.6E-03 0.000000 4.4E-02 5.0E-01	1.21E-09
1120)	BISTRINJR YLOOPXXTRX X1STSXDIV1 X1STSXDIV2 AVD01YCDMO I1STINJECT Y1	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM LOSS OF OFF-SITE POWER INITIATOR SHUTDOWN SERVICE WATER DIVISION 1 FAILURE SHUTDOWN SERVICE WATER DIVISION 2 FAILURE FAILURE OF DAMPER VD01YC TO OPEN INDEPENDENT FAILURES OF RCIC SYSTEM FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	3E-3	7.56E-01 4.4E-02 6.6E-03 6.6E-03 0.000000 4.4E-02 5.0E-01	7.56E-01 4.4E-02 6.6E-03 6.6E-03 0.000000 4.4E-02 5.0E-01	1.21E-09
1121)	BISTRINJR YLOOPXXTRX X1STSXDIV1 X1STSXDIV2 AP221C1CBO I1STINJECT Y1	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM LOSS OF OFF-SITE POWER INITIATOR SHUTDOWN SERVICE WATER DIVISION 1 FAILURE SHUTDOWN SERVICE WATER DIVISION 2 FAILURE FAILURE OF CIRCUIT BREAKER 221C1 TO OPEN (ERAT) INDEPENDENT FAILURES OF RCIC SYSTEM FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	3E-3	7.56E-01 4.4E-02 6.6E-03 6.6E-03 0.000000 4.4E-02 5.0E-01	7.56E-01 4.4E-02 6.6E-03 6.6E-03 0.000000 4.4E-02 5.0E-01	1.21E-09
1122)	BISTRINJR YLOOPXXTRX A1STDGBSTR A1STDOPMPC Y1 BDO1STU1U3 DDC01ECBYM	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM LOSS OF OFF-SITE POWER INITIATOR DIVISION 2 DIESEL FAILS TO START DIVISION 3 DIESEL FUEL OIL PUMP FAILS FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS FAILURE TO RECOVER FROM DIESEL FUEL PUMP FAILURES WITH HPCS AND RCIC FAI BATTERY 01E OUT OF SERVICE - CORRECTIVE MAINTENANCE	3.76E-4	7.56E-01 4.4E-02 6.6E-03 6.6E-03 0.000000 4.4E-02 5.0E-01	7.56E-01 4.4E-02 6.6E-03 6.6E-03 0.000000 4.4E-02 5.0E-01	1.20E-09
1123)	YLOOPXXTRX A1STDOPMPC A1STDGCSTR Y1 BDO1STU1U3 DDC01ECBYM	LOSS OF OFF-SITE POWER INITIATOR DIVISION 2 DIESEL FUEL OIL PUMP FAILS DIVISION 3 DIESEL FAILS TO START FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS FAILURE TO RECOVER FROM DIESEL FUEL PUMP FAILURES WITH HPCS AND RCIC FAI BATTERY 01E OUT OF SERVICE - CORRECTIVE MAINTENANCE	3.76E-4	7.56E-01 4.4E-02 6.6E-03 6.6E-03 0.000000 4.4E-02 5.0E-01	7.56E-01 4.4E-02 6.6E-03 6.6E-03 0.000000 4.4E-02 5.0E-01	1.20E-09
1124)	YLOOPXXTRX HPSYST2SYM IRISYS2SYM Y1 XDPABCCGTX BSXMANSTR	LOSS OF OFF-SITE POWER INITIATOR HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE RCIC DOWN FOR PREVENTIVE MAINTENANCE FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS COM CAUSE FAIL DIV 1&2 DISCHARGE PRESS INST OPERATOR FAILS TO MANUALLY START SX SYSTEM	3E-6	7.56E-01 4.4E-02 6.6E-03 6.6E-03 1.000000 4.4E-02 5.0E-01	7.56E-01 4.4E-02 6.6E-03 6.6E-03 1.000000 4.4E-02 5.0E-01	1.20E-09
1125)	YLOOPXXTRX A1STDOPMPC I1STINJECT Y1 BISTRINJR BDO1STU1U3 XMNFLCCMVO	LOSS OF OFF-SITE POWER INITIATOR DIVISION 3 DIESEL FUEL OIL PUMP FAILS INDEPENDENT FAILURES OF RCIC SYSTEM FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM FAILURE TO RECOVER FROM DIESEL FUEL PUMP FAILURES WITH HPCS AND RCIC FAI COMMON CAUSE FAIL SX A&B MIN FLOW VALVES	3.0E-3	7.56E-01 4.4E-02 6.6E-03 6.6E-03 0.000000 4.4E-02 5.0E-01	7.56E-01 4.4E-02 6.6E-03 6.6E-03 0.000000 4.4E-02 5.0E-01	1.20E-09
1126)	YLOOPXXTRX A2DGCBDGM A2DGCDCGM I1STINJECT Y1 BISTRINJR XDPABCCGTX YLOOPXXTRX HPSYST2SYM I1STINJECT Y1	LOSS OF OFF-SITE POWER INITIATOR DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE DG01KC OUT OF SERVICE - CORRECTIVE MAINTENANCE INDEPENDENT FAILURES OF RCIC SYSTEM FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM COM CAUSE FAIL DIV 1&3 DISCHARGE PRESS INST LOSS OF OFF-SITE POWER INITIATOR HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE INDEPENDENT FAILURES OF RCIC SYSTEM FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM COMMON CAUSE FAIL FOR DG HX DISCHARGE VALVES A&B	3E-6	7.56E-01 4.4E-02 6.6E-03 6.6E-03 1.000000 4.4E-02 5.0E-01	7.56E-01 4.4E-02 6.6E-03 6.6E-03 1.000000 4.4E-02 5.0E-01	1.19E-09
1127)	YLOOPXXTRX HPSYST2SYM I1STINJECT Y1 BISTRINJR XDGABCCMVO YLOOPXXTRX HPSYST2SYM I1STINJECT Y1	LOSS OF OFF-SITE POWER INITIATOR HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE INDEPENDENT FAILURES OF RCIC SYSTEM FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM COMMON CAUSE FAIL FOR DG HX DISCHARGE VALVES A&B LOSS OF OFF-SITE POWER INITIATOR HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE INDEPENDENT FAILURES OF RCIC SYSTEM FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM COM CAUSE WS TO SX A&B VALVES FAIL TO CLOSE	3.0E-3	7.56E-01 4.4E-02 6.6E-03 6.6E-03 0.008000 4.4E-02 5.0E-01	7.56E-01 4.4E-02 6.6E-03 6.6E-03 0.008000 4.4E-02 5.0E-01	1.19E-09
1128)	YLOOPXXTRX HPSYST2SYM I1STINJECT Y1 BISTRINJR X14ABCCMVC YLOOPXXTRX ADG01KCDGM I1STINJECT Y1	LOSS OF OFF-SITE POWER INITIATOR HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE INDEPENDENT FAILURES OF RCIC SYSTEM FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM COM CAUSE WS TO SX A&B VALVES FAIL TO CLOSE LOSS OF OFF-SITE POWER INITIATOR DG01KC OUT OF SERVICE - PREVENTIVE MAINTENANCE INDEPENDENT FAILURES OF RCIC SYSTEM FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM COMMON CAUSE FAIL SX A&B PUMPS FAIL TO START OPERATOR FAILS TO RECOVER FAILED SX PUMP	3.0E-3	7.56E-01 4.4E-02 6.6E-03 6.6E-03 0.004200 4.4E-02 5.0E-01	7.56E-01 4.4E-02 6.6E-03 6.6E-03 0.004200 4.4E-02 5.0E-01	1.19E-09
1129)	YLOOPXXTRX ADG01KCDGM I1STINJECT Y1 BISTRINJR X14ABCCMVC YLOOPXXTRX ADG01KCDGM I1STINJECT Y1	LOSS OF OFF-SITE POWER INITIATOR DG01KC OUT OF SERVICE - PREVENTIVE MAINTENANCE INDEPENDENT FAILURES OF RCIC SYSTEM FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM COMMON CAUSE FAIL SX A&B PUMPS FAIL TO START OPERATOR FAILS TO RECOVER FAILED SX PUMP	3.0E-3	7.56E-01 4.4E-02 6.6E-03 6.6E-03 0.000000 4.4E-02 5.0E-01	7.56E-01 4.4E-02 6.6E-03 6.6E-03 0.000000 4.4E-02 5.0E-01	1.19E-09
1130)	YLOOPXXTRX A1STDGBRUN ADGACCCDGR	LOSS OF OFF-SITE POWER INITIATOR DIVISION 2 DIESEL FAILS TO CONTINUE RUNNING DG A AND C FAIL TO RUN - COMMON CAUSE	2E-3	7.56E-01 4.4E-02 6.6E-03 6.6E-03 0.027000 4.4E-02 5.0E-01	7.56E-01 4.4E-02 6.6E-03 6.6E-03 0.027000 4.4E-02 5.0E-01	1.19E-09







ID	Code	Description	Frequency	Value
	HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM		5.00E-02
	IRISYS2SYM	RCIC DOWN FOR CORRECTIVE MAINTENANCE		5.00E-02
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.002600
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		0.000100
1158)	ADGABCCDGS	DG A AND B FAIL TO START - COMMON CAUSE	2E-2	0.010000
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0.000100
	XISTSXDIV2	SHUTDOWN SERVICE WATER DIVISION 2 FAILURE		0.000100
	XDCORRSYM	DIV 2 DOWN FOR CORRECTIVE MAINT		0.000100
	HPSYST1SYM	HP SYSTEM DOWN FOR PREVENTIVE MAINTENANCE		0.000610
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		0.000100
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.000100
	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		0.000100
1159)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0.000100
	XISTSXDIV1	SHUTDOWN SERVICE WATER DIVISION 1 FAILURE		0.000100
	XDCORRSYM	DIV 1 DOWN FOR CORRECTIVE MAINT		0.000100
	HPSYST1SYM	HP SYSTEM DOWN FOR PREVENTIVE MAINTENANCE		0.000610
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		0.000100
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.000100
	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		0.000100
1160)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0.000100
	ADGBCCCDGR	DG B AND C FAIL TO RUN - COMMON CAUSE	2E-3	0.000100
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.000100
	BDGCCU1U3R	FAILURE OF TIME-PHASED DIESEL RECOVERY WITH FAILURE OF HPCS AND RCIC		0.000100
	D1DC01EBYM	BATTERY 01E OUT OF SERVICE - PREVENTIVE MAINTENANCE		0.000100
1161)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR	3.76E-4	0.000100
	A1STDGBSTR	DIVISION 2 DIESEL FAILS TO START		0.000100
	XISTSXDIV1	SHUTDOWN SERVICE WATER DIVISION 1 FAILURE		0.000100
	HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM		0.000100
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.000100
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		0.000100
1162)	DCS001A1VD	FAILURE OF OUTPUT FROM INVERTER S001A	1E-4	0.000000
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0.000100
	A1STDGASTR	DIVISION 1 DIESEL FAILS TO START		0.000100
	XISTSXDIV2	SHUTDOWN SERVICE WATER DIVISION 2 FAILURE		0.000100
	HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM		0.000100
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.000100
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		0.000100
1163)	DCS001A1VD	FAILURE OF OUTPUT FROM INVERTER S001A	1E-4	0.000000
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0.000100
	HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM		0.000100
	IRISYS2SYM	RCIC DOWN FOR PREVENTIVE MAINTENANCE		0.000100
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.000100
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		0.000100
1164)	AVDABCCDMO	FAILURE OF DAMPERS V001A AND B TO OPEN - COMMON CAUSE	3E-3	0.000100
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0.000100
	A1STDGCSR	DIVISION 3 DIESEL FAILS TO START		0.000100
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.000100
	XDPABCCGTX	COM CAUSE FAIL DIV 1&2 DISCHARGE PRESS INST	3E-6	0.000000
	DCS001A1VD	FAILURE OF OUTPUT FROM INVERTER S001A	1E-4	0.000000
	BSXMANSTR	OPERATOR FAILS TO MANUALLY START SX SYSTEM		0.000100
1165)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0.000100
	A2DGIKADGM	DG01KA OUT OF SERVICE - CORRECTIVE MAINTENANCE		0.000100
	XISTSXDIV2	SHUTDOWN SERVICE WATER DIVISION 2 FAILURE		0.000100
	HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM		0.000100
	P12RCICLGM	RCIC COMPONENTS DOWN FOR MAINTENANCE		0.000100
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.000100
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		0.000100
1166)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0.000100
	A2DGIKADGM	DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE		0.000100
	XISTSXDIV1	SHUTDOWN SERVICE WATER DIVISION 1 FAILURE		0.000100
	HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM		0.000100
	P12RCICLGM	RCIC COMPONENTS DOWN FOR MAINTENANCE		0.000100
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.000100
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		0.000100
1167)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0.000100
	A1STDGBSTR	DIVISION 2 DIESEL FAILS TO START		0.000100
	A1STDOPMPA	DIVISION 1 DIESEL FUEL OIL PUMP FAILS		0.000100
	HPSYST2SYM	HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE		0.000100
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		0.000100
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.000100
	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		0.000100
1168)	BD01STUIU3	FAILURE TO RECOVER FROM DIESEL FUEL PUMP FAILURES WITH HPCS AND RCIC FAI		0.000100
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0.000100
	A1STDGASTR	DIVISION 1 DIESEL FAILS TO START		0.000100
	A1STDOPMPB	DIVISION 2 DIESEL FUEL OIL PUMP FAILS		0.000100
	HPSYST2SYM	HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE		0.000100
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		0.000100
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.000100
	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		0.000100
1169)	BD01STUIU3	FAILURE TO RECOVER FROM DIESEL FUEL PUMP FAILURES WITH HPCS AND RCIC FAI		0.000100
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0.000100
	A2DGIKCDGM	DG01KC OUT OF SERVICE - CORRECTIVE MAINTENANCE		0.000100
	P12RCICLGM	RCIC COMPONENTS DOWN FOR MAINTENANCE		0.000100
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.000100
	XDPABCCGTX	COM CAUSE FAIL DIV 1&2 DISCHARGE PRESS INST	3E-6	0.000000
	BSXMANSTR	OPERATOR FAILS TO MANUALLY START SX SYSTEM		0.000100
1170)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0.000100
	A1STDGBRUN	DIVISION 2 DIESEL FAILS TO CONTINUE RUNNING		0.000100
	A1STDGARUN	DIVISION 1 DIESEL FAILS TO CONTINUE RUNNING		0.000100
	A1STDGCSR	DIVISION 3 DIESEL FAILS TO START		0.000100

















**Cutsets for Sequence TLULDD**

MODULE/EVENT NAME	DESCRIPTION	RATE	EXPOSURE	B. E. PROB.	MOD./CS. PROB.
1) TLULDD					*4.59E-06
1) YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		8.4E-2	8.40E-02	2.04E-07
YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.01E-01	0.01E-01	
AGABCCCDGS	DG A B AND C FAIL TO START - COMMON CAUSE	2E-2	0.01E-00	0.01E-01	
YDG1R04DGH	OPERATORS FAIL TO RESTORE DG I IN 4 HOURS		0.80E-00	0.80E-01	
YDG2R04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS		0.80E-00	0.80E-01	
YOS0T04SWH	OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS		0.45E-00	0.45E-01	
2) YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		8.4E-2	8.40E-02	1.23E-07
YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.01E-01	0.01E-01	
AGABCCCDGS	DG A B AND C FAIL TO START - COMMON CAUSE	2E-2	0.01E-00	0.01E-01	
YDCL0ADSWH	DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL		0.01E-00	0.01E-01	
YDG1R01DGH	OPERATORS FAIL TO RESTORE DG I AT 1 HOUR		0.80E-00	0.80E-01	
YDG2R01DGH	OPERATORS FAIL TO RESTORE DG II IN 1 HOUR		0.80E-00	0.80E-01	
YOS0T01SWH	OFF-SITE POWER NOT RECOVERED WITHIN ONE HOUR		0.53E-00	0.53E-01	
3) YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		8.4E-2	8.40E-02	9.91E-08
YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.01E-01	0.01E-01	
AGABCCCDGS	DG A B AND C FAIL TO START - COMMON CAUSE	2E-2	0.01E-00	0.01E-01	
YDCL0ADSWH	DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL		0.01E-00	0.01E-01	
YDG1R01DGH	OPERATORS FAIL TO RESTORE DG I AT 1 HOUR		0.80E-00	0.80E-01	
YDG2R04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS		0.80E-00	0.80E-01	
YOS0T01SWH	OFF-SITE POWER NOT RECOVERED WITHIN ONE HOUR		0.53E-00	0.53E-01	
4) YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		8.4E-2	8.40E-02	7.48E-08
YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.01E-01	0.01E-01	
AGABCCCDGR	DG A B AND C FAIL TO RUN - COMMON CAUSE	2E-3	0.01E-00	0.01E-01	
YDG1R04DGH	OPERATORS FAIL TO RESTORE DG I IN 4 HOURS		0.80E-00	0.80E-01	
YDG2R04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS		0.80E-00	0.80E-01	
YOS0T04SWH	OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS		0.45E-00	0.45E-01	
B3DCCDDR4	FAILURE TO RECOVER IN FOUR HOURS FROM COMMON CAUSE FAILURE OF THREE DIES		0.00E-02	0.00E-02	
5) YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		8.4E-2	8.40E-02	7.33E-08
YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.01E-01	0.01E-01	
AVABCCCDMO	DAMPERS VD01YA B AND C FAIL TO OPEN - COMMON CAUSE	3E-3	0.01E-00	0.01E-01	
YDG1R04DGH	OPERATORS FAIL TO RESTORE DG I IN 4 HOURS		0.80E-00	0.80E-01	
YDG2R04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS		0.80E-00	0.80E-01	
YOS0T04SWH	OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS		0.45E-00	0.45E-01	
6) YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		8.4E-2	8.40E-02	4.42E-08
YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.01E-01	0.01E-01	
AVABCCCDMO	DAMPERS VD01YA B AND C FAIL TO OPEN - COMMON CAUSE	3E-3	0.01E-00	0.01E-01	
YDCL0ADSWH	DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL		0.01E-00	0.01E-01	
YDG1R01DGH	OPERATORS FAIL TO RESTORE DG I AT 1 HOUR		0.80E-00	0.80E-01	
YDG2R01DGH	OPERATORS FAIL TO RESTORE DG II IN 1 HOUR		0.80E-00	0.80E-01	
YOS0T01SWH	OFF-SITE POWER NOT RECOVERED WITHIN ONE HOUR		0.53E-00	0.53E-01	
7) YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		8.4E-2	8.40E-02	3.75E-08
HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM		0.00E-02	0.00E-02	
YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.01E-01	0.01E-01	
B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		0.00E-01	0.00E-01	
XDSPRCCGTIX	COM CAUSE FAIL DIV 1 2&3 DISCHARGE PRESS INST	3E-6	1.00E-00	1.00E-01	
YDG1R04DGH	OPERATORS FAIL TO RESTORE DG I IN 4 HOURS		0.80E-00	0.80E-01	
YDG2R04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS		0.80E-00	0.80E-01	
YOS0T04SWH	OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS		0.45E-00	0.45E-01	
BSXMANSTRT	OPERATOR FAILS TO MANUALLY START SX SYSTEM		0.00E-01	0.00E-01	
8) YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		8.4E-2	8.40E-02	3.57E-08
YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.01E-01	0.01E-01	
AVABCCCDMO	DAMPERS VD01YA B AND C FAIL TO OPEN - COMMON CAUSE	3E-3	0.01E-00	0.01E-01	
YDCL0ADSWH	DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL		0.01E-00	0.01E-01	
YDG1R01DGH	OPERATORS FAIL TO RESTORE DG I AT 1 HOUR		0.80E-00	0.80E-01	
YDG2R04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS		0.80E-00	0.80E-01	
YOS0T01SWH	OFF-SITE POWER NOT RECOVERED WITHIN ONE HOUR		0.53E-00	0.53E-01	
9) YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		8.4E-2	8.40E-02	3.48E-08
YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.01E-01	0.01E-01	
ADABCCCMPS	PUMPS D001A B AND C FAIL TO START - COMMON CAUSE	3.0E-3	0.01E-00	0.01E-01	
YDG1R04DGH	OPERATORS FAIL TO RESTORE DG I IN 4 HOURS		0.80E-00	0.80E-01	
YDG2R04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS		0.80E-00	0.80E-01	
YOS0T04SWH	OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS		0.45E-00	0.45E-01	
B3DCCDDS4	FAILURE TO RECOVER IN FOUR HOURS FROM COMMON CAUSE DIESEL FUEL PUMP STAR		1.90E-01	1.90E-01	
10) YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		8.4E-2	8.40E-02	3.06E-08
YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.01E-01	0.01E-01	
ADABCCCBBC	FAILURE OF CB A B AND C TO CLOSE - COMMON CAUSE	3E-3	0.01E-00	0.01E-01	
YDG1R04DGH	OPERATORS FAIL TO RESTORE DG I IN 4 HOURS		0.80E-00	0.80E-01	
YDG2R04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS		0.80E-00	0.80E-01	
YOS0T04SWH	OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS		0.45E-00	0.45E-01	
11) YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		8.4E-2	8.40E-02	2.87E-08
YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.01E-01	0.01E-01	
AVABCCCFNS	FANS VD01CA B AND C FAIL TO START - COMMON CAUSE	3E-4	0.01E-00	0.01E-01	
YDG1R04DGH	OPERATORS FAIL TO RESTORE DG I IN 4 HOURS		0.80E-00	0.80E-01	
YDG2R04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS		0.80E-00	0.80E-01	
YOS0T04SWH	OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS		0.45E-00	0.45E-01	
12) YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		8.4E-2	8.40E-02	2.75E-08
A2DG1KCDGM	DG01KC OUT OF SERVICE - CORRECTIVE MAINTENANCE		0.026300	2.63E-02	

	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	3E-6	4.21E-01	2.1E-01
	XDSPRCCGTX	COMMON CAUSE FAIL DIV 1 2&3 DISCHARGE PRESS INST		0.000000	0.000000
	YDG1R04DGH	OPERATORS FAIL TO RESTORE DG 1 IN 4 HOURS		0.000000	0.000000
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG 11 IN 4 HOURS		0.000000	0.000000
	YOS0T04SHH	OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS		0.500000	0.500000
13)	BSXMANSTR	OPERATOR FAILS TO MANUALLY START SX SYSTEM		0.00E-01	0.00E-01
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0.000000	0.000000
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	1.0E-4	0.000000	0.000000
	XSX01CCCCV	COMMON CAUSE CHECK VALVE SX001A B&C FAILS TO OPEN		0.000000	0.000000
	YDG1R04DGH	OPERATORS FAIL TO RESTORE DG 1 IN 4 HOURS		0.000000	0.000000
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG 11 IN 4 HOURS		0.000000	0.000000
	YOS0T04SHH	OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS		0.500000	0.500000
14)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0.000000	0.000000
	AZDGCBDGM	DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE		0.000000	0.000000
	AZDGIKADGM	DG01KA OUT OF SERVICE - CORRECTIVE MAINTENANCE		0.000000	0.000000
	HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM		0.000000	0.000000
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.000000	0.000000
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		0.000000	0.000000
	YDG1R04DGH	OPERATORS FAIL TO RESTORE DG 1 IN 4 HOURS		0.000000	0.000000
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG 11 IN 4 HOURS		0.000000	0.000000
	YOS0T04SHH	OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS		0.500000	0.500000
15)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0.000000	0.000000
	A1STDGCSR	DIVISION 3 DIESEL FAILS TO START		0.000000	0.000000
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	3E-6	0.000000	0.000000
	XDSPRCCGTX	COMMON CAUSE FAIL DIV 1 2&3 DISCHARGE PRESS INST		0.000000	0.000000
	YDG1R04DGH	OPERATORS FAIL TO RESTORE DG 1 IN 4 HOURS		0.000000	0.000000
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG 11 IN 4 HOURS		0.000000	0.000000
	YOS0T04SHH	OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS		0.500000	0.500000
	BSXMANSTR	OPERATOR FAILS TO MANUALLY START SX SYSTEM		0.00E-01	0.00E-01
16)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0.000000	0.000000
	HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM		0.000000	0.000000
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	3E-6	0.000000	0.000000
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		0.000000	0.000000
	XDSPRCCGTX	COMMON CAUSE FAIL DIV 1 2&3 DISCHARGE PRESS INST		0.000000	0.000000
	YDCLDADSHH	DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL		0.000000	0.000000
	YDG1R01DGH	OPERATORS FAIL TO RESTORE DG 1 AT 1 HOUR		0.000000	0.000000
	YDG2R01DGH	OPERATORS FAIL TO RESTORE DG 11 IN 1 HOUR		0.000000	0.000000
	YOS0T01SHH	OFF-SITE POWER NOT RECOVERED WITHIN ONE HOUR		0.500000	0.500000
	BSXMANSTR	OPERATOR FAILS TO MANUALLY START SX SYSTEM		0.00E-01	0.00E-01
17)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0.000000	0.000000
	A1STDGBSTR	DIVISION 2 DIESEL FAILS TO START		0.000000	0.000000
	AZDGIKADGM	DG01KA OUT OF SERVICE - CORRECTIVE MAINTENANCE		0.000000	0.000000
	HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM		0.000000	0.000000
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.000000	0.000000
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		0.000000	0.000000
	YDG1R04DGH	OPERATORS FAIL TO RESTORE DG 1 IN 4 HOURS		0.000000	0.000000
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG 11 IN 4 HOURS		0.000000	0.000000
	YOS0T04SHH	OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS		0.500000	0.500000
18)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0.000000	0.000000
	AZDGCBDGM	DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE		0.000000	0.000000
	A1STDGASR	DIVISION 1 DIESEL FAILS TO START		0.000000	0.000000
	HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM		0.000000	0.000000
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.000000	0.000000
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		0.000000	0.000000
	YDG1R04DGH	OPERATORS FAIL TO RESTORE DG 1 IN 4 HOURS		0.000000	0.000000
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG 11 IN 4 HOURS		0.000000	0.000000
	YOS0T04SHH	OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS		0.500000	0.500000
19)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0.000000	0.000000
	HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM		0.000000	0.000000
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	3E-6	0.000000	0.000000
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		0.000000	0.000000
	XDPABCCGTX	COMMON CAUSE FAIL DIV 1&2 DISCHARGE PRESS INST		0.000000	0.000000
	YDG1R04DGH	OPERATORS FAIL TO RESTORE DG 1 IN 4 HOURS		0.000000	0.000000
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG 11 IN 4 HOURS		0.000000	0.000000
	YOS0T04SHH	OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS		0.500000	0.500000
	BSXMANSTR	OPERATOR FAILS TO MANUALLY START SX SYSTEM		0.00E-01	0.00E-01
20)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0.000000	0.000000
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	3.0E-3	0.000000	0.000000
	XDGHXCCMVO	COMMON CAUSE FAILURE FOR DG HX DISCHARGE VALVES A & B		0.000000	0.000000
	YDG1R04DGH	OPERATORS FAIL TO RESTORE DG 1 IN 4 HOURS		0.000000	0.000000
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG 11 IN 4 HOURS		0.000000	0.000000
	YOS0T04SHH	OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS		0.500000	0.500000
21)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0.000000	0.000000
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	3.0E-3	0.000000	0.000000
	XSX14CCMVC	COMMON CAUSE WS TO SX A & B VALVES FAIL TO CLOSE		0.000000	0.000000
	YDG1R04DGH	OPERATORS FAIL TO RESTORE DG 1 IN 4 HOURS		0.000000	0.000000
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG 11 IN 4 HOURS		0.000000	0.000000
	YOS0T04SHH	OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS		0.500000	0.500000
22)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0.000000	0.000000
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	1E-5	0.000000	0.000000
	AVABCCCFNR	FANS VDO1CA B AND C FAIL TO RUN - COMMON CAUSE		0.000000	0.000000
	YDG1R04DGH	OPERATORS FAIL TO RESTORE DG 1 IN 4 HOURS		0.000000	0.000000
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG 11 IN 4 HOURS		0.000000	0.000000
	YOS0T04SHH	OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS		0.500000	0.500000
23)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0.000000	0.000000
	A1STDGBRUN	DIVISION 2 DIESEL FAILS TO CONTINUE RUNNING		0.000000	0.000000
	A1STDGARUN	DIVISION 1 DIESEL FAILS TO CONTINUE RUNNING		0.000000	0.000000
	HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM		0.000000	0.000000
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.000000	0.000000
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		0.00E-01	0.00E-01















77) YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR  
 A2DGTICBDGM DGO1KB OUT OF SERVICE - CORRECTIVE MAINTENANCE  
 A1STDGARUN DIVISION 1 DIESEL FAILS TO CONTINUE RUNNING  
 HISTINJECT INDEPENDENT FAILURES OF HPCS SYSTEM  
 YL1 FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS  
 B1STHPINJR OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM  
 YDG1R04DGH OPERATORS FAIL TO RESTORE DG 1 IN 4 HOURS  
 YDG2R04DGH OPERATORS FAIL TO RESTORE DG 11 IN 4 HOURS  
 YOSD015WH OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS  
 BDGRUNDR4 FAILURE OF TIME-PHASED DIESEL RUN FAILURE FOR FOUR HOURS  
 78) YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR  
 A2DGTICBDGM DGO1KB OUT OF SERVICE - CORRECTIVE MAINTENANCE  
 A1STDGASTR DIVISION 1 DIESEL FAILS TO START  
 A2DGT1KCDGM DGO1KC OUT OF SERVICE - CORRECTIVE MAINTENANCE  
 YL1 FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS  
 YDCLDADSWH DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL  
 YDG1R01DGH OPERATORS FAIL TO RESTORE DG 1 AT 1 HOUR  
 YDG2R01DGH OPERATORS FAIL TO RESTORE DG 11 IN 1 HOUR  
 YOSD015WH OFF-SITE POWER NOT RECOVERED WITHIN ONE HOUR  
 79) YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR  
 A2DGTICBDGM DGO1KB OUT OF SERVICE - CORRECTIVE MAINTENANCE  
 A2DGT1KADGM DGO1KA OUT OF SERVICE - CORRECTIVE MAINTENANCE  
 A1STDGCSTR DIVISION 3 DIESEL FAILS TO START  
 YL1 FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS  
 YDCLDADSWH DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL  
 YDG1R01DGH OPERATORS FAIL TO RESTORE DG 1 AT 1 HOUR  
 YDG2R01DGH OPERATORS FAIL TO RESTORE DG 11 IN 1 HOUR  
 YOSD015WH OFF-SITE POWER NOT RECOVERED WITHIN ONE HOUR  
 80) YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR  
 A2DGT1KADGM DGO1KA OUT OF SERVICE - CORRECTIVE MAINTENANCE  
 X1STSDIVZ SHUTDOWN SERVICE WATER DIVISION 2 FAILURE  
 HISTINJECT INDEPENDENT FAILURES OF HPCS SYSTEM  
 YL1 FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS  
 B1STHPINJR OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM  
 YDCLDADSWH DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL  
 YDG1R01DGH OPERATORS FAIL TO RESTORE DG 1 AT 1 HOUR  
 YDG2R01DGH OPERATORS FAIL TO RESTORE DG 11 IN 1 HOUR  
 YOSD015WH OFF-SITE POWER NOT RECOVERED WITHIN ONE HOUR  
 81) YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR  
 A2DGTICBDGM DGO1KB OUT OF SERVICE - CORRECTIVE MAINTENANCE  
 X1STSDIV1 SHUTDOWN SERVICE WATER DIVISION 1 FAILURE  
 HISTINJECT INDEPENDENT FAILURES OF HPCS SYSTEM  
 YL1 FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS  
 B1STHPINJR OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM  
 YDCLDADSWH DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL  
 YDG1R01DGH OPERATORS FAIL TO RESTORE DG 1 AT 1 HOUR  
 YDG2R01DGH OPERATORS FAIL TO RESTORE DG 11 IN 1 HOUR  
 YOSD015WH OFF-SITE POWER NOT RECOVERED WITHIN ONE HOUR  
 82) YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR  
 A2DGT1KCDGM DGO1KC OUT OF SERVICE - CORRECTIVE MAINTENANCE  
 YL1 FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS  
 XDPABCCGTX COM CAUSE FAIL DIV 1&2 DISCHARGE PRESS INST  
 YDCLDADSWH DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL  
 YDG1R01DGH OPERATORS FAIL TO RESTORE DG 1 AT 1 HOUR  
 YDG2R01DGH OPERATORS FAIL TO RESTORE DG 11 IN 1 HOUR  
 YOSD015WH OFF-SITE POWER NOT RECOVERED WITHIN ONE HOUR  
 BSXMANSTR OPERATOR FAILS TO MANUALLY START SX SYSTEM  
 83) YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR  
 A1STDGBSTR DIVISION 2 DIESEL FAILS TO START  
 A1STDGASTR DIVISION 1 DIESEL FAILS TO START  
 HISTINJECT INDEPENDENT FAILURES OF HPCS SYSTEM  
 YL1 FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS  
 B1STHPINJR OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM  
 YDCLDADSWH DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL  
 YDG1R01DGH OPERATORS FAIL TO RESTORE DG 1 AT 1 HOUR  
 YDG2R04DGH OPERATORS FAIL TO RESTORE DG 11 IN 4 HOURS  
 YOSD015WH OFF-SITE POWER NOT RECOVERED WITHIN ONE HOUR  
 84) YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR  
 HPSYST2SYM HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE  
 YL1 FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS  
 XDSPRCCGTX COM CAUSE FAIL DIV 2&3 DISCHARGE PRESS INST  
 YDG1R04DGH OPERATORS FAIL TO RESTORE DG 11 IN 4 HOURS  
 YDG2R04DGH OPERATORS FAIL TO RESTORE DG 11 IN 4 HOURS  
 YOSD015WH OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS  
 BSXMANSTR OPERATOR FAILS TO MANUALLY START SX SYSTEM  
 85) YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR  
 HISTINJECT INDEPENDENT FAILURES OF HPCS SYSTEM  
 YL1 FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS  
 B1STHPINJR OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM  
 ADGABCCDGR DG A AND B FAIL TO RUN - COMMON CAUSE  
 YDG1R04DGH OPERATORS FAIL TO RESTORE DG 1 IN 4 HOURS  
 YDG2R04DGH OPERATORS FAIL TO RESTORE DG 11 IN 4 HOURS  
 YOSD015WH OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS  
 BDGRUNDR4 FAILURE OF TIME-PHASED DIESEL RUN FAILURE FOR FOUR HOURS  
 86) YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR  
 A1STDGBRUN DIVISION 2 DIESEL FAILS TO CONTINUE RUNNING  
 A1STDGARUN DIVISION 1 DIESEL FAILS TO CONTINUE RUNNING  
 HISTINJECT INDEPENDENT FAILURES OF HPCS SYSTEM  
 YL1 FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS  
 B1STHPINJR OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM

3E-6

3E-6

2E-3

9.94E-09  
 9.80E-09  
 9.80E-09  
 9.61E-09  
 9.61E-09  
 9.58E-09  
 9.49E-09  
 9.20E-09  
 9.05E-09  
 9.02E-09



	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	XDPABCCGT	COM CAUSE FAIL DIV 1&2 DISCHARGE PRESS INST	3E-6	4.21E-01	4.21E-01
	YDCLOADSWH	DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL		1.00E-00	1.00E-00
	YDG1R01DGH	OPERATORS FAIL TO RESTORE DG I AT 1 HOUR		0.29E-00	0.29E-00
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS		0.90E-00	0.90E-00
	YOSD01SWH	OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR		0.90E-00	0.90E-00
	BSXMANSTR	OPERATOR FAILS TO MANUALLY START SX SYSTEM		0.53E-00	0.53E-00
97)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0.00E-01	0.00E-01
	XD3CORRSYM	DIV 3 DOWN FOR CORRECTIVE MAINT		0.00E-01	0.00E-01
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.0079E-00	0.0079E-00
	XDSPRCCGT	COM CAUSE FAIL DIV 1&2 DISCHARGE PRESS INST	3E-6	4.21E-01	4.21E-01
	YDG1R04DGH	OPERATORS FAIL TO RESTORE DG I IN 4 HOURS		0.90E-00	0.90E-00
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS		0.80E-00	0.80E-00
	YOSD04SWH	OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS		0.45E-00	0.45E-00
	BSXMANSTR	OPERATOR FAILS TO MANUALLY START SX SYSTEM		0.00E-01	0.00E-01
98)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0.00E-01	0.00E-01
	X1STSXDIV3	SHUTDOWN SERVICE WATER DIVISION 3 FAILURE		0.00E-01	0.00E-01
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.0079E-00	0.0079E-00
	XDSPRCCGT	COM CAUSE FAIL DIV 1&2 DISCHARGE PRESS INST	3E-6	4.21E-01	4.21E-01
	YDG1R04DGH	OPERATORS FAIL TO RESTORE DG I IN 4 HOURS		0.90E-00	0.90E-00
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS		0.80E-00	0.80E-00
	YOSD04SWH	OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS		0.45E-00	0.45E-00
	BSXMANSTR	OPERATOR FAILS TO MANUALLY START SX SYSTEM		0.00E-01	0.00E-01
99)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0.00E-01	0.00E-01
	A2DGTICBDGM	DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE		0.00E-01	0.00E-01
	A1STDGASTR	DIVISION 1 DIESEL FAILS TO START		0.00E-01	0.00E-01
	A2DGTICKDGM	DG01KC OUT OF SERVICE - CORRECTIVE MAINTENANCE		0.00E-01	0.00E-01
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.0079E-00	0.0079E-00
	YDCLOADSWH	DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL	3E-6	4.21E-01	4.21E-01
	YDG1R01DGH	OPERATORS FAIL TO RESTORE DG I AT 1 HOUR		0.29E-00	0.29E-00
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS		0.90E-00	0.90E-00
	YOSD01SWH	OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR		0.90E-00	0.90E-00
100)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0.00E-01	0.00E-01
	A2DGTICBDGM	DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE		0.00E-01	0.00E-01
	A2DGTIKADGM	DG01KA OUT OF SERVICE - CORRECTIVE MAINTENANCE		0.00E-01	0.00E-01
	A1STDGCTR	DIVISION 3 DIESEL FAILS TO START		0.00E-01	0.00E-01
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.0079E-00	0.0079E-00
	YDCLOADSWH	DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL	3E-6	4.21E-01	4.21E-01
	YDG1R01DGH	OPERATORS FAIL TO RESTORE DG I AT 1 HOUR		0.29E-00	0.29E-00
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS		0.90E-00	0.90E-00
	YOSD01SWH	OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR		0.90E-00	0.90E-00
101)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0.00E-01	0.00E-01
	A2DGTICBDGM	DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE		0.00E-01	0.00E-01
	X1STSXDIV1	SHUTDOWN SERVICE WATER DIVISION 1 FAILURE		0.00E-01	0.00E-01
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM		0.00E-01	0.00E-01
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.0079E-00	0.0079E-00
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		0.00E-01	0.00E-01
	YDCLOADSWH	DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL	3E-6	4.21E-01	4.21E-01
	YDG1R01DGH	OPERATORS FAIL TO RESTORE DG I AT 1 HOUR		0.29E-00	0.29E-00
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS		0.90E-00	0.90E-00
	YOSD01SWH	OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR		0.90E-00	0.90E-00
102)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0.00E-01	0.00E-01
	A2DGTIKADGM	DG01KA OUT OF SERVICE - CORRECTIVE MAINTENANCE		0.00E-01	0.00E-01
	X1STSXDIV2	SHUTDOWN SERVICE WATER DIVISION 2 FAILURE		0.00E-01	0.00E-01
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM		0.00E-01	0.00E-01
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.0079E-00	0.0079E-00
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		0.00E-01	0.00E-01
	YDCLOADSWH	DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL	3E-6	4.21E-01	4.21E-01
	YDG1R01DGH	OPERATORS FAIL TO RESTORE DG I AT 1 HOUR		0.29E-00	0.29E-00
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS		0.90E-00	0.90E-00
	YOSD01SWH	OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR		0.90E-00	0.90E-00
103)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0.00E-01	0.00E-01
	A2DGTICKDGM	DG01KC OUT OF SERVICE - CORRECTIVE MAINTENANCE		0.00E-01	0.00E-01
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.0079E-00	0.0079E-00
	XDPABCCGT	COM CAUSE FAIL DIV 1&2 DISCHARGE PRESS INST	3E-6	4.21E-01	4.21E-01
	YDCLOADSWH	DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL		1.00E-00	1.00E-00
	YDG1R01DGH	OPERATORS FAIL TO RESTORE DG I AT 1 HOUR		0.29E-00	0.29E-00
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS		0.90E-00	0.90E-00
	YOSD01SWH	OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR		0.90E-00	0.90E-00
	BSXMANSTR	OPERATOR FAILS TO MANUALLY START SX SYSTEM		0.00E-01	0.00E-01
104)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0.00E-01	0.00E-01
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM		0.00E-01	0.00E-01
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.0079E-00	0.0079E-00
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		0.00E-01	0.00E-01
	XNMFCCMVO	COMMON CAUSE FAIL TO RESTORE MIN FLOW VALVES	3.0E-3	0.00E-00	0.00E-00
	YDG1R04DGH	OPERATORS FAIL TO RESTORE DG I IN 4 HOURS		0.80E-00	0.80E-00
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS		0.80E-00	0.80E-00
	YOSD04SWH	OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS		0.45E-00	0.45E-00
105)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0.00E-01	0.00E-01
	A2DGTICBDGM	DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE		0.00E-01	0.00E-01
	A2DGTIKADGM	DG01KA OUT OF SERVICE - CORRECTIVE MAINTENANCE		0.00E-01	0.00E-01
	H1STCOOLNG	FAILURE OF COOLING SUPPORT FOR THE HPCS PUMP		0.00E-01	0.00E-01
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.0079E-00	0.0079E-00
	YDG1R04DGH	OPERATORS FAIL TO RESTORE DG I IN 4 HOURS		0.80E-00	0.80E-00
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS		0.80E-00	0.80E-00
	YOSD04SWH	OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS		0.45E-00	0.45E-00
106)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0.00E-01	0.00E-01
	A2DGTICBDGM	DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE		0.00E-01	0.00E-01
	XD1CORRSYM	DIV 1 DOWN FOR CORRECTIVE MAINT		0.0079E-00	0.0079E-00
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM		5.00E-02	5.00E-02









	HPSYST1SYM	HP SYSTEM DOWN FOR PREVENTIVE MAINTENANCE			0.006100				
	YLT	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			7.21E-01				03
	XDSPRCGTX	COM CAUSE FAIL DIV 1 2&3 DISCHARGE PRESS INST	3E-6		1.900000				03
	YDG1R04DGH	OPERATORS FAIL TO RESTORE DG I IN 4 HOURS			8.000000				03
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS			8.000000				01
	YOS0T04SWH	OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS			0.045000				02
	BSXMANSTR1	OPERATOR FAILS TO MANUALLY START SX SYSTEM			0.00E-01				02
138)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			4E-2				02
	YLT	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			7.21E-01				03
	XDSPRCGTX	COM CAUSE FAIL DIV 1 2&3 DISCHARGE PRESS INST	3E-6		1.900000				03
	IST-B5				0.00E-03				03
	YDG1R04DGH	OPERATORS FAIL TO RESTORE DG I IN 4 HOURS			8.000000				03
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS			8.000000				01
	YOS0T04SWH	OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS			0.045000				02
	BSXMANSTR1	OPERATOR FAILS TO MANUALLY START SX SYSTEM			0.00E-01				02
139)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			4E-2				02
	YLT	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			7.21E-01				03
	XDSPRCGTX	COM CAUSE FAIL DIV 1 2&3 DISCHARGE PRESS INST	3E-6		1.900000				03
	IST-B5				0.00E-03				03
	YDG1R04DGH	OPERATORS FAIL TO RESTORE DG I IN 4 HOURS			8.000000				03
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS			8.000000				01
	YOS0T04SWH	OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS			0.045000				02
	BSXMANSTR1	OPERATOR FAILS TO MANUALLY START SX SYSTEM			0.00E-01				02
140)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			4E-2				02
	A1STDGBRUN	DIVISION 2 DIESEL FAILS TO CONTINUE RUNNING			4E-2				02
	X1STSXDIV1	SHUTDOWN SERVICE WATER DIVISION 1 FAILURE			2.6E-02				02
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM			0.00E-03				03
	YLT	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			7.21E-01				03
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM			1.8E-01				01
	YDG1R04DGH	OPERATORS FAIL TO RESTORE DG I IN 4 HOURS			8.000000				03
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS			8.000000				01
	YOS0T04SWH	OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS			0.045000				02
	BDGRUNDDR4	FAILURE OF TIME-PHASED DIESEL RUN FAILURE FOR FOUR HOURS			0.01E-01				02
141)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			4E-2				02
	A1STDGARUN	DIVISION 1 DIESEL FAILS TO CONTINUE RUNNING			4E-2				02
	X1STSXDIV2	SHUTDOWN SERVICE WATER DIVISION 2 FAILURE			2.6E-02				02
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM			0.00E-03				03
	YLT	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			7.21E-01				03
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM			1.8E-01				01
	YDG1R04DGH	OPERATORS FAIL TO RESTORE DG I IN 4 HOURS			8.000000				03
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS			8.000000				01
	YOS0T04SWH	OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS			0.045000				02
	BDGRUNDDR4	FAILURE OF TIME-PHASED DIESEL RUN FAILURE FOR FOUR HOURS			0.01E-01				02
142)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			4E-2				02
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM			0.00E-03				03
	YLT	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			7.21E-01				03
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM			1.8E-01				01
	XCDVHCCAV0	COM CAUSE FAIL FOR A B AND C VH COOLER DISCHARGE VALVES	2E-3		0.085000				04
	YDG1R04DGH	OPERATORS FAIL TO RESTORE DG I IN 4 HOURS			8.000000				03
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS			8.000000				01
	YOS0T04SWH	OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS			0.045000				02
143)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			4E-2				02
	A2DGCBDGM	DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE			0.023000				03
	A2DGCADGM	DG01KA OUT OF SERVICE - CORRECTIVE MAINTENANCE			0.023000				03
	HPSYST2SYM	HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE			0.00E-03				03
	YLT	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			7.21E-01				03
	YDG1R04DGH	OPERATORS FAIL TO RESTORE DG I IN 4 HOURS			8.000000				03
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS			8.000000				01
	YOS0T04SWH	OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS			0.045000				02
144)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			4E-2				02
	A1STDGBRUN	DIVISION 2 DIESEL FAILS TO CONTINUE RUNNING			4E-2				02
	A1STDGARUN	DIVISION 1 DIESEL FAILS TO CONTINUE RUNNING			4E-2				02
	H1STCOOLNG	FAILURE OF COOLING SUPPORT FOR THE HPCS PUMP			0.08E-02				02
	YLT	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			7.21E-01				03
	YDG1R04DGH	OPERATORS FAIL TO RESTORE DG I IN 4 HOURS			8.000000				03
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS			8.000000				01
	YOS0T04SWH	OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS			0.045000				02
	BDGRUNDDR4	FAILURE OF TIME-PHASED DIESEL RUN FAILURE FOR FOUR HOURS			0.01E-01				02
145)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			4E-2				02
	A1STDGASTR	DIVISION 1 DIESEL FAILS TO START			4E-2				02
	X1STSXDIV2	SHUTDOWN SERVICE WATER DIVISION 2 FAILURE			2.6E-02				02
	A2DGCDCGM	DG01KC OUT OF SERVICE - CORRECTIVE MAINTENANCE			0.023000				03
	YLT	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			7.21E-01				03
	YDCLOADSWH	DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL			0.00E-03				03
	YDG1R01DGH	OPERATORS FAIL TO RESTORE DG I AT 1 HOUR			0.00E-03				03
	YDG2R01DGH	OPERATORS FAIL TO RESTORE DG II IN 1 HOUR			0.00E-03				01
	YOS0T01SWH	OFF-SITE POWER NOT RECOVERED WITHIN ONE HOUR			0.045000				02
146)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			4E-2				02
	A2DGCADGM	DG01KA OUT OF SERVICE - CORRECTIVE MAINTENANCE			0.023000				03
	X1STSXDIV2	SHUTDOWN SERVICE WATER DIVISION 2 FAILURE			2.6E-02				02
	A1STDGCSTR	DIVISION 3 DIESEL FAILS TO START			4E-2				02
	YLT	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			7.21E-01				03
	YDCLOADSWH	DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL			0.00E-03				03
	YDG1R01DGH	OPERATORS FAIL TO RESTORE DG I AT 1 HOUR			0.00E-03				03
	YDG2R01DGH	OPERATORS FAIL TO RESTORE DG II IN 1 HOUR			0.00E-03				01
	YOS0T01SWH	OFF-SITE POWER NOT RECOVERED WITHIN ONE HOUR			0.045000				02
147)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			4E-2				02
	A2DGCBDGM	DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE			0.023000				03
	X1STSXDIV1	SHUTDOWN SERVICE WATER DIVISION 1 FAILURE			2.6E-02				02
	A1STDGCSTR	DIVISION 3 DIESEL FAILS TO START			4E-2				02

















	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		4.21E-01	
	YDG1R04DGH	OPERATORS FAIL TO RESTORE DG I IN 4 HOURS		8.000000	
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS		8.000000	
	YOS0T04SWH	OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS		0.550000	
	BDGRUNDDR4	FAILURE OF TIME-PHASED DIESEL RUN FAILURE FOR FOUR HOURS		9.1E-01	
212)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		4E-2	4.57E-09
	A2DGT1KADGM	DG01KA OUT OF SERVICE - CORRECTIVE MAINTENANCE		0.023000	
	XD2CORRSYM	DIV 2 DOWN FOR CORRECTIVE MAINT		0.079000	
	HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM		0.00E-02	
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		4.21E-01	
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		1.1E-01	
	YDCLOADSWH	DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL		0.028800	
	YDG1R01DGH	OPERATORS FAIL TO RESTORE DG I AT 1 HOUR		8.000000	
	YDG2R01DGH	OPERATORS FAIL TO RESTORE DG II IN 1 HOUR		8.000000	
	YOS0T01SWH	OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR		5.938000	
213)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		4E-2	4.57E-09
	A2DGT1CB0GM	DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE		0.023000	
	XD1CORRSYM	DIV 1 DOWN FOR CORRECTIVE MAINT		0.079000	
	HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM		0.00E-02	
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		4.21E-01	
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		1.1E-01	
	YDCLOADSWH	DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL		0.028800	
	YDG1R01DGH	OPERATORS FAIL TO RESTORE DG I AT 1 HOUR		8.000000	
	YDG2R01DGH	OPERATORS FAIL TO RESTORE DG II IN 1 HOUR		8.000000	
	YOS0T01SWH	OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR		5.938000	
214)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		4E-2	4.55E-09
	A2DGT1KCDGM	DG01KC OUT OF SERVICE - CORRECTIVE MAINTENANCE		0.023000	
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		4.21E-01	
	XCDVHCCAVO	COM CAUSE FAIL FOR A B AND C VH COOLER DISCHARGE VALVES	2E-3	0.000000	
	YDG1R04DGH	OPERATORS FAIL TO RESTORE DG I IN 4 HOURS		8.000000	
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS		8.000000	
	YOS0T04SWH	OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS		0.550000	
215)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		4E-2	4.55E-09
	A1STDGCSR	DIVISION 3 DIESEL FAILS TO START		3.1E-02	
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		4.21E-01	
	XSXABCCMPS	COMMON CAUSE FAIL SX A&B PUMPS FAIL TO START	3.0E-3	0.000000	
	YDG1R04DGH	OPERATORS FAIL TO RESTORE DG I IN 4 HOURS		8.000000	
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS		8.000000	
	YOS0T04SWH	OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS		0.550000	
	BXSXCCMPS	OPERATOR FAILS TO RECOVER FAILED SX PUMP		3.0E-01	
216)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		4E-2	4.51E-09
	ADG01KCDGR	FAILURE OF DIESEL GENERATOR 01KC TO RUN		0.000000	
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		4.21E-01	
	XDSPRCCGTX	COM CAUSE FAIL DIV 1 2&3 DISCHARGE PRESS INST	3E-6	0.000000	
	YDG1R04DGH	OPERATORS FAIL TO RESTORE DG I IN 4 HOURS		8.000000	
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS		8.000000	
	YOS0T04SWH	OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS		0.550000	
	BSXMANSTR	OPERATOR FAILS TO MANUALLY START SX SYSTEM		0.00E-02	
217)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		4E-2	4.50E-09
	A1STDGBRUN	DIVISION 2 DIESEL FAILS TO CONTINUE RUNNING		4.1E-02	
	A1STDGARUN	DIVISION 1 DIESEL FAILS TO CONTINUE RUNNING		4.1E-02	
	XD3CORRSYM	DIV 3 DOWN FOR CORRECTIVE MAINT		0.079000	
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		4.21E-01	
	YDG1R04DGH	OPERATORS FAIL TO RESTORE DG I IN 4 HOURS		8.000000	
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS		8.000000	
	YOS0T04SWH	OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS		0.550000	
218)	BDGRUNDDR4	FAILURE OF TIME-PHASED DIESEL RUN FAILURE FOR FOUR HOURS		9.1E-01	
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		4E-2	4.50E-09
	A1STDGBRUN	DIVISION 2 DIESEL FAILS TO CONTINUE RUNNING		4.1E-02	
	A1STDGARUN	DIVISION 1 DIESEL FAILS TO CONTINUE RUNNING		4.1E-02	
	X1STSXDIV3	SHUTDOWN SERVICE WATER DIVISION 3 FAILURE		0.023000	
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		4.21E-01	
	YDG1R04DGH	OPERATORS FAIL TO RESTORE DG I IN 4 HOURS		8.000000	
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS		8.000000	
	YOS0T04SWH	OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS		0.550000	
219)	BDGRUNDDR4	FAILURE OF TIME-PHASED DIESEL RUN FAILURE FOR FOUR HOURS		9.1E-01	
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		4E-2	4.47E-09
	HPSYST2SYM	HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE		0.008800	
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		4.21E-01	
	XDSPRCCGTX	COM CAUSE FAIL DIV 1 2&3 DISCHARGE PRESS INST	3E-6	0.000000	
	YDCLOADSWH	DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL		0.028800	
	YDG1R01DGH	OPERATORS FAIL TO RESTORE DG I AT 1 HOUR		8.000000	
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS		8.000000	
	YOS0T01SWH	OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR		5.938000	
	BSXMANSTR	OPERATOR FAILS TO MANUALLY START SX SYSTEM		0.00E-01	
220)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		4E-2	4.44E-09
	X1STSXDIV1	SHUTDOWN SERVICE WATER DIVISION 1 FAILURE		0.023000	
	X1STSXDIV2	SHUTDOWN SERVICE WATER DIVISION 2 FAILURE		0.023000	
	A2DGT1KCDGM	DG01KC OUT OF SERVICE - CORRECTIVE MAINTENANCE		0.023000	
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		4.21E-01	
	YDCLOADSWH	DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL		0.028800	
	YDG1R01DGH	OPERATORS FAIL TO RESTORE DG I AT 1 HOUR		8.000000	
	YDG2R01DGH	OPERATORS FAIL TO RESTORE DG II IN 1 HOUR		8.000000	
	YOS0T01SWH	OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR		5.938000	
221)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		4E-2	4.41E-09
	ADG01KCDGM	DG01KC OUT OF SERVICE - PREVENTIVE MAINTENANCE		0.023000	
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		4.21E-01	
	XDSPRCCGTX	COM CAUSE FAIL DIV 1 2&3 DISCHARGE PRESS INST	3E-6	0.000000	
	YDG1R04DGH	OPERATORS FAIL TO RESTORE DG I IN 4 HOURS		8.000000	









	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	XDPABCCGTX	COM CAUSE FAIL DIV 1 & 2 DISCHARGE PRESS INST	3E-6	4.21E-01	4.21E-01
	YDCLDQSWH	DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL		0.000000	0.000000
	YDG1R01DGH	OPERATORS FAIL TO RESTORE DG I AT 1 HOUR		0.000000	0.000000
	YDG2R01DGH	OPERATORS FAIL TO RESTORE DG II IN 1 HOUR		0.000000	0.000000
	YOS0T01SWH	OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR		0.503800	0.503800
253)	BSXMANSTR	OPERATOR FAILS TO MANUALLY START SX SYSTEM		0.000000	0.000000
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0.4E-2	0.4E-2
	AZDGC1CBDGM	DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE		0.026300	0.026300
	X1STSXD1V1	SHUTDOWN SERVICE WATER DIVISION 1 FAILURE		0.6E-02	0.6E-02
	HPSYST2SYM	HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE		0.008800	0.008800
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.21E-01	0.21E-01
	YDG1R04DGH	OPERATORS FAIL TO RESTORE DG I IN 4 HOURS		0.800000	0.800000
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS		0.800000	0.800000
	YOS0T04SWH	OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS		0.045000	0.045000
254)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0.4E-2	0.4E-2
	AZDGC1KADGM	DG01KA OUT OF SERVICE - CORRECTIVE MAINTENANCE		0.026300	0.026300
	X1STSXD1V2	SHUTDOWN SERVICE WATER DIVISION 2 FAILURE		0.6E-02	0.6E-02
	HPSYST2SYM	HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE		0.008800	0.008800
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.21E-01	0.21E-01
	YDG1R04DGH	OPERATORS FAIL TO RESTORE DG I IN 4 HOURS		0.800000	0.800000
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS		0.800000	0.800000
	YOS0T04SWH	OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS		0.045000	0.045000
255)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0.4E-2	0.4E-2
	X1STSXD1V1	SHUTDOWN SERVICE WATER DIVISION 1 FAILURE		0.6E-02	0.6E-02
	X1STSXD1V2	SHUTDOWN SERVICE WATER DIVISION 2 FAILURE		0.6E-02	0.6E-02
	A1STDGCSTR	DIVISION 3 DIESEL FAILS TO START		0.2E-02	0.2E-02
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.21E-01	0.21E-01
	YDCLDQSWH	DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL		0.000000	0.000000
	YDG1R01DGH	OPERATORS FAIL TO RESTORE DG I AT 1 HOUR		0.000000	0.000000
	YDG2R01DGH	OPERATORS FAIL TO RESTORE DG II IN 1 HOUR		0.000000	0.000000
	YOS0T01SWH	OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR		0.503800	0.503800
256)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0.4E-2	0.4E-2
	A1STDGBSTR	DIVISION 2 DIESEL FAILS TO START		0.2E-02	0.2E-02
	A1STDGARUN	DIVISION 1 DIESEL FAILS TO CONTINUE RUNNING		0.2E-02	0.2E-02
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM		0.000000	0.000000
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.21E-01	0.21E-01
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		0.2E-01	0.2E-01
	YDCLDQSWH	DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL		0.000000	0.000000
	YDG1R01DGH	OPERATORS FAIL TO RESTORE DG I AT 1 HOUR		0.000000	0.000000
	YDG2R01DGH	OPERATORS FAIL TO RESTORE DG II IN 1 HOUR		0.000000	0.000000
	YOS0T01SWH	OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR		0.503800	0.503800
	BDGRUNDR1	FAILURE OF TIME-PHASED DIESEL RUN FAILURE IN ONE HOUR		0.4E-01	0.4E-01
257)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0.4E-2	0.4E-2
	A1STDGBRUN	DIVISION 2 DIESEL FAILS TO CONTINUE RUNNING		0.2E-02	0.2E-02
	A1STDGASTR	DIVISION 1 DIESEL FAILS TO START		0.2E-02	0.2E-02
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM		0.000000	0.000000
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.21E-01	0.21E-01
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		0.2E-01	0.2E-01
	YDCLDQSWH	DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL		0.000000	0.000000
	YDG1R01DGH	OPERATORS FAIL TO RESTORE DG I AT 1 HOUR		0.000000	0.000000
	YDG2R01DGH	OPERATORS FAIL TO RESTORE DG II IN 1 HOUR		0.000000	0.000000
	YOS0T01SWH	OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR		0.503800	0.503800
	BDGRUNDR1	FAILURE OF TIME-PHASED DIESEL RUN FAILURE IN ONE HOUR		0.4E-01	0.4E-01
258)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0.4E-2	0.4E-2
	HPSYST1SYM	HP SYSTEM DOWN FOR PREVENTIVE MAINTENANCE		0.000000	0.000000
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.21E-01	0.21E-01
	XDSPRCCGTX	COM CAUSE FAIL DIV 1 & 2 DISCHARGE PRESS INST	3E-6	4.21E-01	4.21E-01
	YDCLDQSWH	DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL		0.000000	0.000000
	YDG1R01DGH	OPERATORS FAIL TO RESTORE DG I AT 1 HOUR		0.000000	0.000000
	YDG2R01DGH	OPERATORS FAIL TO RESTORE DG II IN 1 HOUR		0.000000	0.000000
	YOS0T01SWH	OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR		0.503800	0.503800
259)	BSXMANSTR	OPERATOR FAILS TO MANUALLY START SX SYSTEM		0.000000	0.000000
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0.4E-2	0.4E-2
	AZDGC1KCDGM	DG01KC OUT OF SERVICE - CORRECTIVE MAINTENANCE		0.026300	0.026300
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.21E-01	0.21E-01
	AVDABCCDMO	FAILURE OF DAMPERS VD01YA AND B TO OPEN - COMMON CAUSE	3E-3	0.470000	0.470000
	YDG1R04DGH	OPERATORS FAIL TO RESTORE DG I IN 4 HOURS		0.800000	0.800000
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS		0.800000	0.800000
	YOS0T04SWH	OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS		0.045000	0.045000
260)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0.4E-2	0.4E-2
	AZDGC1CBDGM	DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE		0.026300	0.026300
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.21E-01	0.21E-01
	AVDACCDDMO	DAMPERS VD01YA AND C FAIL TO OPEN - COMMON CAUSE	3E-3	0.470000	0.470000
	YDG1R04DGH	OPERATORS FAIL TO RESTORE DG I IN 4 HOURS		0.800000	0.800000
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS		0.800000	0.800000
	YOS0T04SWH	OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS		0.045000	0.045000
261)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0.4E-2	0.4E-2
	AZDGC1KADGM	DG01KA OUT OF SERVICE - CORRECTIVE MAINTENANCE		0.026300	0.026300
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.21E-01	0.21E-01
	AVDBCCDDMO	DAMPERS VD01YB AND C FAIL TO OPEN - COMMON CAUSE	3E-3	0.470000	0.470000
	YDG1R04DGH	OPERATORS FAIL TO RESTORE DG I IN 4 HOURS		0.800000	0.800000
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS		0.800000	0.800000
	YOS0T04SWH	OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS		0.045000	0.045000
262)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0.4E-2	0.4E-2
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.21E-01	0.21E-01
	XDSPRCCGTX	COM CAUSE FAIL DIV 1 & 3 DISCHARGE PRESS INST	3E-6	4.21E-01	4.21E-01
	YDCLDQSWH	DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL		0.000000	0.000000
	YDG1R01DGH	OPERATORS FAIL TO RESTORE DG I AT 1 HOUR		0.000000	0.000000















































447)	YOS0T04SWH OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS	0.045000	50	02	
	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR	4E-2	40	01	
	A2DG1KCDGM DG01KC OUT OF SERVICE - CORRECTIVE MAINTENANCE	0.026300	20	02	2.52E-09
	YLT FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	2E-01	10	01	
	X5XABCCMPS COMMON CAUSE FAIL SX A&B PUMPS FAIL TO START	1.500000	00	04	
	YDCL0ADSWH DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL	0.029800	00	01	
	YDG1R01DGH OPERATORS FAIL TO RESTORE DG I AT 1 HOUR	0.090000	00	01	
	YDG2R04DGH OPERATORS FAIL TO RESTORE DG II IN 4 HOURS	0.800000	00	01	
	YOS0T01SWH OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR	0.593800	00	01	
	BXSXXCCMPS OPERATOR FAILS TO RECOVER FAILED SY COMP	3.0E-01	00	01	
448)	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR	4E-2	40	02	2.51E-09
	H1STINJECT INDEPENDENT FAILURES OF HPCS SYSTEM	1.0E-02	20	02	
	YLT FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	2E-01	10	01	
	BTSTHPINJR OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	1.8E-01	18	01	
	AVDABCCDMO FAILURE OF DAMPERS VDD1YA AND B TO OPEN - COMMON CAUSE	0.077000	00	03	
	YDCL0ADSWH DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL	0.029800	00	01	
	YDG1R01DGH OPERATORS FAIL TO RESTORE DG I AT 1 HOUR	0.090000	00	01	
	YDG2R04DGH OPERATORS FAIL TO RESTORE DG II IN 4 HOURS	0.800000	00	01	
	YOS0T01SWH OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR	0.593800	00	01	
449)	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR	4E-2	40	02	2.49E-09
	A2DG1KCDGM DG01KC OUT OF SERVICE - CORRECTIVE MAINTENANCE	0.026300	20	02	
	YLT FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	2E-01	10	01	
	XDGABCCMVO COMMON CAUSE FAIL FOR DG HX DISCHARGE VALVES A&B	0.031000	00	05	
	YDG1R04DGH OPERATORS FAIL TO RESTORE DG I IN 4 HOURS	0.800000	00	01	
	YDG2R04DGH OPERATORS FAIL TO RESTORE DG II IN 4 HOURS	0.800000	00	01	
	YOS0T04SWH OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS	0.450000	00	02	
450)	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR	4E-2	40	02	2.49E-09
	A2DG1KCDGM DG01KC OUT OF SERVICE - CORRECTIVE MAINTENANCE	0.026300	20	02	
	YLT FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	2E-01	10	01	
	X14ABCCMVC COM CAUSE WS TO SX A&B VALVES FAIL TO CLOSE	0.031000	00	05	
	YDG1R04DGH OPERATORS FAIL TO RESTORE DG I IN 4 HOURS	0.800000	00	01	
	YDG2R04DGH OPERATORS FAIL TO RESTORE DG II IN 4 HOURS	0.800000	00	01	
	YOS0T04SWH OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS	0.450000	00	02	
451)	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR	4E-2	40	02	2.49E-09
	A2DG1CBDGM DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE	0.026300	20	02	
	YLT FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	2E-01	10	01	
	XDGACCCMVO COMMON CAUSE FAIL FOR DG HX DISCHARGE VALVES A&C	0.031000	00	05	
	YDG1R04DGH OPERATORS FAIL TO RESTORE DG I IN 4 HOURS	0.800000	00	01	
	YDG2R04DGH OPERATORS FAIL TO RESTORE DG II IN 4 HOURS	0.800000	00	01	
	YOS0T04SWH OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS	0.450000	00	02	
452)	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR	4E-2	40	02	2.49E-09
	A2DG1CBDGM DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE	0.026300	20	02	
	YLT FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	2E-01	10	01	
	X14ACCCMVC COM CAUSE WS TO SX A&C VALVES FAIL TO CLOSE	0.031000	00	05	
	YDG1R04DGH OPERATORS FAIL TO RESTORE DG I IN 4 HOURS	0.800000	00	01	
	YDG2R04DGH OPERATORS FAIL TO RESTORE DG II IN 4 HOURS	0.800000	00	01	
	YOS0T04SWH OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS	0.450000	00	02	
453)	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR	4E-2	40	02	2.49E-09
	A2DG1KADGM DG01KA OUT OF SERVICE - CORRECTIVE MAINTENANCE	0.026300	20	02	
	YLT FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	2E-01	10	01	
	X14BCCCMVC COM CAUSE WS TO SX B&C VALVES FAIL TO CLOSE	0.031000	00	05	
	YDG1R04DGH OPERATORS FAIL TO RESTORE DG I IN 4 HOURS	0.800000	00	01	
	YDG2R04DGH OPERATORS FAIL TO RESTORE DG II IN 4 HOURS	0.800000	00	01	
	YOS0T04SWH OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS	0.450000	00	02	
454)	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR	4E-2	40	02	2.49E-09
	A2DG1KADGM DG01KA OUT OF SERVICE - CORRECTIVE MAINTENANCE	0.026300	20	02	
	YLT FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	2E-01	10	01	
	XDGBCCCMVO COMMON CAUSE FAIL FOR DG HX DISCHARGE VALVES B&C	0.031000	00	05	
	YDG1R04DGH OPERATORS FAIL TO RESTORE DG I IN 4 HOURS	0.800000	00	01	
	YDG2R04DGH OPERATORS FAIL TO RESTORE DG II IN 4 HOURS	0.800000	00	01	
	YOS0T04SWH OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS	0.450000	00	02	
455)	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR	4E-2	40	02	2.48E-09
	A1STDGBSTR DIVISION 2 DIESEL FAILS TO START	1.1E-02	11	02	
	A1STDGARUN DIVISION 1 DIESEL FAILS TO CONTINUE RUNNING	1.1E-02	11	02	
	A1STDGCSTR DIVISION 3 DIESEL FAILS TO START	1.1E-02	11	02	
	YLT FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	2E-01	10	01	
	YDCL0ADSWH DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL	0.029800	00	01	
	YDG1R01DGH OPERATORS FAIL TO RESTORE DG I AT 1 HOUR	0.090000	00	01	
	YDG2R01DGH OPERATORS FAIL TO RESTORE DG II IN 1 HOUR	0.090000	00	01	
	YOS0T01SWH OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR	0.593800	00	01	
	BDGRUNDDR1 FAILURE OF TIME-PHASED DIESEL RUN FAILURE IN ONE HOUR	4.0E-01	00	01	
456)	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR	4E-2	40	02	2.48E-09
	A1STDGBRUN DIVISION 2 DIESEL FAILS TO CONTINUE RUNNING	1.1E-02	11	02	
	A1STDGASTR DIVISION 3 DIESEL FAILS TO START	1.1E-02	11	02	
	A1STDGCSTR DIVISION 3 DIESEL FAILS TO START	1.1E-02	11	02	
	YLT FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	2E-01	10	01	
	YDCL0ADSWH DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL	0.029800	00	01	
	YDG1R01DGH OPERATORS FAIL TO RESTORE DG I AT 1 HOUR	0.090000	00	01	
	YDG2R01DGH OPERATORS FAIL TO RESTORE DG II IN 1 HOUR	0.090000	00	01	
	YOS0T01SWH OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR	0.593800	00	01	
	BDGRUNDDR1 FAILURE OF TIME-PHASED DIESEL RUN FAILURE IN ONE HOUR	4.0E-01	00	01	
457)	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR	4E-2	40	02	2.46E-09
	A1STDGBRUN DIVISION 2 DIESEL FAILS TO CONTINUE RUNNING	1.1E-02	11	02	
	A1STDGARUN DIVISION 1 DIESEL FAILS TO CONTINUE RUNNING	1.1E-02	11	02	
	ADG01KCDGR FAILURE OF DIESEL GENERATOR 01KC TO RUN	0.000000	00	00	
	YLT FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	2E-01	10	01	
	YDG1R04DGH OPERATORS FAIL TO RESTORE DG I IN 4 HOURS	0.800000	00	01	
	YDG2R04DGH OPERATORS FAIL TO RESTORE DG II IN 4 HOURS	0.800000	00	01	
	YOS0T04SWH OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS	0.450000	00	02	
	BDGRUNDDR4 FAILURE OF TIME-PHASED DIESEL RUN FAILURE FOR FOUR HOURS	1.9E-01	00	01	



















	YDCLOADSWH DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL	0.029800	2.08E-02
	YDG1R01DGH OPERATORS FAIL TO RESTORE DG I AT 1 HOUR	0.000000	0.00E-01
	YDG2R04DGH OPERATORS FAIL TO RESTORE DG II IN 4 HOURS	0.000000	0.00E-01
	YOS0T01SWH OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR	0.593800	0.04E-01
529)	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR	0.4E-2	2.21E-09
	A1STDGBRUN DIVISION 2 DIESEL FAILS TO CONTINUE RUNNING	0.4E-2	0.00E-02
	A1STDGARUN DIVISION 1 DIESEL FAILS TO CONTINUE RUNNING	0.4E-2	0.00E-02
	HPSYST2SYM HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE	0.000000	0.00E-01
	YLT FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	0.000000	0.00E-02
	YDCLOADSWH DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL	0.029800	2.08E-02
	YDG1R01DGH OPERATORS FAIL TO RESTORE DG I AT 1 HOUR	0.000000	0.00E-01
	YDG2R01DGH OPERATORS FAIL TO RESTORE DG II IN 1 HOUR	0.000000	0.00E-01
	YOS0T01SWH OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR	0.593800	0.04E-01
530)	BDGRUNDDR1 FAILURE OF TIME-PHASED DIESEL RUN FAILURE IN ONE HOUR	0.4E-01	2.22E-09
	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR	0.4E-2	0.00E-02
	A1STDGCSTR DIVISION 3 DIESEL FAILS TO START	0.4E-2	0.00E-02
	YLT FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	0.000000	0.00E-01
	XSXABCCMPS COMMON CAUSE FAIL SX A&B PUMPS FAIL TO START	0.150000	3.0E-3
	YDCLOADSWH DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL	0.029800	2.08E-02
	YDG1R01DGH OPERATORS FAIL TO RESTORE DG I AT 1 HOUR	0.000000	0.00E-01
	YDG2R04DGH OPERATORS FAIL TO RESTORE DG II IN 4 HOURS	0.000000	0.00E-01
	YOS0T01SWH OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR	0.593800	0.04E-01
531)	BXSXXCCMPS OPERATOR FAILS TO RECOVER FAILED SX PUMP	0.30E-01	2.22E-09
	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR	0.4E-2	0.00E-02
	X1STSXDIV1 SHUTDOWN SERVICE WATER DIVISION 1 FAILURE	0.00E-02	0.00E-03
	X1STSXDIV2 SHUTDOWN SERVICE WATER DIVISION 2 FAILURE	0.00E-02	0.00E-03
	X1STSXDIV3 SHUTDOWN SERVICE WATER DIVISION 3 FAILURE	0.00E-02	0.00E-03
	YLT FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	0.21E-01	0.00E-01
	YDG1R04DGH OPERATORS FAIL TO RESTORE DG I IN 4 HOURS	0.000000	0.00E-01
	YDG2R04DGH OPERATORS FAIL TO RESTORE DG II IN 4 HOURS	0.000000	0.00E-01
	YOS0T04SWH OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS	0.005000	2.22E-09
532)	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR	0.4E-2	0.00E-02
	X1STSXDIV1 SHUTDOWN SERVICE WATER DIVISION 1 FAILURE	0.00E-02	0.00E-03
	X1STSXDIV2 SHUTDOWN SERVICE WATER DIVISION 2 FAILURE	0.00E-02	0.00E-03
	X03CORRSYM DIV 3 DOWN FOR CORRECTIVE MAINT	0.000000	0.00E-01
	YLT FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	0.21E-01	0.00E-01
	YDG1R04DGH OPERATORS FAIL TO RESTORE DG I IN 4 HOURS	0.000000	0.00E-01
	YDG2R04DGH OPERATORS FAIL TO RESTORE DG II IN 4 HOURS	0.000000	0.00E-01
	YOS0T04SWH OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS	0.005000	2.21E-09
533)	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR	0.4E-2	0.00E-02
	A2DGIKBDGM DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE	0.000000	0.00E-01
	A2DGIKADGM DG01KA OUT OF SERVICE - CORRECTIVE MAINTENANCE	0.000000	0.00E-01
	YLT FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	0.21E-01	0.00E-01
	YDG1R04DGH OPERATORS FAIL TO RESTORE DG I IN 4 HOURS	0.000000	0.00E-01
	YDG2R04DGH OPERATORS FAIL TO RESTORE DG II IN 4 HOURS	0.000000	0.00E-01
	YOS0T04SWH OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS	0.005000	2.21E-09
534)	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR	0.4E-2	0.00E-02
	YLT FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	0.21E-01	0.00E-01
	ADABCCMPS PUMPS D00TA B AND C FAIL TO START - COMMON CAUSE	0.000000	3.0E-3
	YDCLOADSWH DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL	0.029800	2.08E-02
	YDG1R01DGH OPERATORS FAIL TO RESTORE DG I AT 1 HOUR	0.000000	0.00E-01
	YDG2R01DGH OPERATORS FAIL TO RESTORE DG II IN 1 HOUR	0.000000	0.00E-01
	YOS0T01SWH OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR	0.593800	0.04E-01
535)	B3DOCCDD51 FAILURE TO RECOVER IN ONE HOUR FROM COMMON CAUSE DIESEL FUEL PUMP START	0.00E-02	2.20E-09
	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR	0.4E-2	0.00E-02
	H1STCOOLNG FAILURE OF COOLING SUPPORT FOR THE HPCS PUMP	0.00E-02	0.00E-03
	YLT FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	0.21E-01	0.00E-01
	ADGABCCDGS DG A AND B FAIL TO START - COMMON CAUSE	0.010000	2E-2
	YDG1R04DGH OPERATORS FAIL TO RESTORE DG I IN 4 HOURS	0.000000	0.00E-01
	YDG2R04DGH OPERATORS FAIL TO RESTORE DG II IN 4 HOURS	0.000000	0.00E-01
	YOS0T04SWH OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS	0.005000	2.19E-09
536)	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR	0.4E-2	0.00E-02
	A1STDGBRUN DIVISION 2 DIESEL FAILS TO CONTINUE RUNNING	0.4E-2	0.00E-02
	A1STDGARUN DIVISION 1 DIESEL FAILS TO CONTINUE RUNNING	0.4E-2	0.00E-02
	H1STCOOLNG FAILURE OF COOLING SUPPORT FOR THE HPCS PUMP	0.00E-02	0.00E-03
	YLT FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	0.21E-01	0.00E-01
	YDCLOADSWH DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL	0.029800	2.08E-02
	YDG1R01DGH OPERATORS FAIL TO RESTORE DG I AT 1 HOUR	0.000000	0.00E-01
	YDG2R04DGH OPERATORS FAIL TO RESTORE DG II IN 4 HOURS	0.000000	0.00E-01
	YOS0T01SWH OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR	0.593800	0.04E-01
537)	BDGRUNDDR1 FAILURE OF TIME-PHASED DIESEL RUN FAILURE IN ONE HOUR	0.4E-01	2.19E-09
	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR	0.4E-2	0.00E-02
	P3LOGICLGM HPCS COMPONENTS DOWN FOR MAINTENANCE	0.002100	0.00E-03
	YLT FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	0.21E-01	0.00E-01
	XDSPRCCGTX COM CAUSE FAIL DIV 1 2&3 DISCHARGE PRESS INST	0.010000	3E-6
	YDG1R04DGH OPERATORS FAIL TO RESTORE DG I IN 4 HOURS	0.000000	0.00E-01
	YDG2R04DGH OPERATORS FAIL TO RESTORE DG II IN 4 HOURS	0.000000	0.00E-01
	YOS0T04SWH OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS	0.005000	2.19E-09
538)	B5XMANSTR1 OPERATOR FAILS TO MANUALLY START SX SYSTEM	0.00E-01	0.00E-01
	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR	0.4E-2	0.00E-02
	A1STDGBRUN DIVISION 2 DIESEL FAILS TO CONTINUE RUNNING	0.4E-2	0.00E-02
	XD1CORRSYM DIV 1 DOWN FOR CORRECTIVE MAINT	0.000000	0.00E-01
	A2DGIKCDGM DG01KC OUT OF SERVICE - CORRECTIVE MAINTENANCE	0.000000	0.00E-01
	YLT FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	0.21E-01	0.00E-01
	YDG1R04DGH OPERATORS FAIL TO RESTORE DG I IN 4 HOURS	0.000000	0.00E-01
	YDG2R04DGH OPERATORS FAIL TO RESTORE DG II IN 4 HOURS	0.000000	0.00E-01
	YOS0T04SWH OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS	0.005000	2.19E-09
539)	BDGRUNDDR4 FAILURE OF TIME-PHASED DIESEL RUN FAILURE FOR FOUR HOURS	0.4E-01	0.00E-01
	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR	0.4E-2	0.00E-02



551)	YLOOPXXTRX A1STDGCSTR Y1 XDGARCCMVO YDG1R04DGH YDG2R04DGH YOS0T04SHH	LOSS OF OFF-SITE POWER INITIATOR DIVISION 3 DIESEL FAILS TO START FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS COMMON CAUSE FAIL FOR DG HX DISCHARGE VALVES A&B OPERATORS FAIL TO RESTORE DG 1 IN 4 HOURS OPERATORS FAIL TO RESTORE DG 11 IN 4 HOURS OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS	3.0E-3	2.19E-09
551)	YLOOPXXTRX A1STDGBSTR Y1 Y1LACCCMVC YDG1R04DGH YDG2R04DGH YOS0T04SHH	LOSS OF OFF-SITE POWER INITIATOR DIVISION 2 DIESEL FAILS TO START FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS COM CAUSE WS TO SX A&C VALVES FAIL TO CLOSE OPERATORS FAIL TO RESTORE DG 1 IN 4 HOURS OPERATORS FAIL TO RESTORE DG 11 IN 4 HOURS OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS	3.0E-3	2.19E-09
552)	YLOOPXXTRX ADG01KCDGM Y1 XDSPRCCGTX YDCLOADSWH YDG1R01DGH YDG2R04DGH YOS0T01SHH BSXMANSTR	LOSS OF OFF-SITE POWER INITIATOR DGO1KA OUT OF SERVICE - PREVENTIVE MAINTENANCE FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS COM CAUSE FAIL DIV 1 2&3 DISCHARGE PRESS INST DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL OPERATORS FAIL TO RESTORE DG 1 AT 1 HOUR OPERATORS FAIL TO RESTORE DG 11 IN 4 HOURS OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR OPERATOR FAILS TO MANUALLY START SX SYSTEM	3E-6	2.15E-09
553)	YLOOPXXTRX A1STDGBSTR ADG01KADGM H1STINJECT Y1 B1STHPINJR YDCLOADSWH YDG1R01DGH YDG2R01DGH YOS0T01SHH	LOSS OF OFF-SITE POWER INITIATOR DIVISION 2 DIESEL FAILS TO START DGO1KA OUT OF SERVICE - PREVENTIVE MAINTENANCE INDEPENDENT FAILURES OF HPCS SYSTEM FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL OPERATORS FAIL TO RESTORE DG 1 AT 1 HOUR OPERATORS FAIL TO RESTORE DG 11 IN 1 HOUR OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR		2.15E-09
554)	YLOOPXXTRX A1STDGASTR H1STINJECT Y1 B1STHPINJR ADG01KBDGM YDCLOADSWH YDG1R01DGH YDG2R01DGH YOS0T01SHH	LOSS OF OFF-SITE POWER INITIATOR DIVISION 1 DIESEL FAILS TO START INDEPENDENT FAILURES OF HPCS SYSTEM FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM DGO1KB OUT OF SERVICE - PREVENTIVE MAINTENANCE DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL OPERATORS FAIL TO RESTORE DG 1 AT 1 HOUR OPERATORS FAIL TO RESTORE DG 11 IN 1 HOUR OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR		2.15E-09
555)	YLOOPXXTRX A1STDGBRUN A1STDGASTR HPSYST2SYM Y1 YDG1R04DGH YDG2R04DGH YOS0T04SHH BDGRUNDR4	LOSS OF OFF-SITE POWER INITIATOR DIVISION 2 DIESEL FAILS TO CONTINUE RUNNING DIVISION 1 DIESEL FAILS TO START HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS OPERATORS FAIL TO RESTORE DG 1 IN 4 HOURS OPERATORS FAIL TO RESTORE DG 11 IN 4 HOURS OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS FAILURE OF TIME PHASED DIESEL RUN FAILURE FOR FOUR HOURS		2.14E-09
556)	YLOOPXXTRX A1STDGBSTR A1STDGARUN HPSYST2SYM Y1 YDG1R04DGH YDG2R04DGH YOS0T04SHH BDGRUNDR4	LOSS OF OFF-SITE POWER INITIATOR DIVISION 2 DIESEL FAILS TO START DIVISION 1 DIESEL FAILS TO CONTINUE RUNNING HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS OPERATORS FAIL TO RESTORE DG 1 IN 4 HOURS OPERATORS FAIL TO RESTORE DG 11 IN 4 HOURS OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS FAILURE OF TIME PHASED DIESEL RUN FAILURE FOR FOUR HOURS		2.14E-09
557)	YLOOPXXTRX H1STCOOLNG Y1 X5XABCCMPS YDG1R04DGH YDG2R04DGH YOS0T04SHH BXSXXCCMPS	LOSS OF OFF-SITE POWER INITIATOR FAILURE OF COOLING SUPPORT FOR THE HPCS PUMP FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS COMMON CAUSE FAIL SX A&B PUMPS FAIL TO START OPERATORS FAIL TO RESTORE DG 1 IN 4 HOURS OPERATORS FAIL TO RESTORE DG 11 IN 4 HOURS OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS OPERATOR FAILS TO RECOVER FAILED SX PUMP	3.0E-3	2.13E-09
558)	YLOOPXXTRX A1STDGBSTR A1STDGASTR A1STDOPMPC Y1 YDG1R04DGH YDG2R04DGH YOS0T04SHH BD1STD024	LOSS OF OFF-SITE POWER INITIATOR DIVISION 2 DIESEL FAILS TO START DIVISION 1 DIESEL FAILS TO START DIVISION 3 DIESEL FUEL OIL PUMP FAILS FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS OPERATORS FAIL TO RESTORE DG 1 IN 4 HOURS OPERATORS FAIL TO RESTORE DG 11 IN 4 HOURS OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS FAILURE TO RECOVER IN FOUR HOURS FROM DIESEL FUEL PUMP FAILURES		2.12E-09
559)	YLOOPXXTRX A1STDGASTR A1STDOPMPC A1STDGCSTR Y1 YDG1R04DGH YDG2R04DGH YOS0T04SHH BD1STD024	LOSS OF OFF-SITE POWER INITIATOR DIVISION 1 DIESEL FAILS TO START DIVISION 2 DIESEL FUEL OIL PUMP FAILS DIVISION 3 DIESEL FAILS TO START FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS OPERATORS FAIL TO RESTORE DG 1 IN 4 HOURS OPERATORS FAIL TO RESTORE DG 11 IN 4 HOURS OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS FAILURE TO RECOVER IN FOUR HOURS FROM DIESEL FUEL PUMP FAILURES		2.12E-09
560)	YLOOPXXTRX A1STDGBSTR A1STDOPMPC Y1 YDG1R04DGH YDG2R04DGH YOS0T04SHH BD1STD024	LOSS OF OFF-SITE POWER INITIATOR DIVISION 2 DIESEL FAILS TO START DIVISION 1 DIESEL FUEL OIL PUMP FAILS FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS OPERATORS FAIL TO RESTORE DG 1 IN 4 HOURS OPERATORS FAIL TO RESTORE DG 11 IN 4 HOURS OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS FAILURE TO RECOVER IN FOUR HOURS FROM DIESEL FUEL PUMP FAILURES		2.12E-09

2.19E-09  
 3.0E-3  
 2.19E-09  
 3.0E-3  
 2.15E-09  
 3E-6  
 2.15E-09  
 2.15E-09  
 2.14E-09  
 2.14E-09  
 2.13E-09  
 3.0E-3  
 2.12E-09  
 2.12E-09  
 2.12E-09



















	A1STDGBRUN	DIVISION 2 DIESEL FAILS TO CONTINUE RUNNING							
	X1STSDIV1	SHUTDOWN SERVICE WATER DIVISION 1 FAILURE							
	H1STCOOLNG	FAILURE OF COOLING SUPPORT FOR THE HPCS PUMP							
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS							
	YDG1R04DGH	OPERATORS FAIL TO RESTORE DG 1 IN 4 HOURS							
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG 2 IN 4 HOURS							
	YOS0T04SWH	OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS							
633)	BDGRUNDDR4	FAILURE OF TIME-PHASED DIESEL RUN FAILURE FOR FOUR HOURS							
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR							
	A1STDGARUN	DIVISION 1 DIESEL FAILS TO CONTINUE RUNNING							
	X1STSDIV2	SHUTDOWN SERVICE WATER DIVISION 2 FAILURE							
	H1STCOOLNG	FAILURE OF COOLING SUPPORT FOR THE HPCS PUMP							
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS							
	YDG1R04DGH	OPERATORS FAIL TO RESTORE DG 1 IN 4 HOURS							
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG 2 IN 4 HOURS							
	YOS0T04SWH	OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS							
634)	BDGRUNDDR4	FAILURE OF TIME-PHASED DIESEL RUN FAILURE FOR FOUR HOURS							
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR							
	AVD01YCDMO	FAILURE OF DAMPER VD01YC TO OPEN							
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	3E-3						
	XDSPRCGGTX	COM CAUSE FAIL DIV 1 2&3 DISCHARGE PRESS INST	3E-6						
	YDCLDADSWH	DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL							
	YDG1R01DGH	OPERATORS FAIL TO RESTORE DG 1 AT 1 HOUR							
	YDG2R01DGH	OPERATORS FAIL TO RESTORE DG 2 IN 1 HOUR							
	YOS0T01SWH	OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR							
635)	BSXMANSTRX	OPERATOR FAILS TO MANUALLY START SX SYSTEM							
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR							
	P3MAINTLGH	HPCS FAILURE TO PROPERLY RESTORE FROM MAINT							
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	3E-6						
	XDSPRCGGTX	COM CAUSE FAIL DIV 1 2&3 DISCHARGE PRESS INST	3E-6						
	YDCLDADSWH	DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL							
	YDG1R01DGH	OPERATORS FAIL TO RESTORE DG 1 AT 1 HOUR							
	YDG2R01DGH	OPERATORS FAIL TO RESTORE DG 2 IN 1 HOUR							
	YOS0T01SWH	OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR							
636)	BSXMANSTRX	OPERATOR FAILS TO MANUALLY START SX SYSTEM							
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR							
	HPXN056FSH	MISCALIBRATION OF HPCS FLOW TRANSMITTER							
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	3E-6						
	XDSPRCGGTX	COM CAUSE FAIL DIV 1 2&3 DISCHARGE PRESS INST	3E-6						
	YDCLDADSWH	DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL							
	YDG1R01DGH	OPERATORS FAIL TO RESTORE DG 1 AT 1 HOUR							
	YDG2R01DGH	OPERATORS FAIL TO RESTORE DG 2 IN 1 HOUR							
	YOS0T01SWH	OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR							
637)	BSXMANSTRX	OPERATOR FAILS TO MANUALLY START SX SYSTEM							
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR							
	AP221C1CBO	FAILURE OF CIRCUIT BREAKER 221C1 TO OPEN (ERAT)							
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	3E-3						
	XDSPRCGGTX	COM CAUSE FAIL DIV 1 2&3 DISCHARGE PRESS INST	3E-6						
	YDCLDADSWH	DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL							
	YDG1R01DGH	OPERATORS FAIL TO RESTORE DG 1 AT 1 HOUR							
	YDG2R01DGH	OPERATORS FAIL TO RESTORE DG 2 IN 1 HOUR							
	YOS0T01SWH	OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR							
638)	BSXMANSTRX	OPERATOR FAILS TO MANUALLY START SX SYSTEM							
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR							
	XSX014CMVC	MOV 1SX014C FAILS TO CLOSE							
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	3.0E-3						
	XDSPRCGGTX	COM CAUSE FAIL DIV 1 2&3 DISCHARGE PRESS INST	3E-6						
	YDCLDADSWH	DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL							
	YDG1R01DGH	OPERATORS FAIL TO RESTORE DG 1 AT 1 HOUR							
	YDG2R01DGH	OPERATORS FAIL TO RESTORE DG 2 IN 1 HOUR							
	YOS0T01SWH	OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR							
639)	BSXMANSTRX	OPERATOR FAILS TO MANUALLY START SX SYSTEM							
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR							
	XSX006CMVO	DIS VALVE 1SX006C FAILS TO OPEN (MIN FLOW DIV 3)							
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	3.0E-3						
	XDSPRCGGTX	COM CAUSE FAIL DIV 1 2&3 DISCHARGE PRESS INST	3E-6						
	YDCLDADSWH	DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL							
	YDG1R01DGH	OPERATORS FAIL TO RESTORE DG 1 AT 1 HOUR							
	YDG2R01DGH	OPERATORS FAIL TO RESTORE DG 2 IN 1 HOUR							
	YOS0T01SWH	OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR							
640)	BSXMANSTRX	OPERATOR FAILS TO MANUALLY START SX SYSTEM							
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR							
	HPSYST2SYM	HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE							
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	3.0E-3						
	XMNFLCCMVO	COMMON CAUSE FAIL SX A&B MIN FLOW VALVES							
	YDG1R04DGH	OPERATORS FAIL TO RESTORE DG 1 IN 4 HOURS							
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG 2 IN 4 HOURS							
	YOS0T04SWH	OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS							
641)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR							
	H1STCOOLNG	FAILURE OF COOLING SUPPORT FOR THE HPCS PUMP							
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	2E-3						
	XCDVHCCAVO	COM CAUSE FAIL FOR A B AND C VH COOLER DISCHARGE VALVES							
	YDG1R04DGH	OPERATORS FAIL TO RESTORE DG 1 IN 4 HOURS							
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG 2 IN 4 HOURS							
	YOS0T04SWH	OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS							
642)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR							
	X1STSDIV1	SHUTDOWN SERVICE WATER DIVISION 1 FAILURE							
	A2GG1KCDGM	DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE							
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS							
	ADG01KBDGM	DG01KB OUT OF SERVICE - PREVENTIVE MAINTENANCE							









	YDG2R04DGH OPERATORS FAIL TO RESTORE DG II IN 4 HOURS		0.800000	8.00E-01
	YOS0T04SWH OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS		0.450000	4.50E-01
676)	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR		0.000000	0.00E-01
	A1STDGBSTR DIVISION 2 DIESEL FAILS TO START		0.000000	0.00E-01
	A2DG1KADGM DGO1KA OUT OF SERVICE - CORRECTIVE MAINTENANCE		0.000000	0.00E-01
	XSX006CMVD DIS VALVE 1SX006C FAILS TO OPEN (MIN FLOW DIV 3)	3.0E-3	0.000000	0.00E-01
	YLI FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.000000	0.00E-01
	YDG1R04DGH OPERATORS FAIL TO RESTORE DG I IN 4 HOURS		0.000000	0.00E-01
	YDG2R04DGH OPERATORS FAIL TO RESTORE DG II IN 4 HOURS		0.000000	0.00E-01
677)	YOS0T04SWH OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS		0.450000	4.50E-01
	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR		0.000000	0.00E-01
	A2DG1KADGM DGO1KA OUT OF SERVICE - CORRECTIVE MAINTENANCE		0.000000	0.00E-01
	A1STDGCSTR DIVISION 3 DIESEL FAILS TO START		0.000000	0.00E-01
	YLI FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.000000	0.00E-01
	XSX173BMVC MINIMUM FLOW VALVE 1SY173B FAILS OPEN	3.0E-3	0.000000	0.00E-01
	YDG1R04DGH OPERATORS FAIL TO RESTORE DG I IN 4 HOURS		0.000000	0.00E-01
	YDG2R04DGH OPERATORS FAIL TO RESTORE DG II IN 4 HOURS		0.000000	0.00E-01
678)	YOS0T04SWH OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS		0.450000	4.50E-01
	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR		0.000000	0.00E-01
	A1STDGBSTR DIVISION 2 DIESEL FAILS TO START		0.000000	0.00E-01
	A2DG1KADGM DGO1KA OUT OF SERVICE - CORRECTIVE MAINTENANCE		0.000000	0.00E-01
	XSX014CMVC MOV 1SX014C FAILS TO CLOSE	3.0E-3	0.000000	0.00E-01
	YLI FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.000000	0.00E-01
	YDG1R04DGH OPERATORS FAIL TO RESTORE DG I IN 4 HOURS		0.000000	0.00E-01
	YDG2R04DGH OPERATORS FAIL TO RESTORE DG II IN 4 HOURS		0.000000	0.00E-01
679)	YOS0T04SWH OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS		0.450000	4.50E-01
	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR		0.000000	0.00E-01
	A1STDGASTR DIVISION 1 DIESEL FAILS TO START		0.000000	0.00E-01
	X1STSDIV2 SHUTDOWN SERVICE WATER DIVISION 2 FAILURE		0.000000	0.00E-01
	XD3CORRSYM DIV 3 DOWN FOR CORRECTIVE MAINT		0.000000	0.00E-01
	YLI FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.000000	0.00E-01
	YDCLOADSWH DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL		0.000000	0.00E-01
	YDG1R01DGH OPERATORS FAIL TO RESTORE DG I AT 1 HOUR		0.000000	0.00E-01
	YDG2R01DGH OPERATORS FAIL TO RESTORE DG II IN 1 HOUR		0.000000	0.00E-01
680)	YOS0T01SWH OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR		0.538000	5.38E-01
	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR		0.000000	0.00E-01
	A1STDGASTR DIVISION 1 DIESEL FAILS TO START		0.000000	0.00E-01
	X1STSDIV2 SHUTDOWN SERVICE WATER DIVISION 2 FAILURE		0.000000	0.00E-01
	X1STSDIV3 SHUTDOWN SERVICE WATER DIVISION 3 FAILURE		0.000000	0.00E-01
	YLI FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.000000	0.00E-01
	YDCLOADSWH DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL		0.000000	0.00E-01
	YDG1R01DGH OPERATORS FAIL TO RESTORE DG I AT 1 HOUR		0.000000	0.00E-01
	YDG2R01DGH OPERATORS FAIL TO RESTORE DG II IN 1 HOUR		0.000000	0.00E-01
681)	YOS0T01SWH OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR		0.538000	5.38E-01
	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR		0.000000	0.00E-01
	A1STDGBSTR DIVISION 2 DIESEL FAILS TO START		0.000000	0.00E-01
	X1STSDIV1 SHUTDOWN SERVICE WATER DIVISION 1 FAILURE		0.000000	0.00E-01
	XD3CORRSYM DIV 3 DOWN FOR CORRECTIVE MAINT		0.000000	0.00E-01
	YLI FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.000000	0.00E-01
	YDCLOADSWH DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL		0.000000	0.00E-01
	YDG1R01DGH OPERATORS FAIL TO RESTORE DG I AT 1 HOUR		0.000000	0.00E-01
	YDG2R01DGH OPERATORS FAIL TO RESTORE DG II IN 1 HOUR		0.000000	0.00E-01
682)	YOS0T01SWH OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR		0.538000	5.38E-01
	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR		0.000000	0.00E-01
	X1STSDIV1 SHUTDOWN SERVICE WATER DIVISION 1 FAILURE		0.000000	0.00E-01
	XD2CORRSYM DIV 2 DOWN FOR CORRECTIVE MAINT		0.000000	0.00E-01
	A1STDGCSTR DIVISION 3 DIESEL FAILS TO START		0.000000	0.00E-01
	YLI FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.000000	0.00E-01
	YDCLOADSWH DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL		0.000000	0.00E-01
	YDG1R01DGH OPERATORS FAIL TO RESTORE DG I AT 1 HOUR		0.000000	0.00E-01
	YDG2R01DGH OPERATORS FAIL TO RESTORE DG II IN 1 HOUR		0.000000	0.00E-01
683)	YOS0T01SWH OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR		0.538000	5.38E-01
	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR		0.000000	0.00E-01
	X1STSDIV2 SHUTDOWN SERVICE WATER DIVISION 2 FAILURE		0.000000	0.00E-01
	XD1CORRSYM DIV 1 DOWN FOR CORRECTIVE MAINT		0.000000	0.00E-01
	A1STDGCSTR DIVISION 3 DIESEL FAILS TO START		0.000000	0.00E-01
	YLI FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.000000	0.00E-01
	YDCLOADSWH DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL		0.000000	0.00E-01
	YDG1R01DGH OPERATORS FAIL TO RESTORE DG I AT 1 HOUR		0.000000	0.00E-01
	YDG2R01DGH OPERATORS FAIL TO RESTORE DG II IN 1 HOUR		0.000000	0.00E-01
684)	YOS0T01SWH OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR		0.538000	5.38E-01
	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR		0.000000	0.00E-01
	A1STDGBSTR DIVISION 2 DIESEL FAILS TO START		0.000000	0.00E-01
	X1STSDIV1 SHUTDOWN SERVICE WATER DIVISION 1 FAILURE		0.000000	0.00E-01
	X1STSDIV3 SHUTDOWN SERVICE WATER DIVISION 3 FAILURE		0.000000	0.00E-01
	YLI FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.000000	0.00E-01
	YDCLOADSWH DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL		0.000000	0.00E-01
	YDG1R01DGH OPERATORS FAIL TO RESTORE DG I AT 1 HOUR		0.000000	0.00E-01
	YDG2R01DGH OPERATORS FAIL TO RESTORE DG II IN 1 HOUR		0.000000	0.00E-01
685)	YOS0T01SWH OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR		0.538000	5.38E-01
	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR		0.000000	0.00E-01
	X1STSDIV2 SHUTDOWN SERVICE WATER DIVISION 2 FAILURE		0.000000	0.00E-01
	ADGACCCDGR DG A AND C FAIL TO RUN - COMMON CAUSE	2E-3	0.000000	0.00E-01
	YLI FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.000000	0.00E-01
	YDCLOADSWH DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL		0.000000	0.00E-01
	YDG1R01DGH OPERATORS FAIL TO RESTORE DG I AT 1 HOUR		0.000000	0.00E-01
	YDG2R01DGH OPERATORS FAIL TO RESTORE DG II IN 1 HOUR		0.000000	0.00E-01
686)	YOS0T01SWH OFF-SITE POWER NOT RECOVERED WITHIN ONE HOUR		0.538000	5.38E-01
	BGGRUNDR1 FAILURE OF TIME PHASED DIESEL RUN FAILURE IN ONE HOUR		0.000000	0.00E-01
	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR		0.000000	0.00E-01

	XISTSXDIV1 SHUTDOWN SERVICE WATER DIVISION 1 FAILURE		1.66E-02	1.66E-02
	ADGBCCDGR DG B AND C FAIL TO RUN - COMMON CAUSE	2E-3	0.027000	0.027000
	YL1 FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.027000	0.027000
	YDCLDADSWH DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL		0.029800	0.029800
	YDG1R01DGH OPERATORS FAIL TO RESTORE DG I AT 1 HOUR		0.090000	0.090000
	YDG2R04DGH OPERATORS FAIL TO RESTORE DG II IN 4 HOURS		0.800000	0.800000
	YOS0T01SWH OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR		0.593800	0.593800
687)	BDGRUNDDR1 FAILURE OF TIME-PHASED DIESEL RUN FAILURE IN ONE HOUR		0.4E-01	0.4E-01
	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR		0.4E-02	0.4E-02
	A2DGIKCDGM DG01KC OUT OF SERVICE - CORRECTIVE MAINTENANCE		0.026300	0.026300
	YL1 FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.026300	0.026300
	AVDABCCDMO FAILURE OF DAMPERS VD01YA AND B TO OPEN - COMMON CAUSE	3E-3	0.047000	0.047000
	YDCLDADSWH DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL		0.029800	0.029800
	YDG1R01DGH OPERATORS FAIL TO RESTORE DG I AT 1 HOUR		0.090000	0.090000
	YDG2R04DGH OPERATORS FAIL TO RESTORE DG II IN 4 HOURS		0.800000	0.800000
688)	YOS0T01SWH OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR		0.593800	0.593800
	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR		0.4E-02	0.4E-02
	A2DGIKADGM DG01KA OUT OF SERVICE - CORRECTIVE MAINTENANCE		0.026300	0.026300
	YL1 FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.026300	0.026300
	AVDBCCDMO DAMPERS VD01YB AND C FAIL TO OPEN - COMMON CAUSE	3E-3	0.047000	0.047000
	YDCLDADSWH DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL		0.029800	0.029800
	YDG1R01DGH OPERATORS FAIL TO RESTORE DG I AT 1 HOUR		0.090000	0.090000
	YDG2R04DGH OPERATORS FAIL TO RESTORE DG II IN 4 HOURS		0.800000	0.800000
689)	YOS0T01SWH OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR		0.593800	0.593800
	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR		0.4E-02	0.4E-02
	A2DGIKBDGM DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE		0.026300	0.026300
	YL1 FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.026300	0.026300
	AVDACCDMO DAMPERS VD01YA AND C FAIL TO OPEN - COMMON CAUSE	3E-3	0.047000	0.047000
	YDCLDADSWH DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL		0.029800	0.029800
	YDG1R01DGH OPERATORS FAIL TO RESTORE DG I AT 1 HOUR		0.090000	0.090000
	YDG2R04DGH OPERATORS FAIL TO RESTORE DG II IN 4 HOURS		0.800000	0.800000
690)	YOS0T01SWH OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR		0.593800	0.593800
	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR		0.4E-02	0.4E-02
	A1STDGBSTR DIVISION 2 DIESEL FAILS TO START		0.005100	0.005100
	A2DGIKADGM DG01KA OUT OF SERVICE - CORRECTIVE MAINTENANCE		0.026300	0.026300
	HPSYST1SYM HP SYSTEM DOWN FOR PREVENTIVE MAINTENANCE		0.005100	0.005100
	YL1 FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.026300	0.026300
	YDCLDADSWH DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL		0.029800	0.029800
	YDG1R01DGH OPERATORS FAIL TO RESTORE DG I AT 1 HOUR		0.090000	0.090000
	YDG2R04DGH OPERATORS FAIL TO RESTORE DG II IN 4 HOURS		0.800000	0.800000
691)	YOS0T01SWH OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR		0.593800	0.593800
	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR		0.4E-02	0.4E-02
	A2DGIKBDGM DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE		0.026300	0.026300
	A1STDGASTR DIVISION 1 DIESEL FAILS TO START		0.005100	0.005100
	HPSYST1SYM HP SYSTEM DOWN FOR PREVENTIVE MAINTENANCE		0.005100	0.005100
	YL1 FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.026300	0.026300
	YDCLDADSWH DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL		0.029800	0.029800
	YDG1R01DGH OPERATORS FAIL TO RESTORE DG I AT 1 HOUR		0.090000	0.090000
	YDG2R04DGH OPERATORS FAIL TO RESTORE DG II IN 4 HOURS		0.800000	0.800000
692)	YOS0T01SWH OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR		0.593800	0.593800
	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR		0.4E-02	0.4E-02
	A2DGIKBDGM DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE		0.026300	0.026300
	A1STDOPMPA DIVISION 1 DIESEL FUEL OIL PUMP FAILS		0.026300	0.026300
	H1STINJECT INDEPENDENT FAILURES OF HPCS SYSTEM		0.005100	0.005100
	YL1 FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.026300	0.026300
	B1STHPINJR OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		0.005100	0.005100
	YDCLDADSWH DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL		0.029800	0.029800
	YDG1R01DGH OPERATORS FAIL TO RESTORE DG I AT 1 HOUR		0.090000	0.090000
	YDG2R04DGH OPERATORS FAIL TO RESTORE DG II IN 4 HOURS		0.800000	0.800000
693)	YOS0T01SWH OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR		0.593800	0.593800
	BD01STDZ1 FAILURE TO RECOVER IN ONE HOUR FROM DIESEL FUEL PUMP FAILURES		0.38E-01	0.38E-01
	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR		0.4E-02	0.4E-02
	A2DGIKADGM DG01KA OUT OF SERVICE - CORRECTIVE MAINTENANCE		0.026300	0.026300
	A1STDOPMPB DIVISION 2 DIESEL FUEL OIL PUMP FAILS		0.026300	0.026300
	H1STINJECT INDEPENDENT FAILURES OF HPCS SYSTEM		0.005100	0.005100
	YL1 FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.026300	0.026300
	B1STHPINJR OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		0.005100	0.005100
	YDCLDADSWH DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL		0.029800	0.029800
	YDG1R01DGH OPERATORS FAIL TO RESTORE DG I AT 1 HOUR		0.090000	0.090000
	YDG2R04DGH OPERATORS FAIL TO RESTORE DG II IN 4 HOURS		0.800000	0.800000
694)	YOS0T01SWH OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR		0.593800	0.593800
	BD01STDZ1 FAILURE TO RECOVER IN ONE HOUR FROM DIESEL FUEL PUMP FAILURES		0.38E-01	0.38E-01
	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR		0.4E-02	0.4E-02
	XISTSXDIV1 SHUTDOWN SERVICE WATER DIVISION 1 FAILURE		0.66E-02	0.66E-02
	XISTSXDIV2 SHUTDOWN SERVICE WATER DIVISION 2 FAILURE		0.66E-02	0.66E-02
	H1STCOOLNG FAILURE OF COOLING SUPPORT FOR THE HPCS PUMP		0.005100	0.005100
	YL1 FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.026300	0.026300
	YDCLDADSWH DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL		0.029800	0.029800
	YDG1R01DGH OPERATORS FAIL TO RESTORE DG I AT 1 HOUR		0.090000	0.090000
	YDG2R04DGH OPERATORS FAIL TO RESTORE DG II IN 4 HOURS		0.800000	0.800000
695)	YOS0T01SWH OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR		0.593800	0.593800
	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR		0.4E-02	0.4E-02
	XISTSXDIV1 SHUTDOWN SERVICE WATER DIVISION 1 FAILURE		0.66E-02	0.66E-02
	H1STINJECT INDEPENDENT FAILURES OF HPCS SYSTEM		0.005100	0.005100
	YL1 FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.026300	0.026300
	B1STHPINJR OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		0.005100	0.005100
	XSK173BMC MINIMUM FLOW VALVE ISX173B FAILS OPEN	3.0E-3	0.000000	0.000000
	YDG1R04DGH OPERATORS FAIL TO RESTORE DG I IN 4 HOURS		0.800000	0.800000
	YDG2R04DGH OPERATORS FAIL TO RESTORE DG II IN 4 HOURS		0.800000	0.800000
	YOS0T04SWH OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS		0.045000	0.045000





	XDPABCCGTX	COM CAUSE FAIL DIV 1&2 DISCHARGE PRESS INST	3E-6	1.100000	1.19E-03
	YDG1R04DGH	OPERATORS FAIL TO RESTORE DG I IN 4 HOURS		0.800000	0.000000
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS		0.800000	0.000000
	YOS0T04SWH	OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS		0.500000	0.000000
707)	BSXMANSTRX	OPERATOR FAILS TO MANUALLY START SX SYSTEM		0.0E-01	0.000000
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0.4E-2	0.000000
	XSX014CMVC	MOV 1SX014C FAILS TO CLOSE	3.0E-3	0.000000	0.000000
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.1E-01	0.000000
	XDPABCCGTX	COM CAUSE FAIL DIV 1&2 DISCHARGE PRESS INST	3E-6	1.100000	1.19E-03
	YDG1R04DGH	OPERATORS FAIL TO RESTORE DG I IN 4 HOURS		0.800000	0.000000
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS		0.800000	0.000000
	YOS0T04SWH	OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS		0.500000	0.000000
708)	BSXMANSTRX	OPERATOR FAILS TO MANUALLY START SX SYSTEM		0.0E-01	0.000000
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0.4E-2	0.000000
	AVD01YCDMO	FAILURE OF DAMPER VDD01YC TO OPEN	3E-3	0.000000	0.000000
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.2E-01	0.000000
	XDPABCCGTX	COM CAUSE FAIL DIV 1&2 DISCHARGE PRESS INST	3E-6	1.100000	1.19E-03
	YDG1R04DGH	OPERATORS FAIL TO RESTORE DG I IN 4 HOURS		0.800000	0.000000
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS		0.800000	0.000000
	YOS0T04SWH	OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS		0.500000	0.000000
709)	BSXMANSTRX	OPERATOR FAILS TO MANUALLY START SX SYSTEM		0.0E-01	0.000000
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0.4E-2	0.000000
	HPSYST1SYM	HP SYSTEM DOWN FOR PREVENTIVE MAINTENANCE		0.0E-100	0.000000
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	3E-6	0.0E-01	0.000000
	XDPABCCGTX	COM CAUSE FAIL DIV 1&2 DISCHARGE PRESS INST	3E-6	1.100000	1.19E-03
	YDCLDADSWH	DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL		0.0E-9800	0.000000
	YDG1R01DGH	OPERATORS FAIL TO RESTORE DG I AT 1 HOUR		0.6E-0000	0.000000
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS		0.800000	0.000000
	YOS0T01SWH	OFF-SITE POWER NOT RECOVERED WITHIN ONE HOUR		0.5E-3800	0.000000
710)	BSXMANSTRX	OPERATOR FAILS TO MANUALLY START SX SYSTEM		0.0E-01	0.000000
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0.4E-2	0.000000
	HPSYST2SYM	HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE		0.0E-9800	0.000000
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.2E-01	0.000000
	ADGABCCDGS	DG A AND B FAIL TO START - COMMON CAUSE	2E-2	0.01E-1000	0.000000
	YDG1R04DGH	OPERATORS FAIL TO RESTORE DG I IN 4 HOURS		0.800000	0.000000
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS		0.800000	0.000000
	YOS0T04SWH	OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS		0.5E-200	0.000000
711)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0.4E-2	0.000000
	A2DGICBDGM	DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE		0.0E-2300	0.000000
	A2DGKADGM	DG01KA OUT OF SERVICE - CORRECTIVE MAINTENANCE		0.0E-2300	0.000000
	ADG01KCDGM	DG01KC OUT OF SERVICE - PREVENTIVE MAINTENANCE		0.0E-2300	0.000000
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.2E-01	0.000000
	YDCLDADSWH	DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL		0.0E-9800	0.000000
	YDG1R01DGH	OPERATORS FAIL TO RESTORE DG I AT 1 HOUR		0.6E-0000	0.000000
	YDG2R01DGH	OPERATORS FAIL TO RESTORE DG II IN 1 HOUR		0.6E-0000	0.000000
	YOS0T01SWH	OFF-SITE POWER NOT RECOVERED WITHIN ONE HOUR		0.5E-3800	0.000000
712)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0.4E-2	0.000000
	A2DGICBDGM	DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE		0.0E-2300	0.000000
	ADG01KADGM	DG01KA OUT OF SERVICE - PREVENTIVE MAINTENANCE		0.0E-2300	0.000000
	A2DGKCDGM	DG01KC OUT OF SERVICE - CORRECTIVE MAINTENANCE		0.0E-2300	0.000000
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.2E-01	0.000000
	YDCLDADSWH	DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL		0.0E-9800	0.000000
	YDG1R01DGH	OPERATORS FAIL TO RESTORE DG I AT 1 HOUR		0.6E-0000	0.000000
	YDG2R01DGH	OPERATORS FAIL TO RESTORE DG II IN 1 HOUR		0.6E-0000	0.000000
	YOS0T01SWH	OFF-SITE POWER NOT RECOVERED WITHIN ONE HOUR		0.5E-3800	0.000000
713)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0.4E-2	0.000000
	A1STDGBRUN	DIVISION 2 DIESEL FAILS TO CONTINUE RUNNING		0.4E-03	0.000000
	A1STDGARUN	DIVISION 1 DIESEL FAILS TO CONTINUE RUNNING		0.4E-03	0.000000
	HPSYST2SYM	HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE		0.0E-9800	0.000000
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.0E-01	0.000000
	YDCLDADSWH	DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL		0.0E-9800	0.000000
	YDG1R01DGH	OPERATORS FAIL TO RESTORE DG I AT 1 HOUR		0.6E-0000	0.000000
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS		0.800000	0.000000
	YOS0T01SWH	OFF-SITE POWER NOT RECOVERED WITHIN ONE HOUR		0.5E-3800	0.000000
714)	BDGRUNDDR1	FAILURE OF TIME-PHASED DIESEL RUN FAILURE IN ONE HOUR		0.4E-01	0.000000
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0.4E-2	0.000000
	A1STDGBRUN	DIVISION 2 DIESEL FAILS TO CONTINUE RUNNING		0.4E-03	0.000000
	A1STDGARUN	DIVISION 1 DIESEL FAILS TO CONTINUE RUNNING		0.4E-03	0.000000
	1ST-41	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.0E-01	0.000000
	YDG1R04DGH	OPERATORS FAIL TO RESTORE DG I IN 4 HOURS		0.800000	0.000000
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS		0.800000	0.000000
	YOS0T04SWH	OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS		0.5E-000	0.000000
715)	BDGRUNDDR4	FAILURE OF TIME-PHASED DIESEL RUN FAILURE FOR FOUR HOURS		0.0E-01	0.000000
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0.4E-2	0.000000
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	3.0E-3	0.0E-01	0.000000
	ADABCCCMPS	PUMPS D00TA B AND C FAIL TO START - COMMON CAUSE		0.0E-9800	0.000000
	YDCLDADSWH	DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL		0.0E-9800	0.000000
	YDG1R01DGH	OPERATORS FAIL TO RESTORE DG I AT 1 HOUR		0.6E-0000	0.000000
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS		0.800000	0.000000
	YOS0T01SWH	OFF-SITE POWER NOT RECOVERED WITHIN ONE HOUR		0.5E-3800	0.000000
716)	B3DOCCDD51	FAILURE TO RECOVER IN ONE HOUR FROM COMMON CAUSE DIESEL FUEL PUMP START		0.0E-02	0.000000
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0.4E-2	0.000000
	A1STDGARUN	DIVISION 1 DIESEL FAILS TO CONTINUE RUNNING		0.4E-03	0.000000
	X1STSDIV2	SHUTDOWN SERVICE WATER DIVISION 2 FAILURE		0.0E-03	0.000000
	A1STDGCSTR	DIVISION 3 DIESEL FAILS TO START		0.4E-03	0.000000
	Y1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.2E-01	0.000000
	YDCLDADSWH	DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL		0.0E-9800	0.000000
	YDG1R01DGH	OPERATORS FAIL TO RESTORE DG I AT 1 HOUR		0.6E-0000	0.000000
	YDG2R01DGH	OPERATORS FAIL TO RESTORE DG II IN 1 HOUR		0.6E-0000	0.000000







736)	YOS0T04SWH OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS	0.045000	4.50E-02
	BDGRUNDDR4 FAILURE OF TIME-PHASED DIESEL RUN FAILURE FOR FOUR HOURS	0.000000	0.00E+00
	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR	0.000000	0.00E+00
	A1STDGBRUN DIVISION 2 DIESEL FAILS TO CONTINUE RUNNING	0.000000	0.00E+00
	A1STDGARUN DIVISION 1 DIESEL FAILS TO CONTINUE RUNNING	0.000000	0.00E+00
	AP221C1CBO FAILURE OF CIRCUIT BREAKER 221C1 TO OPEN (ERAT)	0.000000	0.00E+00
	YLT FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	0.000000	0.00E+00
	YDG1R04DGH OPERATORS FAIL TO RESTORE DG I IN 4 HOURS	0.000000	0.00E+00
	YDG2R04DGH OPERATORS FAIL TO RESTORE DG II IN 4 HOURS	0.000000	0.00E+00
	YOS0T04SWH OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS	0.045000	4.50E-02
737)	BDGRUNDDR4 FAILURE OF TIME-PHASED DIESEL RUN FAILURE FOR FOUR HOURS	0.000000	0.00E+00
	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR	0.000000	0.00E+00
	A1STDGBRUN DIVISION 2 DIESEL FAILS TO CONTINUE RUNNING	0.000000	0.00E+00
	A1STDGARUN DIVISION 1 DIESEL FAILS TO CONTINUE RUNNING	0.000000	0.00E+00
	AVD01YCDMO FAILURE OF DAMPER VD01YC TO OPEN	0.000000	0.00E+00
	YLT FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	0.000000	0.00E+00
	YDG1R04DGH OPERATORS FAIL TO RESTORE DG I IN 4 HOURS	0.000000	0.00E+00
	YDG2R04DGH OPERATORS FAIL TO RESTORE DG II IN 4 HOURS	0.000000	0.00E+00
	YOS0T04SWH OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS	0.045000	4.50E-02
738)	BDGRUNDDR4 FAILURE OF TIME-PHASED DIESEL RUN FAILURE FOR FOUR HOURS	0.000000	0.00E+00
	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR	0.000000	0.00E+00
	A1STDGBRUN DIVISION 2 DIESEL FAILS TO CONTINUE RUNNING	0.000000	0.00E+00
	A1STDGARUN DIVISION 1 DIESEL FAILS TO CONTINUE RUNNING	0.000000	0.00E+00
	XSX014CMVC MOV 1SX014C FAILS TO CLOSE	0.000000	0.00E+00
	YLT FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	0.000000	0.00E+00
	YDG1R04DGH OPERATORS FAIL TO RESTORE DG I IN 4 HOURS	0.000000	0.00E+00
	YDG2R04DGH OPERATORS FAIL TO RESTORE DG II IN 4 HOURS	0.000000	0.00E+00
	YOS0T04SWH OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS	0.045000	4.50E-02
739)	BDGRUNDDR4 FAILURE OF TIME-PHASED DIESEL RUN FAILURE FOR FOUR HOURS	0.000000	0.00E+00
	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR	0.000000	0.00E+00
	A1STDGBRUN DIVISION 2 DIESEL FAILS TO CONTINUE RUNNING	0.000000	0.00E+00
	A1STDGARUN DIVISION 1 DIESEL FAILS TO CONTINUE RUNNING	0.000000	0.00E+00
	XSX006CMVO DIS VALVE 1SX006C FAILS TO OPEN (MIN FLOW DIV 3)	0.000000	0.00E+00
	YLT FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	0.000000	0.00E+00
	YDG1R04DGH OPERATORS FAIL TO RESTORE DG I IN 4 HOURS	0.000000	0.00E+00
	YDG2R04DGH OPERATORS FAIL TO RESTORE DG II IN 4 HOURS	0.000000	0.00E+00
	YOS0T04SWH OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS	0.045000	4.50E-02
740)	BDGRUNDDR4 FAILURE OF TIME-PHASED DIESEL RUN FAILURE FOR FOUR HOURS	0.000000	0.00E+00
	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR	0.000000	0.00E+00
	X1STSXD1V1 SHUTDOWN SERVICE WATER DIVISION 1 FAILURE	0.000000	0.00E+00
	X1STSXD1V2 SHUTDOWN SERVICE WATER DIVISION 2 FAILURE	0.000000	0.00E+00
	HPSYST1SYM HP SYSTEM DOWN FOR PREVENTIVE MAINTENANCE	0.000000	0.00E+00
	YLT FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	0.000000	0.00E+00
	YDG1R04DGH OPERATORS FAIL TO RESTORE DG I IN 4 HOURS	0.000000	0.00E+00
	YDG2R04DGH OPERATORS FAIL TO RESTORE DG II IN 4 HOURS	0.000000	0.00E+00
	YOS0T04SWH OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS	0.045000	4.50E-02
741)	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR	0.000000	0.00E+00
	A2DGIKBDGM DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE	0.000000	0.00E+00
	X1STSXD1V1 SHUTDOWN SERVICE WATER DIVISION 1 FAILURE	0.000000	0.00E+00
	X03CORRSYM DIV 3 DOWN FOR CORRECTIVE MAINT	0.000000	0.00E+00
	YLT FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	0.000000	0.00E+00
	YDCLOADSWH DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL	0.000000	0.00E+00
	YDG1R01DGH OPERATORS FAIL TO RESTORE DG I AT 1 HOUR	0.000000	0.00E+00
	YDG2R04DGH OPERATORS FAIL TO RESTORE DG II IN 4 HOURS	0.000000	0.00E+00
	YOS0T01SWH OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR	0.000000	0.00E+00
742)	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR	0.000000	0.00E+00
	A2DGIKBDGM DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE	0.000000	0.00E+00
	X1STSXD1V1 SHUTDOWN SERVICE WATER DIVISION 1 FAILURE	0.000000	0.00E+00
	X1STSXD1V3 SHUTDOWN SERVICE WATER DIVISION 3 FAILURE	0.000000	0.00E+00
	YLT FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	0.000000	0.00E+00
	YDCLOADSWH DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL	0.000000	0.00E+00
	YDG1R01DGH OPERATORS FAIL TO RESTORE DG I AT 1 HOUR	0.000000	0.00E+00
	YDG2R04DGH OPERATORS FAIL TO RESTORE DG II IN 4 HOURS	0.000000	0.00E+00
	YOS0T01SWH OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR	0.000000	0.00E+00
743)	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR	0.000000	0.00E+00
	X1STSXD1V1 SHUTDOWN SERVICE WATER DIVISION 1 FAILURE	0.000000	0.00E+00
	X02CORRSYM DIV 2 DOWN FOR CORRECTIVE MAINT	0.000000	0.00E+00
	A2DGIKCDGM DG01KC OUT OF SERVICE - CORRECTIVE MAINTENANCE	0.000000	0.00E+00
	YLT FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	0.000000	0.00E+00
	YDCLOADSWH DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL	0.000000	0.00E+00
	YDG1R01DGH OPERATORS FAIL TO RESTORE DG I AT 1 HOUR	0.000000	0.00E+00
	YDG2R04DGH OPERATORS FAIL TO RESTORE DG II IN 4 HOURS	0.000000	0.00E+00
	YOS0T01SWH OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR	0.000000	0.00E+00
744)	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR	0.000000	0.00E+00
	X1STSXD1V2 SHUTDOWN SERVICE WATER DIVISION 2 FAILURE	0.000000	0.00E+00
	X01CORRSYM DIV 1 DOWN FOR CORRECTIVE MAINT	0.000000	0.00E+00
	A2DGIKCDGM DG01KC OUT OF SERVICE - CORRECTIVE MAINTENANCE	0.000000	0.00E+00
	YLT FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	0.000000	0.00E+00
	YDCLOADSWH DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL	0.000000	0.00E+00
	YDG1R01DGH OPERATORS FAIL TO RESTORE DG I AT 1 HOUR	0.000000	0.00E+00
	YDG2R04DGH OPERATORS FAIL TO RESTORE DG II IN 4 HOURS	0.000000	0.00E+00
	YOS0T01SWH OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR	0.000000	0.00E+00
745)	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR	0.000000	0.00E+00
	A2DGIKADGM DG01KA OUT OF SERVICE - CORRECTIVE MAINTENANCE	0.000000	0.00E+00
	X1STSXD1V2 SHUTDOWN SERVICE WATER DIVISION 2 FAILURE	0.000000	0.00E+00
	X03CORRSYM DIV 3 DOWN FOR CORRECTIVE MAINT	0.000000	0.00E+00
	YLT FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	0.000000	0.00E+00
	YDCLOADSWH DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL	0.000000	0.00E+00
	YDG1R01DGH OPERATORS FAIL TO RESTORE DG I AT 1 HOUR	0.000000	0.00E+00
	YDG2R04DGH OPERATORS FAIL TO RESTORE DG II IN 4 HOURS	0.000000	0.00E+00



	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS	0.800000	8	00	01
	YOS0T04SWH	OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS	0.450000	8	00	01
757)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR	0.4E-2	0	00	02
	A2DGC1CBDGM	DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE	0.020300	0	00	02
	XD1CORRSYM	DIV 1 DOWN FOR CORRECTIVE MAINT	0.007900	0	00	03
	XD3CORRSYM	DIV 3 DOWN FOR CORRECTIVE MAINT	0.007900	0	00	03
	YLT	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	0.2E-01	0	00	03
	YDG1R04DGH	OPERATORS FAIL TO RESTORE DG I IN 4 HOURS	0.800000	0	00	01
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS	0.800000	0	00	01
	YOS0T04SWH	OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS	0.450000	0	00	02
758)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR	0.4E-2	0	00	02
	A2DGC1CBDGM	DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE	0.020300	0	00	02
	XD1CORRSYM	DIV 1 DOWN FOR CORRECTIVE MAINT	0.007900	0	00	03
	X1STSDIV3	SHUTDOWN SERVICE WATER DIVISION 3 FAILURE	0.00E-03	0	00	03
	YLT	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	0.2E-01	0	00	03
	YDG1R04DGH	OPERATORS FAIL TO RESTORE DG I IN 4 HOURS	0.800000	0	00	01
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS	0.800000	0	00	01
	YOS0T04SWH	OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS	0.450000	0	00	02
759)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR	0.4E-2	0	00	02
	A1STDGASTR	DIVISION 1 DIESEL FAILS TO START	0.3E-02	0	00	02
	X1STSDIV2	SHUTDOWN SERVICE WATER DIVISION 2 FAILURE	0.00E-03	0	00	03
	HPSYST2SYM	HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE	0.008800	0	00	03
	YLT	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	0.2E-01	0	00	03
	YDCLOADSWH	DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL	0.002800	0	00	02
	YDG1R01DGH	OPERATORS FAIL TO RESTORE DG I AT 1 HOUR	0.990000	0	00	02
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS	0.800000	0	00	01
	YOS0T01SWH	OFF-SITE POWER NOT RECOVERED WITHIN ONE HOUR	0.593800	0	00	01
760)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR	0.4E-2	0	00	02
	A1STDGBSTR	DIVISION 2 DIESEL FAILS TO START	0.2E-02	0	00	02
	X1STSDIV1	SHUTDOWN SERVICE WATER DIVISION 1 FAILURE	0.00E-03	0	00	03
	HPSYST2SYM	HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE	0.008800	0	00	03
	YLT	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	0.2E-01	0	00	03
	YDCLOADSWH	DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL	0.002800	0	00	02
	YDG1R01DGH	OPERATORS FAIL TO RESTORE DG I AT 1 HOUR	0.990000	0	00	02
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS	0.800000	0	00	01
	YOS0T01SWH	OFF-SITE POWER NOT RECOVERED WITHIN ONE HOUR	0.593800	0	00	01
761)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR	0.4E-2	0	00	02
	A1STDGBRUN	DIVISION 2 DIESEL FAILS TO CONTINUE RUNNING	0.020300	0	00	02
	A2DGIKADGM	DG01KA OUT OF SERVICE - CORRECTIVE MAINTENANCE	0.020300	0	00	02
	YLT	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	0.2E-01	0	00	03
	IST-83		0.00E-03	0	00	03
	YDG1R04DGH	OPERATORS FAIL TO RESTORE DG I IN 4 HOURS	0.800000	0	00	01
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS	0.800000	0	00	01
	YOS0T04SWH	OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS	0.450000	0	00	02
762)	BDGRUNDDR4	FAILURE OF TIME-PHASED DIESEL RUN FAILURE FOR FOUR HOURS	0.9E-01	0	00	01
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR	0.4E-2	0	00	02
	A1STDGBRUN	DIVISION 2 DIESEL FAILS TO CONTINUE RUNNING	0.020300	0	00	02
	A2DGIKADGM	DG01KA OUT OF SERVICE - CORRECTIVE MAINTENANCE	0.020300	0	00	02
	YLT	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	0.2E-01	0	00	03
	IST-85		0.00E-03	0	00	03
	YDG1R04DGH	OPERATORS FAIL TO RESTORE DG I IN 4 HOURS	0.800000	0	00	01
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS	0.800000	0	00	01
	YOS0T04SWH	OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS	0.450000	0	00	02
763)	BDGRUNDDR4	FAILURE OF TIME-PHASED DIESEL RUN FAILURE FOR FOUR HOURS	0.9E-01	0	00	01
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR	0.4E-2	0	00	02
	A2DGC1CBDGM	DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE	0.020300	0	00	02
	A1STDGARUN	DIVISION 1 DIESEL FAILS TO CONTINUE RUNNING	0.020300	0	00	02
	YLT	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	0.2E-01	0	00	03
	IST-83		0.00E-03	0	00	03
	YDG1R04DGH	OPERATORS FAIL TO RESTORE DG I IN 4 HOURS	0.800000	0	00	01
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS	0.800000	0	00	01
	YOS0T04SWH	OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS	0.450000	0	00	02
764)	BDGRUNDDR4	FAILURE OF TIME-PHASED DIESEL RUN FAILURE FOR FOUR HOURS	0.9E-01	0	00	01
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR	0.4E-2	0	00	02
	A2DGC1CBDGM	DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE	0.020300	0	00	02
	A1STDGARUN	DIVISION 1 DIESEL FAILS TO CONTINUE RUNNING	0.020300	0	00	02
	YLT	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	0.2E-01	0	00	03
	IST-85		0.00E-03	0	00	03
	YDG1R04DGH	OPERATORS FAIL TO RESTORE DG I IN 4 HOURS	0.800000	0	00	01
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS	0.800000	0	00	01
	YOS0T04SWH	OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS	0.450000	0	00	02
765)	BDGRUNDDR4	FAILURE OF TIME-PHASED DIESEL RUN FAILURE FOR FOUR HOURS	0.9E-01	0	00	01
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR	0.4E-2	0	00	02
	A2DGC1CBDGM	DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE	0.020300	0	00	02
	A2DGIKADGM	DG01KA OUT OF SERVICE - CORRECTIVE MAINTENANCE	0.020300	0	00	02
	A1STDOPMPC	DIVISION 3 DIESEL FUEL OIL PUMP FAILS	0.00E-03	0	00	03
	YLT	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	0.2E-01	0	00	03
	YDCLOADSWH	DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL	0.002800	0	00	02
	YDG1R01DGH	OPERATORS FAIL TO RESTORE DG I AT 1 HOUR	0.990000	0	00	02
	YDG2R01DGH	OPERATORS FAIL TO RESTORE DG I IN 1 HOUR	0.990000	0	00	02
	YOS0T01SWH	OFF-SITE POWER NOT RECOVERED WITHIN ONE HOUR	0.593800	0	00	01
766)	B001STDDZ1	FAILURE TO RECOVER IN ONE HOUR FROM DIESEL FUEL PUMP FAILURES	0.38E-01	0	00	01
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR	0.4E-2	0	00	02
	A2DGC1CBDGM	DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE	0.020300	0	00	02
	A1STDOPMPC	DIVISION 1 DIESEL FUEL OIL PUMP FAILS	0.00E-03	0	00	03
	A2DGIKADGM	DG01KA OUT OF SERVICE - CORRECTIVE MAINTENANCE	0.020300	0	00	02
	YLT	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	0.2E-01	0	00	03
	YDCLOADSWH	DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL	0.002800	0	00	02
	YDG1R01DGH	OPERATORS FAIL TO RESTORE DG I AT 1 HOUR	0.990000	0	00	02
	YDG2R01DGH	OPERATORS FAIL TO RESTORE DG II IN 1 HOUR	0.990000	0	00	02





	XXSX028GTX	FAIL OF A STRAINER DISCHARGE PRESS INST (SX028)	3E-6	18.000000	1.94E-02
	HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM		0.000000	0.00E-02
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.000000	0.00E-02
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		0.000000	0.00E-02
	BXSX028GTX	OPERATOR FAILS TO START SX SYSTEM ON FAILURE OF LOW HEADER PRESSURE INIT		0.000000	0.00E-02
	YDG1R04DGH	OPERATORS FAIL TO RESTORE DG I IN 4 HOURS		0.000000	0.00E-02
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS		0.000000	0.00E-02
	YOS0T04SWH	OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS		0.450000	0.00E-02
778)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0.000000	0.00E-02
	XXSX030GTX	FAIL OF B STRAINER DISCHARGE PRESS INST (SX030)	3E-6	18.000000	1.64E-09
	A1STDGASTR	DIVISION 1 DIESEL FAILS TO START		0.000000	0.00E-02
	HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM		0.000000	0.00E-02
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.000000	0.00E-02
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		0.000000	0.00E-02
	BXSX030GTX	OPERATOR FAILS TO START SX SYSTEM ON FAILURE OF LOW HEADER PRESSURE INIT		0.000000	0.00E-02
	YDG1R04DGH	OPERATORS FAIL TO RESTORE DG I IN 4 HOURS		0.000000	0.00E-02
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS		0.000000	0.00E-02
	YOS0T04SWH	OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS		0.450000	0.00E-02
779)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0.000000	0.00E-02
	A2DG1CB0GM	DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE		0.263000	1.63E-09
	X01PREVSYM	DIV 1 DOWN FOR PREVENTATIVE MAINT		0.001700	0.00E-02
	HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM		0.000000	0.00E-02
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.000000	0.00E-02
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		0.000000	0.00E-02
	YDG1R04DGH	OPERATORS FAIL TO RESTORE DG I IN 4 HOURS		0.000000	0.00E-02
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS		0.000000	0.00E-02
	YOS0T04SWH	OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS		0.450000	0.00E-02
780)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0.000000	0.00E-02
	A2DG1KADGM	DG01KA OUT OF SERVICE - CORRECTIVE MAINTENANCE		0.263000	1.63E-09
	HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM		0.000000	0.00E-02
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.000000	0.00E-02
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		0.000000	0.00E-02
	X02PREVSYM	DIV 2 DOWN FOR PREVENTATIVE MAINT		0.001700	0.00E-02
	YDG1R04DGH	OPERATORS FAIL TO RESTORE DG I IN 4 HOURS		0.000000	0.00E-02
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS		0.000000	0.00E-02
	YOS0T04SWH	OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS		0.450000	0.00E-02
781)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0.000000	0.00E-02
	A1STDGASTR	DIVISION 1 DIESEL FAILS TO START		0.000000	0.00E-02
	X02CORRSYM	DIV 2 DOWN FOR CORRECTIVE MAINT		0.007900	1.64E-09
	HPSYST2SYM	HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE		0.008800	0.00E-02
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.000000	0.00E-02
	YDG1R04DGH	OPERATORS FAIL TO RESTORE DG I IN 4 HOURS		0.000000	0.00E-02
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS		0.000000	0.00E-02
	YOS0T04SWH	OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS		0.450000	0.00E-02
782)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0.000000	0.00E-02
	A1STDGBSTR	DIVISION 2 DIESEL FAILS TO START		0.000000	0.00E-02
	X01CORRSYM	DIV 1 DOWN FOR CORRECTIVE MAINT		0.007900	1.64E-09
	HPSYST2SYM	HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE		0.008800	0.00E-02
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.000000	0.00E-02
	YDG1R04DGH	OPERATORS FAIL TO RESTORE DG I IN 4 HOURS		0.000000	0.00E-02
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS		0.000000	0.00E-02
	YOS0T04SWH	OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS		0.450000	0.00E-02
783)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0.000000	0.00E-02
	A2DG1CB0GM	DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE		0.263000	1.63E-09
	X1STSXD1V1	SHUTDOWN SERVICE WATER DIVISION 1 FAILURE		0.660000	0.00E-02
	HPSYST1SYM	HP SYSTEM DOWN FOR PREVENTIVE MAINTENANCE		0.006100	0.00E-02
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.000000	0.00E-02
	YDCLOADSWH	DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL		0.208000	0.00E-02
	YDG1R01DGH	OPERATORS FAIL TO RESTORE DG I AT 1 HOUR		0.000000	0.00E-02
	YDG2R01DGH	OPERATORS FAIL TO RESTORE DG II IN 1 HOUR		0.000000	0.00E-02
	YOS0T01SWH	OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR		0.538000	0.00E-02
784)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0.000000	0.00E-02
	A2DG1KADGM	DG01KA OUT OF SERVICE - CORRECTIVE MAINTENANCE		0.263000	1.63E-09
	X1STSXD1V2	SHUTDOWN SERVICE WATER DIVISION 2 FAILURE		0.660000	0.00E-02
	HPSYST1SYM	HP SYSTEM DOWN FOR PREVENTIVE MAINTENANCE		0.006100	0.00E-02
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.000000	0.00E-02
	YDCLOADSWH	DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL		0.208000	0.00E-02
	YDG1R01DGH	OPERATORS FAIL TO RESTORE DG I AT 1 HOUR		0.000000	0.00E-02
	YDG2R01DGH	OPERATORS FAIL TO RESTORE DG II IN 1 HOUR		0.000000	0.00E-02
	YOS0T01SWH	OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR		0.538000	0.00E-02
785)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0.000000	0.00E-02
	A1STDGBSTR	DIVISION 2 DIESEL FAILS TO START		0.000000	0.00E-02
	A1STDGASTR	DIVISION 1 DIESEL FAILS TO START		0.000000	0.00E-02
	XSX014CMVC	MOV 1SX014C FAILS TO CLOSE	3.0E-3	0.000000	0.00E-03
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.000000	0.00E-02
	YDG1R04DGH	OPERATORS FAIL TO RESTORE DG I IN 4 HOURS		0.000000	0.00E-02
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS		0.000000	0.00E-02
	YOS0T04SWH	OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS		0.450000	0.00E-02
786)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0.000000	0.00E-02
	A1STDGASTR	DIVISION 1 DIESEL FAILS TO START		0.000000	0.00E-02
	A1STDGASTR	DIVISION 4 DIESEL FAILS TO START		0.000000	0.00E-02
	YLI	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.000000	0.00E-02
	AP22181CBO	FAILURE OF CIRCUIT BREAKER 2218 TO OPEN (ERAT)	3E-3	0.000000	0.00E-03
	YDG1R04DGH	OPERATORS FAIL TO RESTORE DG I IN 4 HOURS		0.000000	0.00E-02
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS		0.000000	0.00E-02
	YOS0T04SWH	OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS		0.450000	0.00E-02
787)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0.000000	0.00E-02
	A1STDGBSTR	DIVISION 2 DIESEL FAILS TO START		0.000000	0.00E-02
	A1STDGASTR	DIVISION 1 DIESEL FAILS TO START		0.000000	0.00E-02
	AVD01YCDMO	FAILURE OF DAMPER V01YC TO OPEN	3E-3	1.000000	1.63E-09











	XDPABCCGTX	COM CAUSE FAIL DIV 1&2 DISCHARGE PRESS INST	3E-6	1.100000	1.19E-03
	YDCLOADSWH	DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL		0.000000	0.00E-01
	YDG1R01DGH	OPERATORS FAIL TO RESTORE DG I AT 1 HOUR		0.000000	0.00E-01
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS		0.000000	0.00E-01
	YOSOTO1SWH	OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR		0.000000	0.00E-01
831)	BSXMANSTRT	OPERATOR FAILS TO MANUALLY START SX SYSTEM		0.000000	0.00E-01
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0.000000	0.00E-01
	A1STDGBRUN	DIVISION 2 DIESEL FAILS TO CONTINUE RUNNING		0.000000	0.00E-01
	X1STSXD1V1	SHUTDOWN SERVICE WATER DIVISION 1 FAILURE		0.000000	0.00E-01
	HPSYST2SYM	HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE		0.000000	0.00E-01
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.000000	0.00E-01
	YDG1R04DGH	OPERATORS FAIL TO RESTORE DG I IN 4 HOURS		0.000000	0.00E-01
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS		0.000000	0.00E-01
	YOSOTO4SWH	OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS		0.000000	0.00E-01
832)	BDGRUNDDR4	FAILURE OF TIME-PHASED DIESEL RUN FAILURE FOR FOUR HOURS		0.000000	0.00E-01
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0.000000	0.00E-01
	A1STDGARUN	DIVISION 1 DIESEL FAILS TO CONTINUE RUNNING		0.000000	0.00E-01
	X1STSXD1V2	SHUTDOWN SERVICE WATER DIVISION 2 FAILURE		0.000000	0.00E-01
	HPSYST2SYM	HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE		0.000000	0.00E-01
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.000000	0.00E-01
	YDG1R04DGH	OPERATORS FAIL TO RESTORE DG I IN 4 HOURS		0.000000	0.00E-01
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS		0.000000	0.00E-01
	YOSOTO4SWH	OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS		0.000000	0.00E-01
833)	BDGRUNDDR4	FAILURE OF TIME-PHASED DIESEL RUN FAILURE FOR FOUR HOURS		0.000000	0.00E-01
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0.000000	0.00E-01
	A1STDGBRUN	DIVISION 2 DIESEL FAILS TO CONTINUE RUNNING		0.000000	0.00E-01
	A1STDGARUN	DIVISION 1 DIESEL FAILS TO CONTINUE RUNNING		0.000000	0.00E-01
	HPSYST1SYM	HP SYSTEM DOWN FOR PREVENTIVE MAINTENANCE		0.000000	0.00E-01
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.000000	0.00E-01
	YDCLOADSWH	DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL		0.000000	0.00E-01
	YDG1R01DGH	OPERATORS FAIL TO RESTORE DG I AT 1 HOUR		0.000000	0.00E-01
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS		0.000000	0.00E-01
	YOSOTO1SWH	OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR		0.000000	0.00E-01
834)	BDGRUNDDR1	FAILURE OF TIME-PHASED DIESEL RUN FAILURE IN ONE HOUR		0.000000	0.00E-01
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0.000000	0.00E-01
	AP221C1CB0	FAILURE OF CIRCUIT BREAKER 221C1 TO OPEN (ERAT)		0.000000	0.00E-01
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	3E-3	0.000000	0.00E-01
	XDSPRCCGTX	COM CAUSE FAIL DIV 1 2&3 DISCHARGE PRESS INST	3E-6	0.000000	0.00E-01
	YDCLOADSWH	DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL		0.000000	0.00E-01
	YDG1R01DGH	OPERATORS FAIL TO RESTORE DG I AT 1 HOUR		0.000000	0.00E-01
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS		0.000000	0.00E-01
	YOSOTO1SWH	OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR		0.000000	0.00E-01
835)	BSXMANSTRT	OPERATOR FAILS TO MANUALLY START SX SYSTEM		0.000000	0.00E-01
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0.000000	0.00E-01
	XSX014CMVC	MOV 1SX014C FAILS TO CLOSE		0.000000	0.00E-01
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	3.0E-3	0.000000	0.00E-01
	XDSPRCCGTX	COM CAUSE FAIL DIV 1 2&3 DISCHARGE PRESS INST	3E-6	0.000000	0.00E-01
	YDCLOADSWH	DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL		0.000000	0.00E-01
	YDG1R01DGH	OPERATORS FAIL TO RESTORE DG I AT 1 HOUR		0.000000	0.00E-01
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS		0.000000	0.00E-01
	YOSOTO1SWH	OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR		0.000000	0.00E-01
836)	BSXMANSTRT	OPERATOR FAILS TO MANUALLY START SX SYSTEM		0.000000	0.00E-01
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0.000000	0.00E-01
	P3MAINTLGH	HPCS FAILURE TO PROPERLY RESTORE FROM MAINT		0.000000	0.00E-01
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.000000	0.00E-01
	XDSPRCCGTX	COM CAUSE FAIL DIV 1 2&3 DISCHARGE PRESS INST	3E-6	0.000000	0.00E-01
	YDCLOADSWH	DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL		0.000000	0.00E-01
	YDG1R01DGH	OPERATORS FAIL TO RESTORE DG I AT 1 HOUR		0.000000	0.00E-01
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS		0.000000	0.00E-01
	YOSOTO1SWH	OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR		0.000000	0.00E-01
837)	BSXMANSTRT	OPERATOR FAILS TO MANUALLY START SX SYSTEM		0.000000	0.00E-01
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0.000000	0.00E-01
	AVD01YCDMO	FAILURE OF DAMPER VDD1YC TO OPEN		0.000000	0.00E-01
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	3E-3	0.000000	0.00E-01
	XDSPRCCGTX	COM CAUSE FAIL DIV 1 2&3 DISCHARGE PRESS INST	3E-6	0.000000	0.00E-01
	YDCLOADSWH	DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL		0.000000	0.00E-01
	YDG1R01DGH	OPERATORS FAIL TO RESTORE DG I AT 1 HOUR		0.000000	0.00E-01
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS		0.000000	0.00E-01
	YOSOTO1SWH	OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR		0.000000	0.00E-01
838)	BSXMANSTRT	OPERATOR FAILS TO MANUALLY START SX SYSTEM		0.000000	0.00E-01
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0.000000	0.00E-01
	XSX006CMVO	DIS VALVE 1SX006C FAILS TO OPEN (MIN FLOW DIV 3)		0.000000	0.00E-01
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	3.0E-3	0.000000	0.00E-01
	XDSPRCCGTX	COM CAUSE FAIL DIV 1 2&3 DISCHARGE PRESS INST	3E-6	0.000000	0.00E-01
	YDCLOADSWH	DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL		0.000000	0.00E-01
	YDG1R01DGH	OPERATORS FAIL TO RESTORE DG I AT 1 HOUR		0.000000	0.00E-01
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS		0.000000	0.00E-01
	YOSOTO1SWH	OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR		0.000000	0.00E-01
839)	BSXMANSTRT	OPERATOR FAILS TO MANUALLY START SX SYSTEM		0.000000	0.00E-01
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0.000000	0.00E-01
	HPXN056FSH	MISCALIBRATION OF HPCS FLOW TRANSMITTER		0.000000	0.00E-01
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	3E-6	0.000000	0.00E-01
	XDSPRCCGTX	COM CAUSE FAIL DIV 1 2&3 DISCHARGE PRESS INST		0.000000	0.00E-01
	YDCLOADSWH	DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL		0.000000	0.00E-01
	YDG1R01DGH	OPERATORS FAIL TO RESTORE DG I AT 1 HOUR		0.000000	0.00E-01
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS		0.000000	0.00E-01
	YOSOTO1SWH	OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR		0.000000	0.00E-01
840)	BSXMANSTRT	OPERATOR FAILS TO MANUALLY START SX SYSTEM		0.000000	0.00E-01
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0.000000	0.00E-01
	HPSYST2SYM	HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE		0.008800	0.80E-03

	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	XCDVHCCAVD	COM CAUSE FAIL FOR A B AND C VH COOLER DISCHARGE VALVES	2E-3		
	YDG1R01DGH	OPERATORS FAIL TO RESTORE DG I IN 4 HOURS			
	YDG2R01DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS			
	YOS0T01SWH	OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS			
841)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			1.53E-09
	A1STDGASTR	DIVISION 1 DIESEL FAILS TO START			
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM			
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	3.0E-3		
	XSX173BMVC	MINIMUM FLOW VALVE ISX173B FAILS OPEN			
	YDCLDASWH	DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL			
	YDG1R01DGH	OPERATORS FAIL TO RESTORE DG I AT 1 HOUR			
	YDG2R01DGH	OPERATORS FAIL TO RESTORE DG II IN 1 HOUR			
	YOS0T01SWH	OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR			
842)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			1.53E-09
	A1STDGASTR	DIVISION 1 DIESEL FAILS TO START			
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM			
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	3.0E-3		
	XSX014BMVC	MOV ISX014B FAILS TO CLOSE			
	YDCLDASWH	DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL			
	YDG1R01DGH	OPERATORS FAIL TO RESTORE DG I AT 1 HOUR			
	YDG2R01DGH	OPERATORS FAIL TO RESTORE DG II IN 1 HOUR			
	YOS0T01SWH	OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR			
843)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			1.53E-09
	A1STDGASTR	DIVISION 1 DIESEL FAILS TO START			
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM			
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	3E-3		
	AP221B1CBO	FAILURE OF CIRCUIT BREAKER 221B TO OPEN (ERAT)			
	YDCLDASWH	DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL			
	YDG1R01DGH	OPERATORS FAIL TO RESTORE DG I AT 1 HOUR			
	YDG2R01DGH	OPERATORS FAIL TO RESTORE DG II IN 1 HOUR			
	YOS0T01SWH	OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR			
844)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			1.53E-09
	A1STDGASTR	DIVISION 1 DIESEL FAILS TO START			
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM			
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	3E-3		
	AVD01YBDMO	FAILURE OF DAMPER VD01YB TO OPEN			
	YDCLDASWH	DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL			
	YDG1R01DGH	OPERATORS FAIL TO RESTORE DG I AT 1 HOUR			
	YDG2R01DGH	OPERATORS FAIL TO RESTORE DG II IN 1 HOUR			
	YOS0T01SWH	OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR			
845)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			1.53E-09
	A1STDGBSTR	DIVISION 2 DIESEL FAILS TO START			
	XSX173AMVC	MINIMUM FLOW VALVE ISX173A FAILS OPEN	3.0E-3		
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM			
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM			
	YDCLDASWH	DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL			
	YDG1R01DGH	OPERATORS FAIL TO RESTORE DG I AT 1 HOUR			
	YDG2R01DGH	OPERATORS FAIL TO RESTORE DG II IN 1 HOUR			
	YOS0T01SWH	OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR			
846)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			1.53E-09
	A1STDGBSTR	DIVISION 2 DIESEL FAILS TO START			
	XSX014AMVC	MOV ISX014A FAILS TO CLOSE	3.0E-3		
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM			
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM			
	YDCLDASWH	DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL			
	YDG1R01DGH	OPERATORS FAIL TO RESTORE DG I AT 1 HOUR			
	YDG2R01DGH	OPERATORS FAIL TO RESTORE DG II IN 1 HOUR			
	YOS0T01SWH	OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR			
847)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			1.53E-09
	A1STDGBSTR	DIVISION 2 DIESEL FAILS TO START			
	AP221A1CBO	FAILURE OF CIRCUIT BREAKER 221A TO OPEN (ERAT)	3E-3		
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM			
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM			
	YDCLDASWH	DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL			
	YDG1R01DGH	OPERATORS FAIL TO RESTORE DG I AT 1 HOUR			
	YDG2R01DGH	OPERATORS FAIL TO RESTORE DG II IN 1 HOUR			
	YOS0T01SWH	OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR			
848)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			1.53E-09
	A1STDGBSTR	DIVISION 2 DIESEL FAILS TO START			
	AVD01YADMO	FAILURE OF DAMPER VD01YA TO OPEN	3E-3		
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM			
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM			
	YDCLDASWH	DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL			
	YDG1R01DGH	OPERATORS FAIL TO RESTORE DG I AT 1 HOUR			
	YDG2R01DGH	OPERATORS FAIL TO RESTORE DG II IN 1 HOUR			
	YOS0T01SWH	OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR			
849)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR			1.53E-09
	A1STDGBSTR	DIVISION 2 DIESEL FAILS TO START			
	X1STSDV1	SHUTDOWN SERVICE WATER DIVISION 1 FAILURE			
	A1STDOPMPC	DIVISION 3 DIESEL FUEL OIL PUMP FAILS			
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS			







































	A2DG1KCDGM	DG01KC OUT OF SERVICE - CORRECTIVE MAINTENANCE	0.026300	2.40E-02
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	0.026300	2.40E-02
	ADG01KBDGM	DG01KB OUT OF SERVICE - PREVENTIVE MAINTENANCE	0.026300	2.40E-02
	YDCLOADSWH	DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL	0.026300	2.40E-02
	YDGR01DGH	OPERATORS FAIL TO RESTORE DG I AT 1 HOUR	0.026300	2.40E-02
	YDGR04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS	0.026300	2.40E-02
	YOS0T01SWH	OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR	0.026300	2.40E-02
1003)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR	0.026300	2.40E-02
	A1STDGBSTR	DIVISION 2 DIESEL FAILS TO START	0.026300	2.40E-02
	ADG01KADGM	DG01KA OUT OF SERVICE - PREVENTIVE MAINTENANCE	0.026300	2.40E-02
	A2DG1KCDGM	DG01KC OUT OF SERVICE - CORRECTIVE MAINTENANCE	0.026300	2.40E-02
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	0.026300	2.40E-02
	YDCLOADSWH	DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL	0.026300	2.40E-02
	YDGR01DGH	OPERATORS FAIL TO RESTORE DG I AT 1 HOUR	0.026300	2.40E-02
	YDGR04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS	0.026300	2.40E-02
	YOS0T01SWH	OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR	0.026300	2.40E-02
1004)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR	0.026300	2.40E-02
	HPSYST2SYM	HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE	0.026300	2.40E-02
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	0.026300	2.40E-02
	AVDABCCDMO	FAILURE OF DAMPERS V001YA AND B TO OPEN - COMMON CAUSE	0.026300	2.40E-02
	YDGR04DGH	OPERATORS FAIL TO RESTORE DG I IN 4 HOURS	0.026300	2.40E-02
	YDGR04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS	0.026300	2.40E-02
	YOS0T04SWH	OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS	0.026300	2.40E-02
1005)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR	0.026300	2.40E-02
	XISTSXD1V1	SHUTDOWN SERVICE WATER DIVISION 1 FAILURE	0.026300	2.40E-02
	HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM	0.026300	2.40E-02
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	0.026300	2.40E-02
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	0.026300	2.40E-02
	ADG01KBDGM	DG01KB OUT OF SERVICE - PREVENTIVE MAINTENANCE	0.026300	2.40E-02
	YDCLOADSWH	DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL	0.026300	2.40E-02
	YDGR01DGH	OPERATORS FAIL TO RESTORE DG I AT 1 HOUR	0.026300	2.40E-02
	YDGR04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS	0.026300	2.40E-02
	YOS0T01SWH	OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR	0.026300	2.40E-02
1006)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR	0.026300	2.40E-02
	XISTSXD1V2	SHUT DOWN SERVICE WATER DIVISION 2 FAILURE	0.026300	2.40E-02
	ADG01KADGM	DG01KA OUT OF SERVICE - PREVENTIVE MAINTENANCE	0.026300	2.40E-02
	HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM	0.026300	2.40E-02
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	0.026300	2.40E-02
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	0.026300	2.40E-02
	YDCLOADSWH	DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL	0.026300	2.40E-02
	YDGR01DGH	OPERATORS FAIL TO RESTORE DG I AT 1 HOUR	0.026300	2.40E-02
	YDGR04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS	0.026300	2.40E-02
	YOS0T01SWH	OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR	0.026300	2.40E-02
1007)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR	0.026300	2.40E-02
	HPSYST1SYM	HP SYSTEM DOWN FOR PREVENTIVE MAINTENANCE	0.026300	2.40E-02
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	0.026300	2.40E-02
	ADGABCCDGS	DG A AND B FAIL TO START - COMMON CAUSE	0.026300	2.40E-02
	YDGR04DGH	OPERATORS FAIL TO RESTORE DG I IN 4 HOURS	0.026300	2.40E-02
	YDGR04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS	0.026300	2.40E-02
	YOS0T04SWH	OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS	0.026300	2.40E-02
1008)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR	0.026300	2.40E-02
	ADG01KCDGM	DG01KC OUT OF SERVICE - PREVENTIVE MAINTENANCE	0.026300	2.40E-02
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	0.026300	2.40E-02
	XDPABCCGTX	COM CAUSE FAIL DIV 1&2 DISCHARGE PRESS INST	0.026300	2.40E-02
	YDCLOADSWH	DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL	0.026300	2.40E-02
	YDGR01DGH	OPERATORS FAIL TO RESTORE DG I AT 1 HOUR	0.026300	2.40E-02
	YDGR04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS	0.026300	2.40E-02
	YOS0T01SWH	OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR	0.026300	2.40E-02
1009)	BSXMANSTRT	OPERATOR FAILS TO MANUALLY START SX SYSTEM	0.026300	2.40E-02
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR	0.026300	2.40E-02
	A1STDGBRUN	DIVISION 2 DIESEL FAILS TO CONTINUE RUNNING	0.026300	2.40E-02
	A1STDGARUN	DIVISION 1 DIESEL FAILS TO CONTINUE RUNNING	0.026300	2.40E-02
	HPSYST1SYM	HP SYSTEM DOWN FOR PREVENTIVE MAINTENANCE	0.026300	2.40E-02
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	0.026300	2.40E-02
	YDCLOADSWH	DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL	0.026300	2.40E-02
	YDGR01DGH	OPERATORS FAIL TO RESTORE DG I AT 1 HOUR	0.026300	2.40E-02
	YDGR04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS	0.026300	2.40E-02
	YOS0T01SWH	OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR	0.026300	2.40E-02
1010)	BDGRUNDR1	FAILURE OF TIME-PHASED DIESEL RUN FAILURE IN ONE HOUR	0.026300	2.40E-02
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR	0.026300	2.40E-02
	A1STDGASTR	DIVISION 1 DIESEL FAILS TO START	0.026300	2.40E-02
	HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM	0.026300	2.40E-02
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	0.026300	2.40E-02
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	0.026300	2.40E-02
	XSX173BMVC	MINIMUM FLOW VALVE ISX173B FAILS OPEN	0.026300	2.40E-02
	YDCLOADSWH	DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL	0.026300	2.40E-02
	YDGR01DGH	OPERATORS FAIL TO RESTORE DG I AT 1 HOUR	0.026300	2.40E-02
	YDGR04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS	0.026300	2.40E-02
	YOS0T01SWH	OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR	0.026300	2.40E-02
1011)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR	0.026300	2.40E-02
	A1STDGASTR	DIVISION 1 DIESEL FAILS TO START	0.026300	2.40E-02
	HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM	0.026300	2.40E-02
	YL1	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	0.026300	2.40E-02
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	0.026300	2.40E-02
	XSX014BMVC	MOV ISXD14B FAILS TO CLOSE	0.026300	2.40E-02
	YDCLOADSWH	DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL	0.026300	2.40E-02
	YDGR01DGH	OPERATORS FAIL TO RESTORE DG I AT 1 HOUR	0.026300	2.40E-02
	YDGR04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS	0.026300	2.40E-02
	YOS0T01SWH	OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR	0.026300	2.40E-02
1012)	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR	0.026300	2.40E-02









	YDG1R04DGH	OPERATORS FAIL TO RESTORE DG I IN 4 HOURS		0	800000	000	001
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS		0	800000	000	001
1043)	YOS0T04SWH	OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS		0	500000	000	001
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0	400000	000	001
	X1STSXD1V1	SHUTDOWN SERVICE WATER DIVISION 1 FAILURE		0	600000	000	001
	X1STSXD1V2	SHUTDOWN SERVICE WATER DIVISION 2 FAILURE		0	600000	000	001
	HPSYST2SYM	HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE		0	800000	000	001
	YLT	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0	200000	000	001
	YDCLOADSWH	DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL		0	800000	000	001
	YDG1R04DGH	OPERATORS FAIL TO RESTORE DG I AT 1 HOUR		0	800000	000	001
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS		0	800000	000	001
1044)	YOS0T01SWH	OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR		0	500000	000	001
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0	400000	000	001
	A2DGCBCDGM	DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE		0	263000	000	001
	XD1PREVSYM	DIV 1 DOWN FOR PREVENTATIVE MAINT		0	017000	000	001
	A2DGGKCDGM	DG01KC OUT OF SERVICE - CORRECTIVE MAINTENANCE		0	263000	000	001
	YLT	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0	200000	000	001
	YDG1R04DGH	OPERATORS FAIL TO RESTORE DG I IN 4 HOURS		0	800000	000	001
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS		0	800000	000	001
1045)	YOS0T04SWH	OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS		0	500000	000	001
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0	400000	000	001
	A2DGCBCDGM	DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE		0	263000	000	001
	A2DGGKADGM	DG01KA OUT OF SERVICE - CORRECTIVE MAINTENANCE		0	263000	000	001
	XD3PREVSYM	DIV 3 DOWN FOR PREVENTATIVE MAINT		0	017000	000	001
	YLT	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0	200000	000	001
	YDG1R04DGH	OPERATORS FAIL TO RESTORE DG I IN 4 HOURS		0	800000	000	001
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS		0	800000	000	001
1046)	YOS0T04SWH	OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS		0	500000	000	001
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0	400000	000	001
	A1STDGBRUN	DIVISION 2 DIESEL FAILS TO CONTINUE RUNNING		0	400000	000	001
	A1STDGARUN	DIVISION 1 DIESEL FAILS TO CONTINUE RUNNING		0	400000	000	001
	P3LOGICLGM	HPCS COMPONENTS DOWN FOR MAINTENANCE		0	110000	000	001
	YLT	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0	200000	000	001
	YDG1R04DGH	OPERATORS FAIL TO RESTORE DG I IN 4 HOURS		0	800000	000	001
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS		0	800000	000	001
1047)	YOS0T04SWH	OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS		0	500000	000	001
	BDGRUNDR4	FAILURE OF TIME-PHASED DIESEL RUN FAILURE FOR FOUR HOURS		0	000000	000	001
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0	400000	000	001
	A1STDGBRUN	DIVISION 2 DIESEL FAILS TO CONTINUE RUNNING		0	400000	000	001
	A2DGGKADGM	DG01KA OUT OF SERVICE - CORRECTIVE MAINTENANCE		0	263000	000	001
	ADG01KCDGR	FAILURE OF DIESEL GENERATOR 01KC TO RUN	2E-3	0	000000	000	001
	YLT	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0	200000	000	001
	YDG1R04DGH	OPERATORS FAIL TO RESTORE DG I IN 4 HOURS		0	800000	000	001
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS		0	800000	000	001
1048)	YOS0T04SWH	OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS		0	500000	000	001
	BDGRUNDR4	FAILURE OF TIME-PHASED DIESEL RUN FAILURE FOR FOUR HOURS		0	000000	000	001
	BDGD1V3DR4			0	000000	000	001
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0	400000	000	001
	A2DGCBCDGM	DG01KB OUT OF SERVICE - CORRECTIVE MAINTENANCE		0	263000	000	001
	A1STDGARUN	DIVISION 1 DIESEL FAILS TO CONTINUE RUNNING		0	400000	000	001
	ADG01KCDGR	FAILURE OF DIESEL GENERATOR 01KC TO RUN	2E-3	0	000000	000	001
	YLT	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0	200000	000	001
	YDG1R04DGH	OPERATORS FAIL TO RESTORE DG I IN 4 HOURS		0	800000	000	001
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS		0	800000	000	001
1049)	YOS0T04SWH	OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS		0	500000	000	001
	BDGRUNDR4	FAILURE OF TIME-PHASED DIESEL RUN FAILURE FOR FOUR HOURS		0	000000	000	001
	BDGD1V3DR4			0	000000	000	001
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0	400000	000	001
	X1STSXD1V1	SHUTDOWN SERVICE WATER DIVISION 1 FAILURE		0	600000	000	001
	X1STSXD1V2	SHUTDOWN SERVICE WATER DIVISION 2 FAILURE		0	600000	000	001
	ADG01KCDGM	DG01KC OUT OF SERVICE - PREVENTIVE MAINTENANCE		0	242000	000	001
	YLT	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0	200000	000	001
	YDG1R04DGH	OPERATORS FAIL TO RESTORE DG I IN 4 HOURS		0	800000	000	001
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS		0	800000	000	001
1050)	YOS0T04SWH	OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS		0	500000	000	001
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0	400000	000	001
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM		0	200000	000	001
	YLT	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0	200000	000	001
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		0	100000	000	001
	ADOABCMP	PUMPS DO01PA AND B FAIL TO START - COMMON CAUSE	3.0E-3	0	020000	000	001
	YDG1R04DGH	OPERATORS FAIL TO RESTORE DG I IN 4 HOURS		0	800000	000	001
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS		0	800000	000	001
	YOS0T04SWH	OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS		0	500000	000	001
1051)	BD0ISTDD24	FAILURE TO RECOVER IN FOUR HOURS FROM DIESEL FUEL PUMP FAILURES		0	000000	000	001
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0	400000	000	001
	X1STSXD1V1	SHUTDOWN SERVICE WATER DIVISION 1 FAILURE		0	600000	000	001
	XNSX030GTX	FAIL OF B STRAINER DISCHARGE PRESS INST (SX030)	3E-6	0	000000	000	001
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM		0	200000	000	001
	YLT	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0	200000	000	001
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		0	100000	000	001
	BXSX030GTX	OPERATOR FAILS TO START SX SYSTEM ON FAILURE OF LOW HEADER PRESSURE INIT		0	000000	000	001
	YDG1R04DGH	OPERATORS FAIL TO RESTORE DG I IN 4 HOURS		0	800000	000	001
	YDG2R04DGH	OPERATORS FAIL TO RESTORE DG II IN 4 HOURS		0	800000	000	001
1052)	YOS0T04SWH	OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS		0	500000	000	001
	YLOOPXXTRX	LOSS OF OFF-SITE POWER INITIATOR		0	400000	000	001
	XNSX028GTX	FAIL OF A STRAINER DISCHARGE PRESS INST (SX028)	3E-6	0	000000	000	001
	X1STSXD1V2	SHUTDOWN SERVICE WATER DIVISION 2 FAILURE		0	600000	000	001
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM		0	200000	000	001
	YLT	FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0	200000	000	001
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		0	100000	000	001

	BXSX028GTX OPERATOR FAILS TO START SX SYSTEM ON FAILURE OF LOW HEADER PRESSURE INIT	1.00E-01	
	YDG1R04DGH OPERATORS FAIL TO RESTORE DG I IN 4 HOURS	8.00E-00	
	YDG2R04DGH OPERATORS FAIL TO RESTORE DG II IN 4 HOURS	8.00E-00	
	YOS0T04SWH OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS	4.50E-00	
1053)	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR	4.50E-00	1.18E-09
	A1STDGBSTR DIVISION 2 DIESEL FAILS TO START	4.50E-02	
	A2DGIKADGM DGO1KA OUT OF SERVICE - CORRECTIVE MAINTENANCE	4.50E-00	
	A1STDOPMPC DIVISION 3 DIESEL FUEL OIL PUMP FAILS	4.50E-00	
	YLT FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	4.50E-01	
	YDCLOADSWH DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL	4.50E-00	
	YDG1R01DGH OPERATORS FAIL TO RESTORE DG I AT 1 HOUR	8.00E-00	
	YDG2R04DGH OPERATORS FAIL TO RESTORE DG II IN 4 HOURS	8.00E-00	
	YOS0T01SWH OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR	4.50E-00	
	BDOISTDDZ1 FAILURE TO RECOVER IN ONE HOUR FROM DIESEL FUEL PUMP FAILURES	3.8E-01	
1054)	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR	4.50E-00	1.18E-09
	A2DGIKADGM DGO1KB OUT OF SERVICE - CORRECTIVE MAINTENANCE	4.50E-00	
	A1STDGASTR DIVISION 1 DIESEL FAILS TO START	4.50E-02	
	A1STDOPMPC DIVISION 3 DIESEL FUEL OIL PUMP FAILS	4.50E-00	
	YLT FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	4.50E-01	
	YDCLOADSWH DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL	4.50E-00	
	YDG1R01DGH OPERATORS FAIL TO RESTORE DG I AT 1 HOUR	8.00E-00	
	YDG2R04DGH OPERATORS FAIL TO RESTORE DG II IN 4 HOURS	8.00E-00	
	YOS0T01SWH OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR	4.50E-00	
	BDOISTDDZ1 FAILURE TO RECOVER IN ONE HOUR FROM DIESEL FUEL PUMP FAILURES	3.8E-01	
1055)	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR	4.50E-00	1.18E-09
	A1STDGBSTR DIVISION 2 DIESEL FAILS TO START	4.50E-02	
	A1STDOPMPC DIVISION 1 DIESEL FUEL OIL PUMP FAILS	4.50E-00	
	A2DGIKADGM DGO1KC OUT OF SERVICE - CORRECTIVE MAINTENANCE	4.50E-00	
	YLT FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	4.50E-01	
	YDCLOADSWH DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL	4.50E-00	
	YDG1R01DGH OPERATORS FAIL TO RESTORE DG I AT 1 HOUR	8.00E-00	
	YDG2R04DGH OPERATORS FAIL TO RESTORE DG II IN 4 HOURS	8.00E-00	
	YOS0T01SWH OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR	4.50E-00	
	BDOISTDDZ1 FAILURE TO RECOVER IN ONE HOUR FROM DIESEL FUEL PUMP FAILURES	3.8E-01	
1056)	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR	4.50E-00	1.18E-09
	A1STDGASTR DIVISION 1 DIESEL FAILS TO START	4.50E-02	
	A1STDOPMPC DIVISION 2 DIESEL FUEL OIL PUMP FAILS	4.50E-00	
	A2DGIKADGM DGO1KC OUT OF SERVICE - CORRECTIVE MAINTENANCE	4.50E-00	
	YLT FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	4.50E-01	
	YDCLOADSWH DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL	4.50E-00	
	YDG1R01DGH OPERATORS FAIL TO RESTORE DG I AT 1 HOUR	8.00E-00	
	YDG2R04DGH OPERATORS FAIL TO RESTORE DG II IN 4 HOURS	8.00E-00	
	YOS0T01SWH OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR	4.50E-00	
	BDOISTDDZ1 FAILURE TO RECOVER IN ONE HOUR FROM DIESEL FUEL PUMP FAILURES	3.8E-01	
1057)	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR	4.50E-00	1.18E-09
	A2DGIKADGM DGO1KA OUT OF SERVICE - CORRECTIVE MAINTENANCE	4.50E-00	
	A1STDOPMPC DIVISION 2 DIESEL FUEL OIL PUMP FAILS	4.50E-00	
	A1STDGCSTR DIVISION 3 DIESEL FAILS TO START	4.50E-00	
	YLT FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	4.50E-01	
	YDCLOADSWH DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL	4.50E-00	
	YDG1R01DGH OPERATORS FAIL TO RESTORE DG I AT 1 HOUR	8.00E-00	
	YDG2R04DGH OPERATORS FAIL TO RESTORE DG II IN 4 HOURS	8.00E-00	
	YOS0T01SWH OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR	4.50E-00	
	BDOISTDDZ1 FAILURE TO RECOVER IN ONE HOUR FROM DIESEL FUEL PUMP FAILURES	3.8E-01	
1058)	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR	4.50E-00	1.18E-09
	A2DGIKADGM DGO1KB OUT OF SERVICE - CORRECTIVE MAINTENANCE	4.50E-00	
	A1STDOPMPC DIVISION 1 DIESEL FUEL OIL PUMP FAILS	4.50E-00	
	A1STDGCSTR DIVISION 3 DIESEL FAILS TO START	4.50E-00	
	YLT FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	4.50E-01	
	YDCLOADSWH DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL	4.50E-00	
	YDG1R01DGH OPERATORS FAIL TO RESTORE DG I AT 1 HOUR	8.00E-00	
	YDG2R04DGH OPERATORS FAIL TO RESTORE DG II IN 4 HOURS	8.00E-00	
	YOS0T01SWH OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR	4.50E-00	
	BDOISTDDZ1 FAILURE TO RECOVER IN ONE HOUR FROM DIESEL FUEL PUMP FAILURES	3.8E-01	
1059)	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR	4.50E-00	1.18E-09
	X1STSXDIV2 SHUTDOWN SERVICE WATER DIVISION 2 FAILURE	4.50E-02	
	XD1CORRSYM DIV 1 DOWN FOR CORRECTIVE MAINT	4.50E-00	
	HPSYST2SYM HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE	4.50E-00	
	YLT FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	4.50E-01	
	YDG1R04DGH OPERATORS FAIL TO RESTORE DG I IN 4 HOURS	8.00E-00	
	YDG2R04DGH OPERATORS FAIL TO RESTORE DG II IN 4 HOURS	8.00E-00	
	YOS0T04SWH OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS	4.50E-00	
1060)	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR	4.50E-00	1.18E-09
	X1STSXDIV1 SHUTDOWN SERVICE WATER DIVISION 1 FAILURE	4.50E-02	
	XD2CORRSYM DIV 2 DOWN FOR CORRECTIVE MAINT	4.50E-00	
	HPSYST2SYM HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE	4.50E-00	
	YLT FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	4.50E-01	
	YDG1R04DGH OPERATORS FAIL TO RESTORE DG I IN 4 HOURS	8.00E-00	
	YDG2R04DGH OPERATORS FAIL TO RESTORE DG II IN 4 HOURS	8.00E-00	
	YOS0T04SWH OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS	4.50E-00	
1061)	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR	4.50E-00	1.17E-09
	A1STDGARUN DIVISION 1 DIESEL FAILS TO CONTINUE RUNNING	4.50E-02	
	A2DGIKADGM DGO1KC OUT OF SERVICE - CORRECTIVE MAINTENANCE	4.50E-00	
	YLT FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS	4.50E-01	
	ADG01KBDGM DGO1KB OUT OF SERVICE - PREVENTIVE MAINTENANCE	4.50E-00	
	YDG1R04DGH OPERATORS FAIL TO RESTORE DG I IN 4 HOURS	8.00E-00	
	YDG2R04DGH OPERATORS FAIL TO RESTORE DG II IN 4 HOURS	8.00E-00	
	YOS0T04SWH OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS	4.50E-00	
	BGRUNDDR4 FAILURE OF TIME-PHASED DIESEL RUN FAILURE FOR FOUR HOURS	4.50E-01	
1062)	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR	8.4E-2	1.17E-09





1074)	YLOOPXXTRX AISTDGASTR XISTSXDIV2 XSD14CMVC YL1 YDG1R04DGH YDG2R04DGH YOS0T04SWH	LOSS OF OFF-SITE POWER INITIATOR DIVISION 1 DIESEL FAILS TO START SHUTDOWN SERVICE WATER DIVISION 2 FAILURE MOV 1SX014C FAILS TO CLOSE FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS OPERATORS FAIL TO RESTORE DG I IN 4 HOURS OPERATORS FAIL TO RESTORE DG II IN 4 HOURS OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS	3.0E-3	4E-2 31E-02 66E-02 000000 21E-01 800000 800000 045000	1.17E-09
1074)	YLOOPXXTRX XISTSXDIV2 XSD173AMVC AISTDGCSTR YL1 YDG1R04DGH YDG2R04DGH YOS0T04SWH	LOSS OF OFF-SITE POWER INITIATOR SHUTDOWN SERVICE WATER DIVISION 2 FAILURE MINIMUM FLOW VALVE 1SX173A FAILS OPEN DIVISION 3 DIESEL FAILS TO START FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS OPERATORS FAIL TO RESTORE DG I IN 4 HOURS OPERATORS FAIL TO RESTORE DG II IN 4 HOURS OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS	3.0E-3	4E-2 66E-02 000000 21E-02 21E-01 800000 800000 045000	1.17E-09
1075)	YLOOPXXTRX XISTSXDIV2 XSD14AMVC AISTDGCSTR YL1 YDG1R04DGH YDG2R04DGH YOS0T04SWH	LOSS OF OFF-SITE POWER INITIATOR SHUTDOWN SERVICE WATER DIVISION 2 FAILURE MOV 1SX014A FAILS TO CLOSE DIVISION 3 DIESEL FAILS TO START FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS OPERATORS FAIL TO RESTORE DG I IN 4 HOURS OPERATORS FAIL TO RESTORE DG II IN 4 HOURS OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS	3.0E-3	4E-2 66E-02 000000 21E-02 21E-01 800000 800000 045000	1.17E-09
1076)	YLOOPXXTRX AISTDGBSTR XISTSXDIV1 AVD01YCDMO YL1 YDG1R04DGH YDG2R04DGH YOS0T04SWH	LOSS OF OFF-SITE POWER INITIATOR DIVISION 2 DIESEL FAILS TO START SHUTDOWN SERVICE WATER DIVISION 1 FAILURE FAILURE OF DAMPER VDD1YC TO OPEN FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS OPERATORS FAIL TO RESTORE DG I IN 4 HOURS OPERATORS FAIL TO RESTORE DG II IN 4 HOURS OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS	3E-3	4E-2 31E-02 66E-02 000000 21E-01 800000 800000 045000	1.17E-09
1077)	YLOOPXXTRX AISTDGASTR XISTSXDIV2 P3MAINTLGH YL1 YDG1R04DGH YDG2R04DGH YOS0T04SWH	LOSS OF OFF-SITE POWER INITIATOR DIVISION 1 DIESEL FAILS TO START SHUTDOWN SERVICE WATER DIVISION 2 FAILURE HPCS FAILURE TO PROPERLY RESTORE FROM MAINT FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS OPERATORS FAIL TO RESTORE DG I IN 4 HOURS OPERATORS FAIL TO RESTORE DG II IN 4 HOURS OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS		4E-2 31E-02 66E-02 003000 21E-01 800000 800000 045000	1.17E-09
1078)	YLOOPXXTRX AISTDGASTR XISTSXDIV2 HPXN056FSH YL1 YDG1R04DGH YDG2R04DGH YOS0T04SWH	LOSS OF OFF-SITE POWER INITIATOR DIVISION 1 DIESEL FAILS TO START SHUTDOWN SERVICE WATER DIVISION 2 FAILURE MISCALIBRATION OF HPCS FLOW TRANSMITTER FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS OPERATORS FAIL TO RESTORE DG I IN 4 HOURS OPERATORS FAIL TO RESTORE DG II IN 4 HOURS OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS		4E-2 31E-02 66E-02 003000 21E-01 800000 800000 045000	1.17E-09
1079)	YLOOPXXTRX XISTSXDIV2 AP221A1CB0 AISTDGCSTR YL1 YDG1R04DGH YDG2R04DGH YOS0T04SWH	LOSS OF OFF-SITE POWER INITIATOR SHUTDOWN SERVICE WATER DIVISION 2 FAILURE FAILURE OF CIRCUIT BREAKER 221A1 TO OPEN (ERAT) DIVISION 3 DIESEL FAILS TO START FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS OPERATORS FAIL TO RESTORE DG I IN 4 HOURS OPERATORS FAIL TO RESTORE DG II IN 4 HOURS OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS	3E-3	4E-2 66E-02 000000 21E-02 21E-01 800000 800000 045000	1.17E-09
1080)	YLOOPXXTRX AISTDGASTR XISTSXDIV2 AVD01YCDMO YL1 YDG1R04DGH YDG2R04DGH YOS0T04SWH	LOSS OF OFF-SITE POWER INITIATOR DIVISION 1 DIESEL FAILS TO START SHUTDOWN SERVICE WATER DIVISION 2 FAILURE FAILURE OF DAMPER VDD1YC TO OPEN FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS OPERATORS FAIL TO RESTORE DG I IN 4 HOURS OPERATORS FAIL TO RESTORE DG II IN 4 HOURS OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS	3E-3	4E-2 31E-02 66E-02 000000 21E-01 800000 800000 045000	1.17E-09
1081)	YLOOPXXTRX XISTSXDIV1 AISTDGCSTR YL1 AVD01YBDM0 YDG1R04DGH YDG2R04DGH YOS0T04SWH	LOSS OF OFF-SITE POWER INITIATOR SHUTDOWN SERVICE WATER DIVISION 1 FAILURE DIVISION 3 DIESEL FAILS TO START FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS FAILURE OF DAMPER VDD1YB TO OPEN OPERATORS FAIL TO RESTORE DG I IN 4 HOURS OPERATORS FAIL TO RESTORE DG II IN 4 HOURS OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS	3E-3	4E-2 31E-02 66E-02 000000 21E-01 800000 800000 045000	1.17E-09
1082)	YLOOPXXTRX AISTDGBSTR XISTSXDIV1 AP221C1CB0 YL1 YDG1R04DGH YDG2R04DGH YOS0T04SWH	LOSS OF OFF-SITE POWER INITIATOR DIVISION 2 DIESEL FAILS TO START SHUTDOWN SERVICE WATER DIVISION 1 FAILURE FAILURE OF CIRCUIT BREAKER 221C1 TO OPEN (ERAT) FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS OPERATORS FAIL TO RESTORE DG I IN 4 HOURS OPERATORS FAIL TO RESTORE DG II IN 4 HOURS OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS	3E-3	4E-2 31E-02 66E-02 000000 21E-01 800000 800000 045000	1.17E-09
1083)	YLOOPXXTRX AISTDGBSTR XISTSXDIV1 HPXN056FSH YL1 YDG1R04DGH YDG2R04DGH YOS0T04SWH	LOSS OF OFF-SITE POWER INITIATOR DIVISION 2 DIESEL FAILS TO START SHUTDOWN SERVICE WATER DIVISION 1 FAILURE MISCALIBRATION OF HPCS FLOW TRANSMITTER FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS OPERATORS FAIL TO RESTORE DG I IN 4 HOURS OPERATORS FAIL TO RESTORE DG II IN 4 HOURS OFF-SITE POWER NOT RECOVERED WITHIN 4 HOURS		4E-2 31E-02 66E-02 003000 21E-01 800000 800000 045000	1.17E-09
1084)	YLOOPXXTRX XISTSXDIV2	LOSS OF OFF-SITE POWER INITIATOR SHUTDOWN SERVICE WATER DIVISION 2 FAILURE		4E-2 66E-02	1.17E-09



















1154)	YDG2R01DGH OPERATORS FAIL TO RESTORE DG II IN 1 HOUR	3.0E-3	0.990000	0.90	01
	YOS0T01SWH OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR		0.593800	0.00	01
	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR		0.4E-2	0.00	01
	A1STDGASTR DIVISION 1 DIESEL FAILS TO START		0.026300	0.00	01
	A2DGTKCDGM DG01KC OUT OF SERVICE - CORRECTIVE MAINTENANCE		0.2E-01	0.00	01
	YLT FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.000000	0.00	01
	XSX173BMVC MINIMUM FLOW VALVE ISX173B FAILS OPEN		0.000000	0.00	01
	YDCLOADSWH DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL		0.000000	0.00	01
	YDG1R01DGH OPERATORS FAIL TO RESTORE DG I AT 1 HOUR		0.000000	0.00	01
	YDG2R01DGH OPERATORS FAIL TO RESTORE DG II IN 1 HOUR		0.000000	0.00	01
	YOS0T01SWH OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR		0.593800	0.00	01
1155)	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR		0.4E-2	0.00	01
	A2DGTKADGM DG01KA OUT OF SERVICE - CORRECTIVE MAINTENANCE		0.026300	0.00	01
	A1STDGCSTR DIVISION 3 DIESEL FAILS TO START		0.2E-02	0.00	01
	YLT FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.000000	0.00	01
	XSX173BMVC MINIMUM FLOW VALVE ISX173B FAILS OPEN		0.000000	0.00	01
	YDCLOADSWH DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL		0.000000	0.00	01
	YDG1R01DGH OPERATORS FAIL TO RESTORE DG I AT 1 HOUR		0.000000	0.00	01
	YDG2R01DGH OPERATORS FAIL TO RESTORE DG II IN 1 HOUR		0.000000	0.00	01
	YOS0T01SWH OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR		0.593800	0.00	01
1156)	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR		0.4E-2	0.00	01
	A1STDGASTR DIVISION 1 DIESEL FAILS TO START		0.2E-02	0.00	01
	A2DGTKCDGM DG01KC OUT OF SERVICE - CORRECTIVE MAINTENANCE		0.026300	0.00	01
	YLT FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.000000	0.00	01
	AVD01YBDMO FAILURE OF DAMPER VD01YB TO OPEN		0.000000	0.00	01
	YDCLOADSWH DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL		0.000000	0.00	01
	YDG1R01DGH OPERATORS FAIL TO RESTORE DG I AT 1 HOUR		0.000000	0.00	01
	YDG2R01DGH OPERATORS FAIL TO RESTORE DG II IN 1 HOUR		0.000000	0.00	01
	YOS0T01SWH OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR		0.593800	0.00	01
1157)	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR		0.4E-2	0.00	01
	A2DGTKADGM DG01KA OUT OF SERVICE - CORRECTIVE MAINTENANCE		0.026300	0.00	01
	A1STDGCSTR DIVISION 3 DIESEL FAILS TO START		0.2E-02	0.00	01
	YLT FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.000000	0.00	01
	AP221B1CBO FAILURE OF CIRCUIT BREAKER 221B1 TO OPEN (ERAT)		0.000000	0.00	01
	YDCLOADSWH DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL		0.000000	0.00	01
	YDG1R01DGH OPERATORS FAIL TO RESTORE DG I AT 1 HOUR		0.000000	0.00	01
	YDG2R01DGH OPERATORS FAIL TO RESTORE DG II IN 1 HOUR		0.000000	0.00	01
	YOS0T01SWH OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR		0.593800	0.00	01
1158)	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR		0.4E-2	0.00	01
	A2DGTKADGM DG01KA OUT OF SERVICE - CORRECTIVE MAINTENANCE		0.026300	0.00	01
	A1STDGCSTR DIVISION 3 DIESEL FAILS TO START		0.2E-02	0.00	01
	YLT FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.000000	0.00	01
	AVD01YBDMO FAILURE OF DAMPER VD01YB TO OPEN		0.000000	0.00	01
	YDCLOADSWH DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL		0.000000	0.00	01
	YDG1R01DGH OPERATORS FAIL TO RESTORE DG I AT 1 HOUR		0.000000	0.00	01
	YDG2R01DGH OPERATORS FAIL TO RESTORE DG II IN 1 HOUR		0.000000	0.00	01
	YOS0T01SWH OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR		0.593800	0.00	01
1159)	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR		0.4E-2	0.00	01
	A1STDGBSTR DIVISION 2 DIESEL FAILS TO START		0.2E-02	0.00	01
	ADG01KADGM DG01KA OUT OF SERVICE - PREVENTIVE MAINTENANCE		0.022200	0.00	01
	A1STDGCSTR DIVISION 3 DIESEL FAILS TO START		0.2E-02	0.00	01
	YLT FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.000000	0.00	01
	YDCLOADSWH DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL		0.000000	0.00	01
	YDG1R01DGH OPERATORS FAIL TO RESTORE DG I AT 1 HOUR		0.000000	0.00	01
	YDG2R04DGH OPERATORS FAIL TO RESTORE DG II IN 4 HOURS		0.000000	0.00	01
	YOS0T01SWH OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR		0.593800	0.00	01
1160)	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR		0.4E-2	0.00	01
	A1STDGBSTR DIVISION 2 DIESEL FAILS TO START		0.2E-02	0.00	01
	A1STDGASTR DIVISION 1 DIESEL FAILS TO START		0.2E-02	0.00	01
	ADG01KCDGM DG01KC OUT OF SERVICE - PREVENTIVE MAINTENANCE		0.022200	0.00	01
	YLT FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.000000	0.00	01
	YDCLOADSWH DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL		0.000000	0.00	01
	YDG1R01DGH OPERATORS FAIL TO RESTORE DG I AT 1 HOUR		0.000000	0.00	01
	YDG2R04DGH OPERATORS FAIL TO RESTORE DG II IN 4 HOURS		0.000000	0.00	01
	YOS0T01SWH OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR		0.593800	0.00	01
1161)	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR		0.4E-2	0.00	01
	A1STDGASTR DIVISION 1 DIESEL FAILS TO START		0.2E-02	0.00	01
	A1STDGCSTR DIVISION 3 DIESEL FAILS TO START		0.2E-02	0.00	01
	YLT FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.000000	0.00	01
	ADG01KBDGM DG01KB OUT OF SERVICE - PREVENTIVE MAINTENANCE		0.022200	0.00	01
	YDCLOADSWH DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL		0.000000	0.00	01
	YDG1R01DGH OPERATORS FAIL TO RESTORE DG I AT 1 HOUR		0.000000	0.00	01
	YDG2R04DGH OPERATORS FAIL TO RESTORE DG II IN 4 HOURS		0.000000	0.00	01
	YOS0T01SWH OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR		0.593800	0.00	01
1162)	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR		0.4E-2	0.00	01
	XD1CORRSYM DIV 1 DOWN FOR CORRECTIVE MAINT		0.000000	0.00	01
	XD2CORRSYM DIV 2 DOWN FOR CORRECTIVE MAINT		0.000000	0.00	01
	H1STINJECT INDEPENDENT FAILURES OF HPCS SYSTEM		0.1E-01	0.00	01
	YLT FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.000000	0.00	01
	B1STH4PINJR OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		0.1E-01	0.00	01
	YDCLOADSWH DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL		0.000000	0.00	01
	YDG1R01DGH OPERATORS FAIL TO RESTORE DG I AT 1 HOUR		0.000000	0.00	01
	YDG2R04DGH OPERATORS FAIL TO RESTORE DG II IN 4 HOURS		0.000000	0.00	01
	YOS0T01SWH OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR		0.593800	0.00	01
1163)	YLOOPXXTRX LOSS OF OFF-SITE POWER INITIATOR		0.4E-2	0.00	01
	A2DGTKCDGM DG01KC OUT OF SERVICE - CORRECTIVE MAINTENANCE		0.026300	0.00	01
	YLT FAILURE TO RECOVER OFF-SITE POWER WITHIN ONE-HALF HOUR OF LOSS		0.000000	0.00	01
	XABVHCCAVD COM CAUSE FAIL FOR A AND B VH COOLER DISCHARGE VALVES		0.1E-01	0.00	01
	YDCLOADSWH DC LOAD SHEDDING PER CPS 4200.01 NOT SUCCESSFUL		0.000000	0.00	01
	YDG1R01DGH OPERATORS FAIL TO RESTORE DG I AT 1 HOUR		0.000000	0.00	01

YDG2R04DGH OPERATORS FAIL TO RESTORE DG II IN 4 HOURS  
YOSOTOISWH OFFSITE POWER NOT RECOVERED WITHIN ONE HOUR

0.800000 8.00E-01  
0.593800 5.94E-01

**Cutsets for Sequence T2U2UX1**



MODULE/EVENT NAME	DESCRIPTION	RATE	EXPOSURE	B.F. PROB.	MOD./CS. PROB.
1) T2U2UX1					*3.39E-06
1) YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR		7.7	7.0E+00	7.28E-07
HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM		0.00E-03	0.00E+00	
IISTINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		0.00E-03	0.00E+00	
GADSMANSYV	OPERATOR FAILS TO MANUALLY INITIATE ADS		0.00E-03	0.00E+00	
BISTHPINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		0.00E-03	0.00E+00	
BISTHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		0.00E-03	0.00E+00	
ISTRSTRB	HRA DEPENDENT FAILURE TO RESTORE TRIPPED FEEDWATER SYSTEM		0.00E-01	0.00E+00	
2) YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR		7.7	7.0E+00	2.09E-07
HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM		0.00E-03	0.00E+00	
FLCCORTRM	C MOREP TRAIN OUT FOR CORRECTIVE MAINT		0.00E-03	0.00E+00	
IISTINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		0.00E-03	0.00E+00	
GADSMANSYV	OPERATOR FAILS TO MANUALLY INITIATE ADS		0.00E-03	0.00E+00	
BISTHPINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		0.00E-03	0.00E+00	
BISTHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		0.00E-03	0.00E+00	
3) YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR		7.7	7.0E+00	1.52E-07
HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM		0.00E-03	0.00E+00	
FLCCORTRM	C MOREP TRAIN OUT FOR CORRECTIVE MAINT		0.00E-03	0.00E+00	
IISTINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		0.00E-03	0.00E+00	
ADSSHOW	ADS SYSTEM HARDWARE FAILURES		0.00E-03	0.00E+00	
BISTHPINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		0.00E-03	0.00E+00	
BISTHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		0.00E-03	0.00E+00	
4) YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR		7.7	7.0E+00	1.05E-07
HPYSTSYM	HP SYSTEM DOWN FOR PREVENTIVE MAINTENANCE		0.08800	0.00E+00	
IISTINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		0.00E-03	0.00E+00	
GADSMANSYV	OPERATOR FAILS TO MANUALLY INITIATE ADS		0.00E-03	0.00E+00	
BISTHPINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		0.00E-03	0.00E+00	
BISTHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		0.00E-03	0.00E+00	
ISTRSTRB	HRA DEPENDENT FAILURE TO RESTORE TRIPPED FEEDWATER SYSTEM		0.00E-01	0.00E+00	
5) YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR		7.7	7.0E+00	1.01E-07
HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM		0.00E-03	0.00E+00	
ARCVRIMSH	Operator Fails to prevent/recover bus 1M Shunt Trip		0.00E-03	0.00E+00	
ALSTRANRX	Other Events that could result in Reactor Level 2 or Lower		0.00E-03	0.00E+00	
IISTINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		0.00E-03	0.00E+00	
GADSMANSYV	OPERATOR FAILS TO MANUALLY INITIATE ADS		0.00E-03	0.00E+00	
BISTHPINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		0.00E-03	0.00E+00	
BISTHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		0.00E-03	0.00E+00	
6) YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR	1E-6	0.13000	0.00E+00	8.80E-08
FLCCORTRM	C MOREP TRAIN OUT FOR CORRECTIVE MAINT		0.00000	0.00E+00	
7) YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR		7.7	7.0E+00	8.36E-08
HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM		0.00E-03	0.00E+00	
FLCCORTRM	C MOREP TRAIN OUT FOR CORRECTIVE MAINT		0.00E-03	0.00E+00	
IISTINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		0.00E-03	0.00E+00	
GADSMANSYV	OPERATOR FAILS TO MANUALLY INITIATE ADS		0.00E-03	0.00E+00	
BISTHPINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		0.00E-03	0.00E+00	
BISTHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		0.00E-03	0.00E+00	
8) YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR		7.7	7.0E+00	7.33E-08
HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM		0.00E-03	0.00E+00	
ARCVRIMSH	Operator Fails to prevent/recover bus 1M Shunt Trip		0.00E-03	0.00E+00	
ALSTRANRX	Other Events that could result in Reactor Level 2 or Lower		0.00E-03	0.00E+00	
IISTINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		0.00E-03	0.00E+00	
ADSSHOW	ADS SYSTEM HARDWARE FAILURES		0.00E-03	0.00E+00	
BISTHPINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		0.00E-03	0.00E+00	
BISTHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		0.00E-03	0.00E+00	
9) YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR		7.7	7.0E+00	7.28E-08
HPYSTSYM	HP SYSTEM DOWN FOR PREVENTIVE MAINTENANCE		0.06100	0.00E+00	
IISTINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		0.00E-03	0.00E+00	
GADSMANSYV	OPERATOR FAILS TO MANUALLY INITIATE ADS		0.00E-03	0.00E+00	
BISTHPINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		0.00E-03	0.00E+00	
BISTHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		0.00E-03	0.00E+00	
ISTRSTRB	HRA DEPENDENT FAILURE TO RESTORE TRIPPED FEEDWATER SYSTEM		0.00E-01	0.00E+00	
10) YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR		7.7	7.0E+00	6.74E-08
HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM		0.00E-03	0.00E+00	
ISYS2SYM	RCIC DOWN FOR PREVENTIVE MAINTENANCE		0.00E-03	0.00E+00	
GADSMANSYV	OPERATOR FAILS TO MANUALLY INITIATE ADS		0.00E-03	0.00E+00	
BISTHPINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		0.00E-03	0.00E+00	
BISTHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		0.00E-03	0.00E+00	
ISTRSTRB	HRA DEPENDENT FAILURE TO RESTORE TRIPPED FEEDWATER SYSTEM		0.00E-01	0.00E+00	
11) YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR		7.7	7.0E+00	6.07E-08
HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM		0.00E-03	0.00E+00	
IISTINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		0.00E-03	0.00E+00	
ADSSHOW	ADS SYSTEM HARDWARE FAILURES		0.00E-03	0.00E+00	
BISTHPINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		0.00E-03	0.00E+00	
BISTHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		0.00E-03	0.00E+00	
12) YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR		7.7	7.0E+00	5.89E-08
HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM		0.00E-03	0.00E+00	
GADSMANSYV	OPERATOR FAILS TO MANUALLY INITIATE ADS		0.00E-03	0.00E+00	
BISTCOOLNG	FAILURE OF COOLING SUPPORT FOR THE RCIC PUMP		0.00E-03	0.00E+00	
BISTHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		0.00E-01	0.00E+00	

13)	F1STRESTRB	HRA DEPENDENT FAILURE TO RESTORE TRIPPED FEEDWATER SYSTEM	1.23E-01	1.23E-01	5.12E-08
	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR	0.008800	0.008800	
	HPSYS12SYM	HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE	0.060000	0.060000	
	FFWCCORTRM	C MDRFP TRAIN OUT FOR CORRECTIVE MAINT	0.46E-02	0.46E-02	
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM	0.005000	0.005000	
	GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS	0.56E-01	0.56E-01	
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM	0.00E-02	0.00E-02	
14)	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR	0.005000	0.005000	4.77E-08
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM	0.00E-02	0.00E-02	
	GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS	0.005000	0.005000	
	IRISYS1SYM	RCIC DOWN FOR CORRECTIVE MAINTENANCE	0.046000	0.046000	
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	0.18E-01	0.18E-01	
	F1STRESTRB	HRA DEPENDENT FAILURE TO RESTORE TRIPPED FEEDWATER SYSTEM	0.23E-01	0.23E-01	
15)	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR	0.013000	0.013000	4.25E-08
	D67SBCCBCD	CHARGERS 6 7 E22 AND 8 FAIL FROM COMMON CAUSE	0.000000	0.000000	
	ARCVR1MSWH	Operator Fails to Prevent/Recover Bus 1M Shunt Trip	0.029000	0.029000	
	AL2TRANTRX	Other Events That Could Result in Reactor Level 2 or Lower	0.008800	0.008800	
16)	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR	0.060000	0.060000	3.72E-08
	HPSYS12SYM	HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE	0.46E-02	0.46E-02	
	FFWCCORTRM	C MDRFP TRAIN OUT FOR CORRECTIVE MAINT	0.00E-02	0.00E-02	
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM	0.005000	0.005000	
	G1STADSHOW	ADS SYSTEM HARDWARE FAILURES	0.60E-04	0.60E-04	
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM	0.56E-01	0.56E-01	
17)	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR	0.003000	0.003000	3.58E-08
	P3MAINTLGH	HPCS FAILURE TO PROPERLY RESTORE FROM MAINT	0.46E-02	0.46E-02	
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM	0.005000	0.005000	
	GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS	0.56E-01	0.56E-01	
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM	0.23E-01	0.23E-01	
	F1STRESTRB	HRA DEPENDENT FAILURE TO RESTORE TRIPPED FEEDWATER SYSTEM	0.00E-02	0.00E-02	
18)	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR	0.003000	0.003000	3.58E-08
	HPXN056FSH	MISCALIBRATION OF HPCS FLOW TRANSMITTER	0.46E-02	0.46E-02	
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM	0.005000	0.005000	
	GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS	0.56E-01	0.56E-01	
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM	0.23E-01	0.23E-01	
	F1STRESTRB	HRA DEPENDENT FAILURE TO RESTORE TRIPPED FEEDWATER SYSTEM	0.00E-02	0.00E-02	
19)	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR	0.061000	0.061000	3.55E-08
	HPSYS11SYM	HP SYSTEM DOWN FOR PREVENTIVE MAINTENANCE	0.060000	0.060000	
	FFWCCORTRM	C MDRFP TRAIN OUT FOR CORRECTIVE MAINT	0.46E-02	0.46E-02	
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM	0.005000	0.005000	
	GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS	0.56E-01	0.56E-01	
20)	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM	0.00E-02	0.00E-02	3.52E-08
	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR	0.013000	0.013000	
	D67SBCCBCD	CHARGERS 6 7 E22 AND 8 FAIL FROM COMMON CAUSE	0.46E-02	0.46E-02	
	F1STBYPASS	FEEDWATER SYSTEM VALVE FAILURES CAUSING BYPASS TO CONDENSER	0.00E-02	0.00E-02	
21)	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR	0.00E-02	0.00E-02	3.48E-08
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM	0.010000	0.010000	
	FFW01PCSYH	C MDRFP TRAIN IMPROP REST FROM MAINT	0.46E-02	0.46E-02	
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM	0.005000	0.005000	
	GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS	0.56E-01	0.56E-01	
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM	0.18E-01	0.18E-01	
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	0.00E-02	0.00E-02	
22)	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR	0.00E-02	0.00E-02	3.29E-08
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM	0.060000	0.060000	
	FFWCCORTRM	C MDRFP TRAIN OUT FOR CORRECTIVE MAINT	0.065000	0.065000	
	IRISYS2SYM	RCIC DOWN FOR PREVENTIVE MAINTENANCE	0.005000	0.005000	
	GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS	0.18E-01	0.18E-01	
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	0.00E-02	0.00E-02	
23)	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR	0.00E-02	0.00E-02	3.11E-08
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM	0.005000	0.005000	
	GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS	0.030000	0.030000	
	PR1MAINLGH	RCIC FAILURE TO PROPERLY RESTORE FROM MAINT	0.18E-01	0.18E-01	
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	0.23E-01	0.23E-01	
	F1STRESTRB	HRA DEPENDENT FAILURE TO RESTORE TRIPPED FEEDWATER SYSTEM	0.00E-02	0.00E-02	
24)	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR	0.00E-02	0.00E-02	3.11E-08
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM	0.005000	0.005000	
	GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS	0.030000	0.030000	
	IRISYS1SYM	RCIC IMPROPERLY RESTORED FROM MAINTENANCE	0.18E-01	0.18E-01	
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	0.23E-01	0.23E-01	
	F1STRESTRB	HRA DEPENDENT FAILURE TO RESTORE TRIPPED FEEDWATER SYSTEM	0.00E-02	0.00E-02	
25)	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR	0.00E-02	0.00E-02	3.11E-08
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM	0.005000	0.005000	
	GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS	0.000000	0.000000	
	TRIF019MVD	MIN FLOW VLV FAILS TO OPEN	0.18E-01	0.18E-01	
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	0.23E-01	0.23E-01	
	F1STRESTRB	HRA DEPENDENT FAILURE TO RESTORE TRIPPED FEEDWATER SYSTEM	0.00E-02	0.00E-02	
26)	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR	0.00E-02	0.00E-02	3.11E-08
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM	0.005000	0.005000	
	GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS	0.000000	0.000000	
	TRIF013MVD	MOV F013 FAILS TO OPEN	0.18E-01	0.18E-01	
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	0.23E-01	0.23E-01	
	F1STRESTRB	HRA DEPENDENT FAILURE TO RESTORE TRIPPED FEEDWATER SYSTEM	0.00E-02	0.00E-02	
27)	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR	0.00E-02	0.00E-02	2.88E-08
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM	0.060000	0.060000	
	FFWCCORTRM	C MDRFP TRAIN OUT FOR CORRECTIVE MAINT	0.005000	0.005000	
	GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS	0.60E-03	0.60E-03	
	I1STCOOLNG	FAILURE OF COOLING SUPPORT FOR THE RCIC PUMP	0.18E-01	0.18E-01	
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	0.00E-02	0.00E-02	
28)	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR	0.061000	0.061000	2.58E-08
	HPSYS11SYM	HP SYSTEM DOWN FOR PREVENTIVE MAINTENANCE	0.060000	0.060000	
	FFWCCORTRM	C MDRFP TRAIN OUT FOR CORRECTIVE MAINT	0.000000	0.000000	



	HPSYST1SYM	HP SYSTEM DOWN FOR PREVENTIVE MAINTENANCE	0.006100	6.10E-03
	ARCVR1MSWH	Operator Fails to Prevent/Recover Bus 1M Shunt Trip	0.000000	0.00E+00
	AL2TRANTRX	Other Events That Could Result in Reactor Level 2 or Lower	0.029000	2.90E-02
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM	0.000000	0.00E+00
	GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS	0.005000	5.00E-04
44)	BISTR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM	0.000000	0.00E+00
	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR	0.000000	0.00E+00
	HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM	0.000000	0.00E+00
	FFWCCORTRM	C MDRFP TRAIN OUT FOR CORRECTIVE MAINT	0.000000	0.00E+00
	G1STADSHDW	ADS SYSTEM HARDWARE FAILURES	0.000000	0.00E+00
	IRISYS1SYM	RCIC DOWN FOR CORRECTIVE MAINTENANCE	0.000000	0.00E+00
45)	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	0.000000	0.00E+00
	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR	0.000000	0.00E+00
	HPSYST2SYM	HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE	0.008800	8.80E-03
	IRISYS2SYM	RCIC DOWN FOR PREVENTIVE MAINTENANCE	0.000000	0.00E+00
	GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS	0.005000	5.00E-04
46)	F1STRSTRB	HRA DEPENDENT FAILURE TO RESTORE TRIPPED FEEDWATER SYSTEM	0.000000	0.00E+00
	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR	0.000000	0.00E+00
	HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM	0.000000	0.00E+00
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM	0.000000	0.00E+00
	F1STMTRDRV	UNAVAILABILITY OR FAILURE OF MOTOR DRIVEN FEED PUMP	0.000000	0.00E+00
	G1STADSHDW	ADS SYSTEM HARDWARE FAILURES	0.000000	0.00E+00
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM	0.000000	0.00E+00
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	0.000000	0.00E+00
47)	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR	0.000000	0.00E+00
	HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM	0.000000	0.00E+00
	ARCVR1MSWH	Operator Fails to Prevent/Recover Bus 1M Shunt Trip	0.000000	0.00E+00
	AL2TRANTRX	Other Events That Could Result in Reactor Level 2 or Lower	0.029000	2.90E-02
	IRISYS2SYM	RCIC DOWN FOR PREVENTIVE MAINTENANCE	0.000000	0.00E+00
	GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS	0.005000	5.00E-04
48)	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	0.000000	0.00E+00
	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR	0.000000	0.00E+00
	HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM	0.000000	0.00E+00
	FFWCCORTRM	C MDRFP TRAIN OUT FOR CORRECTIVE MAINT	0.000000	0.00E+00
	GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS	0.005000	5.00E-04
	PR1MAINLGH	RCIC FAILURE TO PROPERLY RESTORE FROM MAINT	0.003000	3.00E-03
49)	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	0.000000	0.00E+00
	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR	0.000000	0.00E+00
	HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM	0.000000	0.00E+00
	FFWCCORTRM	C MDRFP TRAIN OUT FOR CORRECTIVE MAINT	0.000000	0.00E+00
	GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS	0.005000	5.00E-04
	IRISYS1SYM	RCIC IMPROPERLY RESTORED FROM MAINTENANCE	0.003000	3.00E-03
50)	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	0.000000	0.00E+00
	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR	0.000000	0.00E+00
	HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM	0.000000	0.00E+00
	FFWCCORTRM	C MDRFP TRAIN OUT FOR CORRECTIVE MAINT	0.000000	0.00E+00
	GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS	0.005000	5.00E-04
	TRIF019MVD	MIN FLOW VLV FAILS TO OPEN	0.000000	0.00E+00
51)	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	0.000000	0.00E+00
	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR	0.000000	0.00E+00
	HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM	0.000000	0.00E+00
	FFWCCORTRM	C MDRFP TRAIN OUT FOR CORRECTIVE MAINT	0.000000	0.00E+00
	GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS	0.005000	5.00E-04
	TRIF013MVD	MOV F013 FAILS TO OPEN	0.000000	0.00E+00
52)	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	0.000000	0.00E+00
	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR	0.000000	0.00E+00
	I1ST-65		0.000000	0.00E+00
	HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM	0.000000	0.00E+00
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM	0.000000	0.00E+00
	G1STADSHDW	ADS SYSTEM HARDWARE FAILURES	0.000000	0.00E+00
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM	0.000000	0.00E+00
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	0.000000	0.00E+00
53)	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR	0.000000	0.00E+00
	HPSYST2SYM	HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE	0.008800	8.80E-03
	F1STBYPASS	FEEDWATER SYSTEM VALVE FAILURES CAUSING BYPASS TO CONDENSER	0.000000	0.00E+00
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM	0.000000	0.00E+00
	G1STADSHDW	ADS SYSTEM HARDWARE FAILURES	0.000000	0.00E+00
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM	0.000000	0.00E+00
54)	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR	0.000000	0.00E+00
	D67SBCCBCD	CHARGERS 6 7 E22 AND 8 FAIL FROM COMMON CAUSE	0.013000	1.30E-02
	FFW01PCSYP	C MDRFP TRAIN IMPROP REST FROM MAINT	0.010000	1.00E-02
55)	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR	0.000000	0.00E+00
	HPSYST2SYM	HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE	0.008800	8.80E-03
	GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS	0.005000	5.00E-04
	F1STCOOLNG	FAILURE OF COOLING SUPPORT FOR THE RCIC PUMP	0.000000	0.00E+00
	F1STRSTRB	HRA DEPENDENT FAILURE TO RESTORE TRIPPED FEEDWATER SYSTEM	0.000000	0.00E+00
56)	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR	0.000000	0.00E+00
	HPSYST1SYM	HP SYSTEM DOWN FOR PREVENTIVE MAINTENANCE	0.006100	6.10E-03
	F1STBYPASS	FEEDWATER SYSTEM VALVE FAILURES CAUSING BYPASS TO CONDENSER	0.000000	0.00E+00
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM	0.000000	0.00E+00
	GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS	0.005000	5.00E-04
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM	0.000000	0.00E+00
57)	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR	0.000000	0.00E+00
	HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM	0.000000	0.00E+00
	ARCVR1MSWH	Operator Fails to Prevent/Recover Bus 1M Shunt Trip	0.000000	0.00E+00
	AL2TRANTRX	Other Events That Could Result in Reactor Level 2 or Lower	0.029000	2.90E-02
	GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS	0.005000	5.00E-04
	F1STCOOLNG	FAILURE OF COOLING SUPPORT FOR THE RCIC PUMP	0.000000	0.00E+00
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	0.000000	0.00E+00
58)	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR	0.000000	0.00E+00





	G1STADSHDW	ADS SYSTEM HARDWARE FAILURES							
	IRISYSTSYH	RCIC IMPROPERLY RESTORED FROM MAINTENANCE							
73)	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM							
	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR							1.10E-08
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM							
	FFWCCORTRM	C MDRFP TRAIN OUT FOR CORRECTIVE MAINT							
	G1STADSHDW	ADS SYSTEM HARDWARE FAILURES							
	IRIF013MVO	MOV F013 FAILS TO OPEN	3.0E-3						
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM							
74)	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR							1.06E-08
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM							
	FFWCCORTRM	C MDRFP TRAIN OUT FOR CORRECTIVE MAINT							
	GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS							
	P12RCICLGM	RCIC COMPONENTS DOWN FOR MAINTENANCE							
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM							
75)	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR							1.05E-08
	D67S1CCBCD	CHARGERS 6 7 AND E22 FAIL FROM COMMON CAUSE							
	ARCVR1MSWH	Operator Fails to Prevent/Recover Bus 1M Shunt Trip	1E-6						
	AL2TRANTRX	Other Events That Could Result in Reactor Level 2 or Lower							
76)	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR							1.03E-08
	HPSYST1SYM	HP SYSTEM DOWN FOR PREVENTIVE MAINTENANCE							
	F1STBYPASS	FEEDWATER SYSTEM VALVE FAILURES CAUSING BYPASS TO CONDENSER							
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM							
	G1STADSHDW	ADS SYSTEM HARDWARE FAILURES							
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM							
77)	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR							1.01E-08
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM							
	ARCVR1MSWH	Operator Fails to Prevent/Recover Bus 1M Shunt Trip							
	AL2TRANTRX	Other Events That Could Result in Reactor Level 2 or Lower							
	G1STADSHDW	ADS SYSTEM HARDWARE FAILURES							
	I1STCOOLNG	FAILURE OF COOLING SUPPORT FOR THE RCIC PUMP							
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM							
78)	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR							1.00E-08
	HPSYST1SYM	HP SYSTEM DOWN FOR PREVENTIVE MAINTENANCE							
	GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS							
	I1STCOOLNG	FAILURE OF COOLING SUPPORT FOR THE RCIC PUMP							
	F1STRESTRB	HRA DEPENDENT FAILURE TO RESTORE TRIPPED FEEDWATER SYSTEM							
79)	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR							9.99E-09
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM							
	FFWCCORTRM	C MDRFP TRAIN OUT FOR CORRECTIVE MAINT							
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM							
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM							
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM							
80)	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR							9.59E-09
	D67SBCCBCD	CHARGERS 6 7 E22 AND 8 FAIL FROM COMMON CAUSE	1E-6						
	F1STMTDRBV	UNAVAILABILITY OR FAILURE OF MOTOR DRIVEN FEED PUMP							
81)	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR							9.55E-09
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM							
	F1STBYPASS	FEEDWATER SYSTEM VALVE FAILURES CAUSING BYPASS TO CONDENSER							
	IRISYS2SYM	RCIC DOWN FOR PREVENTIVE MAINTENANCE							
	G1STADSHDW	ADS SYSTEM HARDWARE FAILURES							
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM							
82)	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR							9.31E-09
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM							
	F1STBYPASS	FEEDWATER SYSTEM VALVE FAILURES CAUSING BYPASS TO CONDENSER							
	GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS							
	IRISYS1SYM	RCIC DOWN FOR CORRECTIVE MAINTENANCE							
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM							
83)	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR							8.87E-09
	P3LOGICLGM	HPCS COMPONENTS DOWN FOR MAINTENANCE							
	FFWCCORTRM	C MDRFP TRAIN OUT FOR CORRECTIVE MAINT							
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM							
	G1STADSHDW	ADS SYSTEM HARDWARE FAILURES							
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM							
84)	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR							8.80E-09
	D67SBCCBCD	CHARGERS 6 7 E22 AND 8 FAIL FROM COMMON CAUSE	1E-6						
85)	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR							8.66E-09
	D67S1CCBCD	CHARGERS 6 7 AND E22 FAIL FROM COMMON CAUSE	1E-6						
	F1STBYPASS	FEEDWATER SYSTEM VALVE FAILURES CAUSING BYPASS TO CONDENSER							
86)	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR							8.60E-09
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM							
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM							
	DCUPS1ASWH	OPERATOR MISPOSITIONS UPS1A BYPASS SWITCH							
	D1STUPSX1A	FAILURE OF UPS INVERTER 1A							
	G1STADSHDW	ADS SYSTEM HARDWARE FAILURES							
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM							
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM							
87)	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR							8.54E-09
	HPSYST1SYM	HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE							
	FFW01PCSYP	C MDRFP TRAIN IMPROP REST FROM MAINT							
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM							
	GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS							
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM							
88)	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR							8.44E-09
	P3MAINTLGH	HPCS FAILURE TO PROPERLY RESTORE FROM MAINT							
	ARCVR1MSWH	Operator Fails to Prevent/Recover Bus 1M Shunt Trip							
	AL2TRANTRX	Other Events That Could Result in Reactor Level 2 or Lower							

	HISTINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		5.46E-02	5.46E-02
	GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS		0.000500	0.000500
89)	BISTRANTRX	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		7.26E-01	7.26E-01
	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR		0.005000	0.005000
	HPXNO36FSH	MISCALIBRATION OF HPCS FLOW TRANSMITTER		0.001000	0.001000
	ARCVR1MSWH	Operator Fails to Prevent/Recover Bus 1M Shunt Trip		0.020000	0.020000
	AL2TRANTRX	Other Events That Could Result in Reactor Level 2 or Lower		0.005000	0.005000
	HISTINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		7.26E-01	7.26E-01
	GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS		0.000500	0.000500
90)	BISTRANTRX	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		7.26E-01	7.26E-01
	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR		0.005000	0.005000
	HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM		7.00E-02	7.00E-02
	FISTBYPASS	FEEDWATER SYSTEM VALVE FAILURES CAUSING BYPASS TO CONDENSER		0.005000	0.005000
	G1STADSHDW	ADS SYSTEM HARDWARE FAILURES		0.005000	0.005000
	G1STADSHDW	ADS SYSTEM HARDWARE FAILURES		0.005000	0.005000
	B1STHPINJR	FAILURE OF COOLING SUPPORT FOR THE RCIC PUMP		0.005000	0.005000
	B1STHPINJR	FAILURE OF COOLING SUPPORT FOR THE RCIC PUMP		0.005000	0.005000
91)	YTRANSYTRX	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		7.18E-01	7.18E-01
	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR		0.005000	0.005000
	HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM		7.00E-02	7.00E-02
	ARCVR1MSWH	Operator Fails to Prevent/Recover Bus 1M Shunt Trip		0.001000	0.001000
	AL2TRANTRX	Other Events That Could Result in Reactor Level 2 or Lower		0.020000	0.020000
	G1STADSHDW	ADS SYSTEM HARDWARE FAILURES		0.005000	0.005000
	IRISYS1SYM	RCIC DOWN FOR CORRECTIVE MAINTENANCE		0.006000	0.006000
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		7.18E-01	7.18E-01
92)	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR		0.005000	0.005000
	HPSYST1SYM	HP SYSTEM DOWN FOR PREVENTIVE MAINTENANCE		0.001000	0.001000
	GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS		0.000500	0.000500
	IRISYS1SYM	RCIC DOWN FOR CORRECTIVE MAINTENANCE		0.006000	0.006000
93)	F1STRESTRB	HRA DEPENDENT FAILURE TO RESTORE TRIPPED FEEDWATER SYSTEM		0.005000	0.005000
	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR		0.005000	0.005000
	HPSYST2SYM	HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE		0.008000	0.008000
	FFWCORTRM	C MDRFP TRAIN OUT FOR CORRECTIVE MAINT		0.001000	0.001000
	IRISYS2SYM	RCIC DOWN FOR PREVENTIVE MAINTENANCE		0.005000	0.005000
	GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS		0.001500	0.001500
94)	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR		7.00E-02	7.00E-02
	HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM		0.001000	0.001000
	FFWCORTRM	C MDRFP TRAIN OUT FOR CORRECTIVE MAINT		0.005000	0.005000
	G1STADSHDW	ADS SYSTEM HARDWARE FAILURES		0.005000	0.005000
	P12RCICLGM	RCIC COMPONENTS DOWN FOR MAINTENANCE		0.001000	0.001000
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		7.18E-01	7.18E-01
95)	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR		7.00E-02	7.00E-02
	HPSYST2SYM	HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE		0.008000	0.008000
	GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS		0.001500	0.001500
	IRIF013MVO	MOV F013 FAILS TO OPEN	3.0E-3	0.001000	0.001000
	F1STRESTRB	HRA DEPENDENT FAILURE TO RESTORE TRIPPED FEEDWATER SYSTEM		0.005000	0.005000
96)	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR		7.26E-01	7.26E-01
	HPSYST2SYM	HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE		0.008000	0.008000
	GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS		0.001500	0.001500
	IRISYS1SYM	RCIC IMPROPERLY RESTORED FROM MAINTENANCE		0.005000	0.005000
	F1STRESTRB	HRA DEPENDENT FAILURE TO RESTORE TRIPPED FEEDWATER SYSTEM		0.005000	0.005000
97)	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR		7.26E-01	7.26E-01
	HPSYST2SYM	HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE		0.008000	0.008000
	GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS		0.001500	0.001500
	IRIF019MVO	MIN FLOW VLV FAILS TO OPEN	3.0E-3	0.001000	0.001000
	F1STRESTRB	HRA DEPENDENT FAILURE TO RESTORE TRIPPED FEEDWATER SYSTEM		0.005000	0.005000
98)	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR		7.26E-01	7.26E-01
	HPSYST2SYM	HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE		0.008000	0.008000
	GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS		0.001500	0.001500
	PR1MAINLGH	RCIC FAILURE TO PROPERLY RESTORE FROM MAINT		0.005000	0.005000
	F1STRESTRB	HRA DEPENDENT FAILURE TO RESTORE TRIPPED FEEDWATER SYSTEM		0.005000	0.005000
99)	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR		7.26E-01	7.26E-01
	HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM		7.00E-02	7.00E-02
	ARCVR1MSWH	Operator Fails to Prevent/Recover Bus 1M Shunt Trip		0.001000	0.001000
	AL2TRANTRX	Other Events That Could Result in Reactor Level 2 or Lower		0.020000	0.020000
	GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS		0.000500	0.000500
	PR1MAINLGH	RCIC FAILURE TO PROPERLY RESTORE FROM MAINT		0.005000	0.005000
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		7.18E-01	7.18E-01
100)	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR		7.00E-02	7.00E-02
	HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM		7.00E-02	7.00E-02
	ARCVR1MSWH	Operator Fails to Prevent/Recover Bus 1M Shunt Trip		0.001000	0.001000
	AL2TRANTRX	Other Events That Could Result in Reactor Level 2 or Lower		0.020000	0.020000
	GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS		0.000500	0.000500
	IRISYS1SYM	RCIC IMPROPERLY RESTORED FROM MAINTENANCE		0.005000	0.005000
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		7.18E-01	7.18E-01
101)	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR		7.00E-02	7.00E-02
	HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM		7.00E-02	7.00E-02
	ARCVR1MSWH	Operator Fails to Prevent/Recover Bus 1M Shunt Trip		0.001000	0.001000
	AL2TRANTRX	Other Events That Could Result in Reactor Level 2 or Lower		0.020000	0.020000
	GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS		0.000500	0.000500
	IRIF019MVO	MIN FLOW VLV FAILS TO OPEN	3.0E-3	0.001000	0.001000
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		7.18E-01	7.18E-01
102)	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR		7.00E-02	7.00E-02
	HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM		7.00E-02	7.00E-02
	ARCVR1MSWH	Operator Fails to Prevent/Recover Bus 1M Shunt Trip		0.001000	0.001000
	AL2TRANTRX	Other Events That Could Result in Reactor Level 2 or Lower		0.020000	0.020000
	GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS		0.000500	0.000500
	IRIF013MVO	MOV F013 FAILS TO OPEN	3.0E-3	0.001000	0.001000
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		7.18E-01	7.18E-01
103)	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR		7.00E-02	7.00E-02
	HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM		7.00E-02	7.00E-02
	HISTINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		5.46E-02	5.46E-02





118)	BISTRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM	7.56E-01	7.56E-01	
	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR	7.70E+00	7.70E+00	5.91E-09
	P3LOGICLGM	HPCS COMPONENTS DOWN FOR MAINTENANCE	0.002100	0.002100	
	ARCVR1MSWH	Operator Fails to Prevent/Recover Bus 1M Shunt Trip	0.000000	0.000000	
	ALZTRANTRX	Other Events That Could Result in Reactor Level 2 or Lower	0.290000	0.290000	
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM	4.6E-02	4.6E-02	
	GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS	0.005000	0.005000	
119)	BISTRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM	7.56E-01	7.56E-01	5.86E-09
	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR	7.70E+00	7.70E+00	
	HPSYST2SYM	HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE	0.088000	0.088000	
	FFWCCORTRM	C MORFP TRAIN OUT FOR CORRECTIVE MAINT	0.600000	0.600000	
	IRISYS2SYM	RCIC DOWN FOR PREVENTIVE MAINTENANCE	0.065000	0.065000	
	G1STADSHDW	ADS SYSTEM HARDWARE FAILURES	6.3E-04	6.3E-04	
120)	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR	7.70E+00	7.70E+00	5.82E-09
	DC71S1CSO	STATIC XFER SWITCH C71S001C FAILS OPEN	0.000000	0.000000	
	DC71S1CSWH	OPERATOR MISPOSITIONS C71S001C BYPASS SWITCH	0.000000	0.000000	1E-3
	FFWCCORTRM	C MORFP TRAIN OUT FOR CORRECTIVE MAINT	0.600000	0.600000	
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM	4.6E-02	4.6E-02	
	GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS	0.005000	0.005000	
121)	BISTRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM	7.56E-01	7.56E-01	5.71E-09
	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR	7.70E+00	7.70E+00	
	HPSYST2SYM	HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE	0.088000	0.088000	
	FFWCCORTRM	C MORFP TRAIN OUT FOR CORRECTIVE MAINT	0.600000	0.600000	
	GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS	0.005000	0.005000	
	IRISYS1SYM	RCIC DOWN FOR CORRECTIVE MAINTENANCE	0.046000	0.046000	
122)	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR	7.70E+00	7.70E+00	5.64E-09
	P3MAINLGH	HPCS FAILURE TO PROPERLY RESTORE FROM MAINT	0.030000	0.030000	
	IRISYS2SYM	RCIC DOWN FOR PREVENTIVE MAINTENANCE	0.065000	0.065000	
	GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS	0.005000	0.005000	
123)	F1STRESTRB	HRA DEPENDENT FAILURE TO RESTORE TRIPPED FEEDWATER SYSTEM	2.3E-01	2.3E-01	5.64E-09
	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR	7.70E+00	7.70E+00	
	HPXN056ESH	MISCALIBRATION OF HPCS FLOW TRANSMITTER	0.030000	0.030000	
	IRISYS2SYM	RCIC DOWN FOR PREVENTIVE MAINTENANCE	0.065000	0.065000	
	GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS	0.005000	0.005000	
124)	F1STRESTRB	HRA DEPENDENT FAILURE TO RESTORE TRIPPED FEEDWATER SYSTEM	2.3E-01	2.3E-01	5.59E-09
	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR	7.70E+00	7.70E+00	
	HPSYST1SYM	HP SYSTEM DOWN FOR PREVENTIVE MAINTENANCE	0.061000	0.061000	
	FFWCCORTRM	C MORFP TRAIN OUT FOR CORRECTIVE MAINT	0.600000	0.600000	
	IRISYS2SYM	RCIC DOWN FOR PREVENTIVE MAINTENANCE	0.065000	0.065000	
	GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS	0.005000	0.005000	
125)	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR	7.70E+00	7.70E+00	5.58E-09
	HPSYST2SYM	HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE	0.088000	0.088000	
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM	4.6E-02	4.6E-02	
	F1STMTRDRV	UNAVAILABILITY OR FAILURE OF MOTOR DRIVEN FEED PUMP	2.4E-03	2.4E-03	
	GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS	0.005000	0.005000	
126)	BISTRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM	7.56E-01	7.56E-01	5.48E-09
	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR	7.70E+00	7.70E+00	
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM	0.0E-02	0.0E-02	
	FFW01PCSYP	C MORFP TRAIN IMPROP REST FROM MAINT	0.100000	0.100000	
	IRISYS2SYM	RCIC DOWN FOR PREVENTIVE MAINTENANCE	0.065000	0.065000	
	GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS	0.005000	0.005000	
127)	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	7.8E-01	7.8E-01	5.34E-09
	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR	7.70E+00	7.70E+00	
	HPSYST2SYM	HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE	0.088000	0.088000	
	GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS	0.005000	0.005000	
	P12RCICLGM	RCIC COMPONENTS DOWN FOR MAINTENANCE	0.021000	0.021000	
	F1STRESTRB	HRA DEPENDENT FAILURE TO RESTORE TRIPPED FEEDWATER SYSTEM	2.3E-01	2.3E-01	
128)	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR	7.70E+00	7.70E+00	5.33E-09
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM	0.0E-02	0.0E-02	
	ARCVR1MSWH	Operator Fails to Prevent/Recover Bus 1M Shunt Trip	0.000000	0.000000	
	ALZTRANTRX	Other Events That Could Result in Reactor Level 2 or Lower	0.290000	0.290000	
	G1STADSHDW	ADS SYSTEM HARDWARE FAILURES	6.3E-04	6.3E-04	
	TRIF013MVO	MOV F013 FAILS TO OPEN	0.000000	0.000000	3.0E-3
129)	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	7.8E-01	7.8E-01	5.33E-09
	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR	7.70E+00	7.70E+00	
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM	0.0E-02	0.0E-02	
	ARCVR1MSWH	Operator Fails to Prevent/Recover Bus 1M Shunt Trip	0.000000	0.000000	
	ALZTRANTRX	Other Events That Could Result in Reactor Level 2 or Lower	0.290000	0.290000	
	G1STADSHDW	ADS SYSTEM HARDWARE FAILURES	6.3E-04	6.3E-04	
	IRISYSTSYH	RCIC IMPROPERLY RESTORED FROM MAINTENANCE	0.030000	0.030000	
130)	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	7.8E-01	7.8E-01	5.33E-09
	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR	7.70E+00	7.70E+00	
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM	0.0E-02	0.0E-02	
	ARCVR1MSWH	Operator Fails to Prevent/Recover Bus 1M Shunt Trip	0.000000	0.000000	
	ALZTRANTRX	Other Events That Could Result in Reactor Level 2 or Lower	0.290000	0.290000	
	G1STADSHDW	ADS SYSTEM HARDWARE FAILURES	6.3E-04	6.3E-04	
	TRIF010MVO	MIN FLOW VLV FAILS TO OPEN	0.000000	0.000000	3.0E-3
131)	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	7.8E-01	7.8E-01	5.33E-09
	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR	7.70E+00	7.70E+00	
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM	0.0E-02	0.0E-02	
	ARCVR1MSWH	Operator Fails to Prevent/Recover Bus 1M Shunt Trip	0.000000	0.000000	
	ALZTRANTRX	Other Events That Could Result in Reactor Level 2 or Lower	0.290000	0.290000	
	G1STADSHDW	ADS SYSTEM HARDWARE FAILURES	6.3E-04	6.3E-04	
	PR1MAINLGH	RCIC FAILURE TO PROPERLY RESTORE FROM MAINT	0.030000	0.030000	
132)	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	7.8E-01	7.8E-01	5.31E-09
	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR	7.70E+00	7.70E+00	
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM	0.0E-02	0.0E-02	
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM	4.6E-02	4.6E-02	
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM	4.6E-02	4.6E-02	
	G1STADSHDW	ADS SYSTEM HARDWARE FAILURES	6.3E-04	6.3E-04	



Event ID	Event Description	Frequency	Consequence
149)	BISTRINJR OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM	1.0E-01	4.79E-09
	BISTHPINJR OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	1.0E-01	
	YTRANSYTRX TRANSIENT WITHOUT ISOLATION INITIATOR	7.0E-02	
150)	HISTINJECT INDEPENDENT FAILURES OF HPCS SYSTEM	4.0E-02	4.41E-09
	FISTADSHDW ADS SYSTEM HARDWARE FAILURES	4.0E-02	
	GADSMANSYW OPERATOR FAILS TO MANUALLY INITIATE ADS	5.0E-03	
151)	BISTRINJR OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	1.0E-01	4.41E-09
	YTRANSYTRX TRANSIENT WITHOUT ISOLATION INITIATOR	7.0E-02	
	HISTINJECT INDEPENDENT FAILURES OF HPCS SYSTEM	4.0E-02	
152)	FISTADSHDW ADS SYSTEM HARDWARE FAILURES	4.0E-02	4.41E-09
	GADSMANSYW OPERATOR FAILS TO MANUALLY INITIATE ADS	5.0E-03	
	BISTRINJR OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	1.0E-01	
153)	YTRANSYTRX TRANSIENT WITHOUT ISOLATION INITIATOR	7.0E-02	4.41E-09
	HISTINJECT INDEPENDENT FAILURES OF HPCS SYSTEM	4.0E-02	
	FISTADSHDW ADS SYSTEM HARDWARE FAILURES	4.0E-02	
154)	BISTRINJR OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	1.0E-01	4.30E-09
	YTRANSYTRX TRANSIENT WITHOUT ISOLATION INITIATOR	7.0E-02	
	HISTINJECT INDEPENDENT FAILURES OF HPCS SYSTEM	4.0E-02	
155)	FISTADSHDW ADS SYSTEM HARDWARE FAILURES	4.0E-02	4.29E-09
	GADSMANSYW OPERATOR FAILS TO MANUALLY INITIATE ADS	5.0E-03	
	BISTRINJR OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM	1.0E-01	
156)	YTRANSYTRX TRANSIENT WITHOUT ISOLATION INITIATOR	7.0E-02	4.25E-09
	HISTINJECT INDEPENDENT FAILURES OF HPCS SYSTEM	4.0E-02	
	FISTADSHDW ADS SYSTEM HARDWARE FAILURES	4.0E-02	
157)	BISTRINJR OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	1.0E-01	4.23E-09
	YTRANSYTRX TRANSIENT WITHOUT ISOLATION INITIATOR	7.0E-02	
	HISTINJECT INDEPENDENT FAILURES OF HPCS SYSTEM	4.0E-02	
158)	FISTADSHDW ADS SYSTEM HARDWARE FAILURES	4.0E-02	4.05E-09
	GADSMANSYW OPERATOR FAILS TO MANUALLY INITIATE ADS	5.0E-03	
	BISTRINJR OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM	1.0E-01	
159)	YTRANSYTRX TRANSIENT WITHOUT ISOLATION INITIATOR	7.0E-02	4.00E-09
	HISTINJECT INDEPENDENT FAILURES OF HPCS SYSTEM	4.0E-02	
	FISTADSHDW ADS SYSTEM HARDWARE FAILURES	4.0E-02	
160)	BISTRINJR OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM	1.0E-01	3.98E-09
	BISTHPINJR OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	1.0E-01	
	YTRANSYTRX TRANSIENT WITHOUT ISOLATION INITIATOR	7.0E-02	
161)	HISTINJECT INDEPENDENT FAILURES OF HPCS SYSTEM	4.0E-02	3.88E-09
	FISTADSHDW ADS SYSTEM HARDWARE FAILURES	4.0E-02	
	GADSMANSYW OPERATOR FAILS TO MANUALLY INITIATE ADS	5.0E-03	
162)	BISTRINJR OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	1.0E-01	3.87E-09
	YTRANSYTRX TRANSIENT WITHOUT ISOLATION INITIATOR	7.0E-02	
	HISTINJECT INDEPENDENT FAILURES OF HPCS SYSTEM	4.0E-02	

163)	BISTRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM	7.56E-01	7.56E-01	
	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR	7.70E-00	7.70E-00	3.73E-09
	HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM	0.00E-02	0.00E-02	
	ARCVR1MSWH	Operator Fails to Prevent/Recover Bus 1M Shunt Trip	0.000000	0.000000	
	AL2STRANRX	Other Events That Could Result in Reactor Level 2 or Lower	0.290000	0.290000	
	G1STADSHOW	ADS SYSTEM HARDWARE FAILURES	6.3E-04	6.3E-04	
	P12RCICLGM	RCIC COMPONENTS DOWN FOR MAINTENANCE	0.02100	0.02100	
164)	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	1.8E-01	1.8E-01	
	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR	7.70E-00	7.70E-00	3.72E-09
	IST-65		0.00E-03	0.00E-03	
	HPSYST2SYM	HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE	0.008800	0.008800	
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM	4.6E-02	4.6E-02	
	G1STADSHOW	ADS SYSTEM HARDWARE FAILURES	6.3E-04	6.3E-04	
165)	BISTRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM	5.6E-01	5.6E-01	
	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR	7.70E-00	7.70E-00	3.67E-09
	F1STRESTR	FAILURE TO RESTART TRIPPED FEEDWATER SYSTEM	5.0E-03	5.0E-03	
	D07SBCCBCD	CHARGERS 6, 7, E22 AND 8 FAIL FROM COMMON CAUSE	0.13000	0.13000	
166)	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR	7.70E-00	7.70E-00	3.59E-09
	HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM	0.00E-02	0.00E-02	
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM	0.006500	0.006500	
	F1STMTDRRV	UNAVAILABILITY OR FAILURE OF MOTOR DRIVEN FEED PUMP	5.4E-03	5.4E-03	
	GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS	0.00500	0.00500	
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	1.8E-01	1.8E-01	
167)	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR	7.70E-00	7.70E-00	3.48E-09
	HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM	0.00E-02	0.00E-02	
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM	7.2E-05	7.2E-05	
	FFWCPRETRM	C MDRFP TRAIN OUT FOR PREVENTATIVE MAINT	0.01000	0.01000	
	GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS	0.00500	0.00500	
	BISTRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM	5.6E-01	5.6E-01	
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	1.8E-01	1.8E-01	
168)	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR	7.70E-00	7.70E-00	3.48E-09
	HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM	0.00E-02	0.00E-02	
	FFW1PCSYH	C MDRFP TRAIN IMPROP REST FROM MAINT	0.10000	0.10000	
	G1STADSHOW	ADS SYSTEM HARDWARE FAILURES	6.3E-04	6.3E-04	
	I1STCOOLNG	FAILURE OF COOLING SUPPORT FOR THE RCIC PUMP	6.8E-03	6.8E-03	
169)	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	1.8E-01	1.8E-01	
	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR	7.70E-00	7.70E-00	3.09E-09
	IST-50		0.00E-03	0.00E-03	
	HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM	0.00E-03	0.00E-03	
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM	4.6E-02	4.6E-02	
	IST-72		4.8E-01	4.8E-01	
	GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS	0.00500	0.00500	
	BISTRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM	5.6E-01	5.6E-01	
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	1.8E-01	1.8E-01	
170)	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR	7.70E-00	7.70E-00	2.63E-09
	IST-50		0.00E-03	0.00E-03	
	HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM	0.00E-02	0.00E-02	
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM	4.6E-02	4.6E-02	
	FGATE58		2.6E-01	2.6E-01	
	GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS	0.00500	0.00500	
	BISTRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM	5.6E-01	5.6E-01	
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	1.8E-01	1.8E-01	
171)	YTRANSYTRX	TRANSIENT WITHOUT ISOLATION INITIATOR	7.70E-00	7.70E-00	1.55E-09
	F1STRESTR	FAILURE TO RESTART TRIPPED FEEDWATER SYSTEM	5.0E-03	5.0E-03	
	HPSYST2SYM	HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE	0.008800	0.008800	
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM	4.6E-02	4.6E-02	
	G1STADSHOW	ADS SYSTEM HARDWARE FAILURES	6.3E-04	6.3E-04	
	BISTRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM	5.6E-01	5.6E-01	

1E-6



**Cutsets for Sequence T3U2UX1**

MODULE/EVENT NAME	DESCRIPTION	RATE	EXPOSURE	B.F. PROB.	MOD./CS. PROB.
1) T3U2UX1					*3.03E-06
1) YTRANISTRX	TRANSIENT WITH ISOLATION INITIATOR	1.7	1.70E+00		3.75E-07
HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM	0.00E-02	0.00E+00		
YRIPRORFRC	FRAC OF CONT ISOS THAT RESULT IN LOSS OF RI	0.100000	0.100000		
GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS	0.005000	0.005000		
BISTHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	0.18E-01	0.18E+00		
ISTRRESTRB	HRA DEPENDENT FAILURE TO RESTORE TRIPPED FEEDWATER SYSTEM	0.25E-01	0.25E+00		
2) YTRANISTRX	TRANSIENT WITH ISOLATION INITIATOR	7.00E-02	7.00E-02		1.83E-07
HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM	0.00E-02	0.00E+00		
FWCCORTRM	C MDRFP TRAIN OUT FOR CORRECTIVE MAINT	0.000000	0.000000		
YRIPRORFRC	FRAC OF CONT ISOS THAT RESULT IN LOSS OF RI	0.100000	0.100000		
GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS	0.005000	0.005000		
BISTHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	0.18E-01	0.18E+00		
3) YTRANISTRX	TRANSIENT WITH ISOLATION INITIATOR	7.00E-02	7.00E-02		1.55E-07
HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM	0.00E-02	0.00E+00		
IISTINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM	0.40E-02	0.40E-02		
GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS	0.005000	0.005000		
BISTRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM	0.50E-01	0.50E+00		
IISTHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	0.18E-01	0.18E+00		
ISTRRESTRB	HRA DEPENDENT FAILURE TO RESTORE TRIPPED FEEDWATER SYSTEM	0.25E-01	0.25E+00		
4) YTRANISTRX	TRANSIENT WITH ISOLATION INITIATOR	7.00E-02	7.00E-02		1.33E-07
HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM	0.00E-02	0.00E+00		
FWCCORTRM	C MDRFP TRAIN OUT FOR CORRECTIVE MAINT	0.000000	0.000000		
YRIPRORFRC	FRAC OF CONT ISOS THAT RESULT IN LOSS OF RI	0.100000	0.100000		
GISTADSHDW	ADS SYSTEM HARDWARE FAILURES	0.03E-04	0.03E-04		
BISTHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	0.18E-01	0.18E+00		
5) YTRANISTRX	TRANSIENT WITH ISOLATION INITIATOR	7.00E-02	7.00E-02		9.20E-08
HPSYST2SYM	HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE	0.088000	0.088000		
YRIPRORFRC	FRAC OF CONT ISOS THAT RESULT IN LOSS OF RI	0.100000	0.100000		
GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS	0.005000	0.005000		
ISTRRESTRB	HRA DEPENDENT FAILURE TO RESTORE TRIPPED FEEDWATER SYSTEM	0.25E-01	0.25E+00		
6) YTRANISTRX	TRANSIENT WITH ISOLATION INITIATOR	7.00E-02	7.00E-02		8.85E-08
HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM	0.00E-02	0.00E+00		
ARCVR1MSWH	Operator Fails to Prevent/Recover Bus 1M Shunt Trip	0.000000	0.000000		
ALLTRANTRX	Other Events that Could Result in Reactor Level 2 or Lower	0.290000	0.290000		
YRIPRORFRC	FRAC OF CONT ISOS THAT RESULT IN LOSS OF RI	0.100000	0.100000		
GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS	0.005000	0.005000		
BISTHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	0.18E-01	0.18E+00		
7) YTRANISTRX	TRANSIENT WITH ISOLATION INITIATOR	7.00E-02	7.00E-02		7.56E-08
HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM	0.00E-02	0.00E+00		
FWCCORTRM	C MDRFP TRAIN OUT FOR CORRECTIVE MAINT	0.000000	0.000000		
IISTINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM	0.40E-02	0.40E-02		
GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS	0.005000	0.005000		
BISTRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM	0.50E-01	0.50E+00		
IISTHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	0.18E-01	0.18E+00		
8) YTRANISTRX	TRANSIENT WITH ISOLATION INITIATOR	7.00E-02	7.00E-02		7.32E-08
HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM	0.00E-02	0.00E+00		
IISTBYPASS	FEEDWATER SYSTEM VALVE FAILURES CAUSING BYPASS TO CONDENSER	0.40E-02	0.40E-02		
YRIPRORFRC	FRAC OF CONT ISOS THAT RESULT IN LOSS OF RI	0.100000	0.100000		
GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS	0.005000	0.005000		
BISTHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	0.18E-01	0.18E+00		
9) YTRANISTRX	TRANSIENT WITH ISOLATION INITIATOR	7.00E-02	7.00E-02		6.42E-08
HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM	0.00E-02	0.00E+00		
ARCVR1MSWH	Operator Fails to Prevent/Recover Bus 1M Shunt Trip	0.000000	0.000000		
ALLTRANTRX	Other Events that Could Result in Reactor Level 2 or Lower	0.290000	0.290000		
YRIPRORFRC	FRAC OF CONT ISOS THAT RESULT IN LOSS OF RI	0.100000	0.100000		
GISTADSHDW	ADS SYSTEM HARDWARE FAILURES	0.03E-04	0.03E-04		
BISTHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	0.18E-01	0.18E+00		
10) YTRANISTRX	TRANSIENT WITH ISOLATION INITIATOR	7.00E-02	7.00E-02		6.38E-08
HPSYST1SYM	HP SYSTEM DOWN FOR PREVENTIVE MAINTENANCE	0.061000	0.061000		
YRIPRORFRC	FRAC OF CONT ISOS THAT RESULT IN LOSS OF RI	0.100000	0.100000		
GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS	0.005000	0.005000		
ISTRRESTRB	HRA DEPENDENT FAILURE TO RESTORE TRIPPED FEEDWATER SYSTEM	0.25E-01	0.25E+00		
11) YTRANISTRX	TRANSIENT WITH ISOLATION INITIATOR	7.00E-02	7.00E-02		5.49E-08
HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM	0.00E-02	0.00E+00		
FWCCORTRM	C MDRFP TRAIN OUT FOR CORRECTIVE MAINT	0.000000	0.000000		
IISTINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM	0.40E-02	0.40E-02		
IISTADSHDW	ADS SYSTEM HARDWARE FAILURES	0.03E-04	0.03E-04		
BISTRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM	0.50E-01	0.50E+00		
IISTHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	0.18E-01	0.18E+00		
12) YTRANISTRX	TRANSIENT WITH ISOLATION INITIATOR	7.00E-02	7.00E-02		5.32E-08
HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM	0.00E-02	0.00E+00		
IISTBYPASS	FEEDWATER SYSTEM VALVE FAILURES CAUSING BYPASS TO CONDENSER	0.40E-02	0.40E-02		
YRIPRORFRC	FRAC OF CONT ISOS THAT RESULT IN LOSS OF RI	0.100000	0.100000		
GISTADSHDW	ADS SYSTEM HARDWARE FAILURES	0.03E-04	0.03E-04		
BISTHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	0.18E-01	0.18E+00		
13) YTRANISTRX	TRANSIENT WITH ISOLATION INITIATOR	7.00E-02	7.00E-02		4.49E-08
HPSYST2SYM	HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE	0.088000	0.088000		



	HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM	5.00E-02	5.00E-02
	F1STBYPASS	FEEDWATER SYSTEM VALVE FAILURES CAUSING BYPASS TO CONDENSER	4.0E-02	4.0E-02
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM	4.6E-02	4.6E-02
	G1STADSHDW	ADS SYSTEM HARDWARE FAILURES	6.3E-04	6.3E-04
	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM	7.2E-01	7.2E-01
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	7.2E-01	7.2E-01
30)	Y1RAN1STRX	TRANSIENT WITH ISOLATION INITIATOR	7.18E-01	7.18E-01
	HPSYS12SYM	HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE	0.008800	8.80E-03
	ARCVR1MSWH	Operator Fails to Prevent/Recover Bus 1M Shunt Trip	0.000000	0.00E+00
	AL2TRANTRX	Other Events that Could Result in Reactor Level 2 or Lower	0.029000	2.90E-02
	YR1PRORFRC	FRAC OF CONT ISOS THAT RESULT IN LOSS OF RI	0.100000	1.00E-01
	GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS	0.000500	5.00E-04
31)	Y1RAN1STRX	TRANSIENT WITH ISOLATION INITIATOR	1.7E-01	1.70E+00
	HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM	5.00E-02	5.00E-02
	GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS	0.000500	5.00E-04
	I1STCOOLNG	FAILURE OF COOLING SUPPORT FOR THE RCIC PUMP	6.8E-03	6.8E-03
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	7.18E-01	7.18E-01
	F1STRESTRB	HRA DEPENDENT FAILURE TO RESTORE TRIPPED FEEDWATER SYSTEM	2.3E-01	2.3E-01
32)	Y1RAN1STRX	TRANSIENT WITH ISOLATION INITIATOR	7.18E-01	7.18E+00
	HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM	5.00E-02	5.00E-02
	YR1PRORFRC	FRAC OF CONT ISOS THAT RESULT IN LOSS OF RI	0.100000	1.00E-01
	F1STMTRDRV	UNAVAILABILITY OR FAILURE OF MOTOR DRIVEN FEED PUMP	5.4E-03	5.4E-03
	GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS	0.000500	5.00E-04
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	7.18E-01	7.18E-01
33)	Y1RAN1STRX	TRANSIENT WITH ISOLATION INITIATOR	7.18E-01	7.18E-01
	HPSYS12SYM	HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE	0.008800	8.80E-03
	FFWCCORTRM	C MDRFP TRAIN OUT FOR CORRECTIVE MAINT	0.060000	6.00E-02
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM	4.6E-02	4.6E-02
	GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS	0.000500	5.00E-04
	B1STRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM	7.26E-01	7.26E-01
34)	Y1RAN1STRX	TRANSIENT WITH ISOLATION INITIATOR	7.26E-01	7.26E+00
	I1ST-05		0.00E-03	0.00E-03
	HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM	0.00E-03	0.00E-03
	YR1PRORFRC	FRAC OF CONT ISOS THAT RESULT IN LOSS OF RI	0.100000	1.00E-01
	GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS	0.000500	5.00E-04
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	7.18E-01	7.18E-01
35)	Y1RAN1STRX	TRANSIENT WITH ISOLATION INITIATOR	7.18E-01	7.18E-01
	A1STUATXFR	TRANSFER OF NON-SAFETY BUSES FROM UAT TO RAT FAILS	0.00E-03	0.00E-03
	HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM	0.00E-03	0.00E-03
	YR1PRORFRC	FRAC OF CONT ISOS THAT RESULT IN LOSS OF RI	0.100000	1.00E-01
	GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS	0.000500	5.00E-04
36)	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	7.18E-01	7.18E-01
	Y1RAN1STRX	TRANSIENT WITH ISOLATION INITIATOR	7.18E-01	7.18E+00
	I1ST-13		0.00E-03	0.00E-03
	HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM	0.00E-03	0.00E-03
	YR1PRORFRC	FRAC OF CONT ISOS THAT RESULT IN LOSS OF RI	0.100000	1.00E-01
	GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS	0.000500	5.00E-04
37)	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	7.18E-01	7.18E-01
	Y1RAN1STRX	TRANSIENT WITH ISOLATION INITIATOR	7.18E-01	7.18E+00
	HPSYS12SYM	HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE	0.008800	8.80E-03
	F1STBYPASS	FEEDWATER SYSTEM VALVE FAILURES CAUSING BYPASS TO CONDENSER	4.0E-02	4.0E-02
	YR1PRORFRC	FRAC OF CONT ISOS THAT RESULT IN LOSS OF RI	0.100000	1.00E-01
	GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS	0.000500	5.00E-04
38)	Y1RAN1STRX	TRANSIENT WITH ISOLATION INITIATOR	7.18E-01	7.18E+00
	HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM	5.00E-02	5.00E-02
	GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS	0.000500	5.00E-04
	I1RISYS1SYM	RCIC DOWN FOR CORRECTIVE MAINTENANCE	0.046000	4.60E-02
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	7.18E-01	7.18E-01
	F1STRESTRB	HRA DEPENDENT FAILURE TO RESTORE TRIPPED FEEDWATER SYSTEM	2.3E-01	2.3E-01
39)	Y1RAN1STRX	TRANSIENT WITH ISOLATION INITIATOR	7.18E-01	7.18E+00
	HPSYS12SYM	HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE	0.008800	8.80E-03
	ARCVR1MSWH	Operator Fails to Prevent/Recover Bus 1M Shunt Trip	0.000000	0.00E+00
	AL2TRANTRX	Other Events that Could Result in Reactor Level 2 or Lower	0.029000	2.90E-02
	YR1PRORFRC	FRAC OF CONT ISOS THAT RESULT IN LOSS OF RI	0.100000	1.00E-01
	G1STADSHDW	ADS SYSTEM HARDWARE FAILURES	6.3E-04	6.3E-04
40)	Y1RAN1STRX	TRANSIENT WITH ISOLATION INITIATOR	6.3E-04	6.3E+00
	DAYSBCBCD	CHARGERS 6, 7, E22 AND 8 FAIL FROM COMMON CAUSE	0.013000	1.30E-02
	ARCVR1MSWH	Operator Fails to Prevent/Recover Bus 1M Shunt Trip	0.000000	0.00E+00
	AL2TRANTRX	Other Events that Could Result in Reactor Level 2 or Lower	0.029000	2.90E-02
41)	Y1RAN1STRX	TRANSIENT WITH ISOLATION INITIATOR	7.18E-01	7.18E+00
	P3MAINTLGH	HPCS FAILURE TO PROPERLY RESTORE FROM MAINT	0.003000	3.00E-03
	FFWCCORTRM	C MDRFP TRAIN OUT FOR CORRECTIVE MAINT	0.060000	6.00E-02
	YR1PRORFRC	FRAC OF CONT ISOS THAT RESULT IN LOSS OF RI	0.100000	1.00E-01
	GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS	0.000500	5.00E-04
42)	Y1RAN1STRX	TRANSIENT WITH ISOLATION INITIATOR	7.18E-01	7.18E+00
	HFXN056ESH	MISCALIBRATION OF HPCS FLOW TRANSMITTER	0.003000	3.00E-03
	FFWCCORTRM	C MDRFP TRAIN OUT FOR CORRECTIVE MAINT	0.060000	6.00E-02
	YR1PRORFRC	FRAC OF CONT ISOS THAT RESULT IN LOSS OF RI	0.100000	1.00E-01
	GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS	0.000500	5.00E-04
43)	Y1RAN1STRX	TRANSIENT WITH ISOLATION INITIATOR	7.18E-01	7.18E+00
	HPSYS11SYM	HP SYSTEM DOWN FOR PREVENTIVE MAINTENANCE	0.006100	6.10E-03
	ARCVR1MSWH	Operator Fails to Prevent/Recover Bus 1M Shunt Trip	0.000000	0.00E+00
	AL2TRANTRX	Other Events that Could Result in Reactor Level 2 or Lower	0.029000	2.90E-02
	YR1PRORFRC	FRAC OF CONT ISOS THAT RESULT IN LOSS OF RI	0.100000	1.00E-01
	GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS	0.000500	5.00E-04
44)	Y1RAN1STRX	TRANSIENT WITH ISOLATION INITIATOR	7.18E-01	7.18E+00
	HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM	5.00E-02	5.00E-02
	YR1PRORFRC	FRAC OF CONT ISOS THAT RESULT IN LOSS OF RI	0.100000	1.00E-01
	F1STMTRDRV	UNAVAILABILITY OR FAILURE OF MOTOR DRIVEN FEED PUMP	5.4E-03	5.4E-03
	G1STADSHDW	ADS SYSTEM HARDWARE FAILURES	6.3E-04	6.3E-04

1E-6



45) B1STHPINJR OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM  
YTRANISTRX TRANSIENT WITH ISOLATION INITIATOR  
HPSYST2SYM HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE  
FFWCCORTRM C MDRFP TRAIN OUT FOR CORRECTIVE MAINT  
I1STINJECT INDEPENDENT FAILURES OF RCIC SYSTEM  
G1STADSHDW ADS SYSTEM HARDWARE FAILURES  
B1STRINJR OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM  
46) YTRANISTRX TRANSIENT WITH ISOLATION INITIATOR  
I1ST-65  
H1STINJECT INDEPENDENT FAILURES OF HPCS SYSTEM  
YRIPRORFRC FRAC OF CONT ISOS THAT RESULT IN LOSS OF RI  
G1STADSHDW ADS SYSTEM HARDWARE FAILURES  
B1STHPINJR OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM  
47) YTRANISTRX TRANSIENT WITH ISOLATION INITIATOR  
A1STUATXFR TRANSFER OF NON-SAFETY BUSES FROM UAT TO RAT FAILS  
H1STINJECT INDEPENDENT FAILURES OF HPCS SYSTEM  
YRIPRORFRC FRAC OF CONT ISOS THAT RESULT IN LOSS OF RI  
G1STADSHDW ADS SYSTEM HARDWARE FAILURES  
B1STHPINJR OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM  
48) YTRANISTRX TRANSIENT WITH ISOLATION INITIATOR  
I1ST-131  
H1STINJECT INDEPENDENT FAILURES OF HPCS SYSTEM  
YRIPRORFRC FRAC OF CONT ISOS THAT RESULT IN LOSS OF RI  
G1STADSHDW ADS SYSTEM HARDWARE FAILURES  
B1STHPINJR OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM  
49) YTRANISTRX TRANSIENT WITH ISOLATION INITIATOR  
HPSYST2SYM HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE  
F1STBYPASS FEEDWATER SYSTEM VALVE FAILURES CAUSING BYPASS TO CONDENSER  
YRIPRORFRC FRAC OF CONT ISOS THAT RESULT IN LOSS OF RI  
G1STADSHDW ADS SYSTEM HARDWARE FAILURES  
50) YTRANISTRX TRANSIENT WITH ISOLATION INITIATOR  
P3MAINLGH HPCS FAILURE TO PROPERLY RESTORE FROM MAINT  
I1STINJECT INDEPENDENT FAILURES OF RCIC SYSTEM  
GADSMANSYW OPERATOR FAILS TO MANUALLY INITIATE ADS  
B1STRINJR OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM  
F1STRESTRB HRA DEPENDENT FAILURE TO RESTORE TRIPPED FEEDWATER SYSTEM  
51) YTRANISTRX TRANSIENT WITH ISOLATION INITIATOR  
HPXN050FSH MISCALIBRATION OF HPCS FLOW TRANSMITTER  
I1STINJECT INDEPENDENT FAILURES OF RCIC SYSTEM  
GADSMANSYW OPERATOR FAILS TO MANUALLY INITIATE ADS  
B1STRINJR OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM  
F1STRESTRB HRA DEPENDENT FAILURE TO RESTORE TRIPPED FEEDWATER SYSTEM  
52) YTRANISTRX TRANSIENT WITH ISOLATION INITIATOR  
HPSYST1SYM HP SYSTEM DOWN FOR PREVENTIVE MAINTENANCE  
FFWCCORTRM C MDRFP TRAIN OUT FOR CORRECTIVE MAINT  
I1STINJECT INDEPENDENT FAILURES OF RCIC SYSTEM  
GADSMANSYW OPERATOR FAILS TO MANUALLY INITIATE ADS  
B1STRINJR OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM  
53) YTRANISTRX TRANSIENT WITH ISOLATION INITIATOR  
D07SBCCBCD CHARGERS 6, 7, E22 AND 8 FAIL FROM COMMON CAUSE  
F1STBYPASS FEEDWATER SYSTEM VALVE FAILURES CAUSING BYPASS TO CONDENSER  
54) YTRANISTRX TRANSIENT WITH ISOLATION INITIATOR  
H1STINJECT INDEPENDENT FAILURES OF HPCS SYSTEM  
FFW01PCS5H C MDRFP TRAIN IMPROP REST FROM MAINT  
I1STINJECT INDEPENDENT FAILURES OF RCIC SYSTEM  
GADSMANSYW OPERATOR FAILS TO MANUALLY INITIATE ADS  
B1STRINJR OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM  
B1STHPINJR OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM  
55) YTRANISTRX TRANSIENT WITH ISOLATION INITIATOR  
HPSYST1SYM HP SYSTEM DOWN FOR PREVENTIVE MAINTENANCE  
F1STBYPASS FEEDWATER SYSTEM VALVE FAILURES CAUSING BYPASS TO CONDENSER  
YRIPRORFRC FRAC OF CONT ISOS THAT RESULT IN LOSS OF RI  
GADSMANSYW OPERATOR FAILS TO MANUALLY INITIATE ADS  
56) YTRANISTRX TRANSIENT WITH ISOLATION INITIATOR  
H1STINJECT INDEPENDENT FAILURES OF HPCS SYSTEM  
FCYTANKKL CY TANK LEVEL INSUFFICIENT FOR 24 HR MAKEUP  
YRIPRORFRC FRAC OF CONT ISOS THAT RESULT IN LOSS OF RI  
GADSMANSYW OPERATOR FAILS TO MANUALLY INITIATE ADS  
B1STHPINJR OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM  
57) YTRANISTRX TRANSIENT WITH ISOLATION INITIATOR  
H1STINJECT INDEPENDENT FAILURES OF HPCS SYSTEM  
FFWCCORTRM C MDRFP TRAIN OUT FOR CORRECTIVE MAINT  
I1S1S2SYM RCIC DOWN FOR PREVENTIVE MAINTENANCE  
GADSMANSYW OPERATOR FAILS TO MANUALLY INITIATE ADS  
B1STHPINJR OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM  
58) YTRANISTRX TRANSIENT WITH ISOLATION INITIATOR  
H1STINJECT INDEPENDENT FAILURES OF HPCS SYSTEM  
GADSMANSYW OPERATOR FAILS TO MANUALLY INITIATE ADS  
P1MAINLGH RCIC FAILURE TO PROPERLY RESTORE FROM MAINT  
B1STHPINJR OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM  
F1STRESTRB HRA DEPENDENT FAILURE TO RESTORE TRIPPED FEEDWATER SYSTEM  
59) YTRANISTRX TRANSIENT WITH ISOLATION INITIATOR  
H1STINJECT INDEPENDENT FAILURES OF HPCS SYSTEM  
GADSMANSYW OPERATOR FAILS TO MANUALLY INITIATE ADS  
I1S1S2SYM RCIC IMPROPERLY RESTORED FROM MAINTENANCE  
B1STHPINJR OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM  
F1STRESTRB HRA DEPENDENT FAILURE TO RESTORE TRIPPED FEEDWATER SYSTEM  
60) YTRANISTRX TRANSIENT WITH ISOLATION INITIATOR  
H1STINJECT INDEPENDENT FAILURES OF HPCS SYSTEM  
GADSMANSYW OPERATOR FAILS TO MANUALLY INITIATE ADS

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7.18E-01	7.18E-01	1.34E-08
0.001800	0.001800	
0.061000	0.061000	
0.46E-02	0.46E-02	
0.56E-04	0.56E-04	
0.56E-01	0.56E-01	
7.18E-01	7.18E-01	1.33E-08
0.00E-03	0.00E-03	
0.00E-02	0.00E-02	
0.101000	0.101000	
0.46E-04	0.46E-04	
0.18E-01	0.18E-01	
7.18E-01	7.18E-01	1.33E-08
0.00E-03	0.00E-03	
0.00E-02	0.00E-02	
0.101000	0.101000	
0.46E-04	0.46E-04	
0.18E-01	0.18E-01	
7.18E-01	7.18E-01	1.33E-08
0.00E-03	0.00E-03	
0.00E-02	0.00E-02	
0.101000	0.101000	
0.46E-04	0.46E-04	
0.18E-01	0.18E-01	
7.18E-01	7.18E-01	1.30E-08
0.001800	0.001800	
0.40E-02	0.40E-02	
0.101000	0.101000	
0.46E-04	0.46E-04	
0.56E-01	0.56E-01	
7.18E-01	7.18E-01	1.29E-08
0.003000	0.003000	
0.46E-02	0.46E-02	
0.001500	0.001500	
0.56E-01	0.56E-01	
7.18E-01	7.18E-01	1.29E-08
0.003000	0.003000	
0.46E-02	0.46E-02	
0.001500	0.001500	
0.56E-01	0.56E-01	
7.18E-01	7.18E-01	1.28E-08
0.001000	0.001000	
0.061000	0.061000	
0.46E-02	0.46E-02	
0.001500	0.001500	
0.56E-01	0.56E-01	
7.18E-01	7.18E-01	1.27E-08
0.013000	0.013000	
0.40E-02	0.40E-02	
7.18E-01	7.18E-01	1.26E-08
0.00E-02	0.00E-02	
0.011000	0.011000	
0.46E-02	0.46E-02	
0.001500	0.001500	
0.56E-01	0.56E-01	
7.18E-01	7.18E-01	1.24E-08
0.001000	0.001000	
0.40E-02	0.40E-02	
0.101000	0.101000	
0.001500	0.001500	
0.56E-01	0.56E-01	
7.18E-01	7.18E-01	1.22E-08
0.00E-02	0.00E-02	
0.004000	0.004000	
0.101000	0.101000	
0.001500	0.001500	
0.18E-01	0.18E-01	
7.18E-01	7.18E-01	1.19E-08
0.00E-02	0.00E-02	
0.061000	0.061000	
0.001500	0.001500	
0.18E-01	0.18E-01	
7.18E-01	7.18E-01	1.13E-08
0.00E-02	0.00E-02	
0.001500	0.001500	
0.003000	0.003000	
0.18E-01	0.18E-01	
7.18E-01	7.18E-01	1.13E-08
0.00E-02	0.00E-02	
0.001500	0.001500	
0.003000	0.003000	
0.18E-01	0.18E-01	
7.18E-01	7.18E-01	1.13E-08
0.00E-02	0.00E-02	
0.001500	0.001500	



FFWCCORTRM C MDRFP TRAIN OUT FOR CORRECTIVE MAINT  
 IRISYS2SYM RCIC DOWN FOR PREVENTIVE MAINTENANCE  
 G1STADSHDW ADS SYSTEM HARDWARE FAILURES  
 B1STHPINJR OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM  
 76) YTRANISTRX TRANSIENT WITH ISOLATION INITIATOR  
 HISTINJECT INDEPENDENT FAILURES OF HPCS SYSTEM  
 FFWCCORTRM C MDRFP TRAIN OUT FOR CORRECTIVE MAINT  
 GADSMANSYW OPERATOR FAILS TO MANUALLY INITIATE ADS  
 IRISYS1SYM RCIC DOWN FOR CORRECTIVE MAINTENANCE  
 B1STHPINJR OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM  
 77) YTRANISTRX TRANSIENT WITH ISOLATION INITIATOR  
 HISTINJECT INDEPENDENT FAILURES OF HPCS SYSTEM  
 I1STINJECT INDEPENDENT FAILURES OF RCIC SYSTEM  
 F1STMTRDRV UNAVAILABILITY OR FAILURE OF MOTOR DRIVEN FEED PUMP  
 GADSMANSYW OPERATOR FAILS TO MANUALLY INITIATE ADS  
 B1STRINJR OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM  
 B1STHPINJR OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM  
 78) YTRANISTRX TRANSIENT WITH ISOLATION INITIATOR  
 HISTINJECT INDEPENDENT FAILURES OF HPCS SYSTEM  
 GADSMANSYW OPERATOR FAILS TO MANUALLY INITIATE ADS  
 P12RCICLGM RCIC COMPONENTS DOWN FOR MAINTENANCE  
 B1STHPINJR OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM  
 F1STRSTRB HRA DEPENDENT FAILURE TO RESTORE TRIPPED FEEDWATER SYSTEM  
 79) YTRANISTRX TRANSIENT WITH ISOLATION INITIATOR  
 D67S1CCBCD CHARGERS 6 7 AND E22 FAIL FROM COMMON CAUSE  
 FFWCCORTRM C MDRFP TRAIN OUT FOR CORRECTIVE MAINT  
 80) YTRANISTRX TRANSIENT WITH ISOLATION INITIATOR  
 I1ST-65  
 HISTINJECT INDEPENDENT FAILURES OF HPCS SYSTEM  
 I1STINJECT INDEPENDENT FAILURES OF RCIC SYSTEM  
 GADSMANSYW OPERATOR FAILS TO MANUALLY INITIATE ADS  
 B1STRINJR OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM  
 B1STHPINJR OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM  
 81) YTRANISTRX TRANSIENT WITH ISOLATION INITIATOR  
 A1STUATXFR TRANSFER OF NON-SAFETY BUSES FROM UAT TO RAT FAILS  
 HISTINJECT INDEPENDENT FAILURES OF HPCS SYSTEM  
 I1STINJECT INDEPENDENT FAILURES OF RCIC SYSTEM  
 GADSMANSYW OPERATOR FAILS TO MANUALLY INITIATE ADS  
 B1STRINJR OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM  
 B1STHPINJR OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM  
 82) YTRANISTRX TRANSIENT WITH ISOLATION INITIATOR  
 I1ST-131  
 HISTINJECT INDEPENDENT FAILURES OF HPCS SYSTEM  
 I1STINJECT INDEPENDENT FAILURES OF RCIC SYSTEM  
 GADSMANSYW OPERATOR FAILS TO MANUALLY INITIATE ADS  
 B1STRINJR OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM  
 B1STHPINJR OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM  
 83) YTRANISTRX TRANSIENT WITH ISOLATION INITIATOR  
 HISTINJECT INDEPENDENT FAILURES OF HPCS SYSTEM  
 FFWCCORTRM C MDRFP TRAIN OUT FOR CORRECTIVE MAINT  
 G1STADSHDW ADS SYSTEM HARDWARE FAILURES  
 I1STCOOLNG FAILURE OF COOLING SUPPORT FOR THE RCIC PUMP  
 B1STHPINJR OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM  
 84) YTRANISTRX TRANSIENT WITH ISOLATION INITIATOR  
 HISTINJECT INDEPENDENT FAILURES OF HPCS SYSTEM  
 Y1RIPRORRC FRAC OF CONT ISOS THAT RESULT IN LOSS OF RI  
 DCUPS1ASHV OPERATOR MISPOSITIONS UPS1A BYPASS SWITCH  
 DISTUPSX1A FAILURE OF UPS INVERTER 1A  
 G1STADSHDW ADS SYSTEM HARDWARE FAILURES  
 B1STHPINJR OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM  
 85) YTRANISTRX TRANSIENT WITH ISOLATION INITIATOR  
 HPSYS2SYM HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE  
 I1STBYPASS FEEDWATER SYSTEM VALVE FAILURES CAUSING BYPASS TO CONDENSER  
 I1STINJECT INDEPENDENT FAILURES OF RCIC SYSTEM  
 GADSMANSYW OPERATOR FAILS TO MANUALLY INITIATE ADS  
 B1STRINJR OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM  
 86) YTRANISTRX TRANSIENT WITH ISOLATION INITIATOR  
 HPSYS2SYM HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE  
 ARCV1MSWH Operator Fails to Prevent/Recover Bus 1M Shunt Trip  
 AL2TRANRX Other Events that Could Result in Reactor Level 2 or Lower  
 I1STINJECT INDEPENDENT FAILURES OF RCIC SYSTEM  
 G1STADSHDW ADS SYSTEM HARDWARE FAILURES  
 B1STRINJR OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM  
 87) YTRANISTRX TRANSIENT WITH ISOLATION INITIATOR  
 P3MAINTLGH HPCS FAILURE TO PROPERLY RESTORE FROM MAINT  
 FFWCCORTRM C MDRFP TRAIN OUT FOR CORRECTIVE MAINT  
 I1STINJECT INDEPENDENT FAILURES OF RCIC SYSTEM  
 GADSMANSYW OPERATOR FAILS TO MANUALLY INITIATE ADS  
 B1STRINJR OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM  
 88) YTRANISTRX TRANSIENT WITH ISOLATION INITIATOR  
 HPXN0205SH MISCALIBRATION OF HPCS FLOW TRANSMITTER  
 FFWCCORTRM C MDRFP TRAIN OUT FOR CORRECTIVE MAINT  
 I1STINJECT INDEPENDENT FAILURES OF RCIC SYSTEM  
 GADSMANSYW OPERATOR FAILS TO MANUALLY INITIATE ADS  
 B1STRINJR OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM  
 89) YTRANISTRX TRANSIENT WITH ISOLATION INITIATOR  
 HPSYS1SYM HP SYSTEM DOWN FOR PREVENTIVE MAINTENANCE  
 ARCV1MSWH Operator Fails to Prevent/Recover Bus 1M Shunt Trip  
 AL2TRANRX Other Events that Could Result in Reactor Level 2 or Lower  
 I1STINJECT INDEPENDENT FAILURES OF RCIC SYSTEM

1E-6

0.060000	6.00E-09
0.030000	3.00E-09
0.010000	1.00E-09
0.005000	5.00E-10
0.002500	2.50E-10
0.001250	1.25E-10
0.000625	6.25E-11
0.0003125	3.125E-11
0.00015625	1.5625E-11
0.000078125	7.8125E-12
0.0000390625	3.90625E-12
0.00001953125	1.953125E-12
0.000009765625	9.765625E-13
0.0000048828125	4.8828125E-13
0.00000244140625	2.44140625E-13
0.000001220703125	1.220703125E-13
0.0000006103515625	6.103515625E-14
0.00000030517578125	3.0517578125E-14
0.000000152587890625	1.52587890625E-14
0.0000000762939453125	7.62939453125E-15
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0.00000000476837158203125	4.76837158203125E-16
0.000000002384185791015625	2.384185791015625E-16
0.0000000011920928955078125	1.1920928955078125E-16
0.0000000059604644775390625	5.9604644775390625E-17
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0.000000000000000000000000323117426729887500026805468750001012033420138888888888888968750390625	3.23117426729887500026805468750001012033420138888888888888968750390625E-36
0.000000000000000000000000161558713364943750001340273437500005060167100694444444444444437501953125	1.61558713364943750001340273437500005060167100694444444444444437501953125E-36
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0.00000000000000000000000000252435489632743375000002094177246093750000790651109470138888888888888968750390625	2.52435489632743375000002094177246093750000790651109470138888888888888968750390625E-38
0.00000000000000000000000000126217744816371687500000104708862304687500003953255547350694444444444444437501953125	1.262177448163716875000001047088623046875000039







119)	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	7.18E-01	7.18E-01	3.99E-09
	YTRANISTRX	TRANSIENT WITH ISOLATION INITIATOR	7.70E-02	7.70E-02	
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM	7.00E-02	7.00E-02	
	FFWCCORTRM	C MDRFP TRAIN OUT FOR CORRECTIVE MAINT	7.06E-02	7.06E-02	
	G1STADSHDW	ADS SYSTEM HARDWARE FAILURES	7.63E-04	7.63E-04	
	PR1MAINLGH	RCIC FAILURE TO PROPERLY RESTORE FROM MAINT	7.00E-04	7.00E-04	
120)	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	7.18E-01	7.18E-01	3.99E-09
	YTRANISTRX	TRANSIENT WITH ISOLATION INITIATOR	7.70E-02	7.70E-02	
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM	7.00E-02	7.00E-02	
	FFWCCORTRM	C MDRFP TRAIN OUT FOR CORRECTIVE MAINT	7.06E-02	7.06E-02	
	G1STADSHDW	ADS SYSTEM HARDWARE FAILURES	7.63E-04	7.63E-04	
	IR1SYSTSYH	RCIC IMPROPERLY RESTORED FROM MAINTENANCE	7.00E-04	7.00E-04	
121)	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	7.18E-01	7.18E-01	3.99E-09
	YTRANISTRX	TRANSIENT WITH ISOLATION INITIATOR	7.70E-02	7.70E-02	
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM	7.00E-02	7.00E-02	
	FFWCCORTRM	C MDRFP TRAIN OUT FOR CORRECTIVE MAINT	7.06E-02	7.06E-02	
	G1STADSHDW	ADS SYSTEM HARDWARE FAILURES	7.63E-04	7.63E-04	
	IR1F019MVO	MIN FLOW VLV FAILS TO OPEN	7.00E-04	7.00E-04	
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	3.0E-3	3.0E-3	
122)	YTRANISTRX	TRANSIENT WITH ISOLATION INITIATOR	7.18E-01	7.18E-01	3.99E-09
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM	7.00E-02	7.00E-02	
	FFWCCORTRM	C MDRFP TRAIN OUT FOR CORRECTIVE MAINT	7.06E-02	7.06E-02	
	G1STADSHDW	ADS SYSTEM HARDWARE FAILURES	7.63E-04	7.63E-04	
	IR1F013MVO	MOV F013 FAILS TO OPEN	7.00E-04	7.00E-04	
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	3.0E-3	3.0E-3	
123)	YTRANISTRX	TRANSIENT WITH ISOLATION INITIATOR	7.18E-01	7.18E-01	3.84E-09
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM	7.00E-02	7.00E-02	
	FFWCCORTRM	C MDRFP TRAIN OUT FOR CORRECTIVE MAINT	7.06E-02	7.06E-02	
	GADSMANSYH	OPERATOR FAILS TO MANUALLY INITIATE ADS	7.00E-05	7.00E-05	
	P12RCICLGH	RCIC COMPONENTS DOWN FOR MAINTENANCE	7.00E-10	7.00E-10	
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	7.18E-01	7.18E-01	
124)	YTRANISTRX	TRANSIENT WITH ISOLATION INITIATOR	7.70E-02	7.70E-02	3.79E-09
	D67S1CCBCD	CHARGERS 6 7 AND E22 FAIL FROM COMMON CAUSE	7.00E-20	7.00E-20	
	ARCVR1MSWH	Operator Fails to Prevent/Recover Bus 1M Shunt Trip	7.00E-10	7.00E-10	
	AL2TRANTRX	Other Events That Could Result in Reactor Level 2 or Lower	7.02E-00	7.02E-00	
125)	YTRANISTRX	TRANSIENT WITH ISOLATION INITIATOR	7.70E-02	7.70E-02	3.75E-09
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM	7.00E-02	7.00E-02	
	DC1S1ASWH	OPERATOR MISPOSITIONS C715001A BYPASS SWITCH	7.00E-10	7.00E-10	
	DC1S1ASSO	STATIC XFER SWITCH C715001A FAILS OPEN	7.00E-10	7.00E-10	
	GADSMANSYH	OPERATOR FAILS TO MANUALLY INITIATE ADS	7.00E-05	7.00E-05	
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	7.18E-01	7.18E-01	
126)	F1STRESTRB	HRA DEPENDENT FAILURE TO RESTORE TRIPPED FEEDWATER SYSTEM	7.4E-01	7.4E-01	3.73E-09
	YTRANISTRX	TRANSIENT WITH ISOLATION INITIATOR	7.70E-02	7.70E-02	
	HPSYS1SYM	HP SYSTEM DOWN FOR PREVENTIVE MAINTENANCE	7.00E-10	7.00E-10	
	F1STBYPASS	FEEDWATER SYSTEM VALVE FAILURES CAUSING BYPASS TO CONDENSER	7.40E-03	7.40E-03	
	H1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM	7.46E-02	7.46E-02	
	G1STADSHDW	ADS SYSTEM HARDWARE FAILURES	7.63E-04	7.63E-04	
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM	7.6E-01	7.6E-01	
127)	YTRANISTRX	TRANSIENT WITH ISOLATION INITIATOR	7.70E-02	7.70E-02	3.65E-09
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM	7.00E-02	7.00E-02	
	ARCVR1MSWH	Operator Fails to Prevent/Recover Bus 1M Shunt Trip	7.00E-10	7.00E-10	
	AL2TRANTRX	Other Events That Could Result in Reactor Level 2 or Lower	7.02E-00	7.02E-00	
	G1STADSHDW	ADS SYSTEM HARDWARE FAILURES	7.63E-04	7.63E-04	
	I1STCOOLNG	FAILURE OF COOLING SUPPORT FOR THE RCIC PUMP	7.68E-03	7.68E-03	
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	7.18E-01	7.18E-01	
128)	YTRANISTRX	TRANSIENT WITH ISOLATION INITIATOR	7.70E-02	7.70E-02	3.62E-09
	HPSYS1SYM	HP SYSTEM DOWN FOR PREVENTIVE MAINTENANCE	7.00E-10	7.00E-10	
	GADSMANSYH	OPERATOR FAILS TO MANUALLY INITIATE ADS	7.00E-05	7.00E-05	
	I1STCOOLNG	FAILURE OF COOLING SUPPORT FOR THE RCIC PUMP	7.68E-03	7.68E-03	
	F1STRESTRB	HRA DEPENDENT FAILURE TO RESTORE TRIPPED FEEDWATER SYSTEM	7.2E-01	7.2E-01	
129)	YTRANISTRX	TRANSIENT WITH ISOLATION INITIATOR	7.70E-02	7.70E-02	3.61E-09
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM	7.00E-02	7.00E-02	
	FFWCCORTRM	C MDRFP TRAIN OUT FOR CORRECTIVE MAINT	7.06E-02	7.06E-02	
	H1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM	7.46E-02	7.46E-02	
	I1ST-115		7.68E-03	7.68E-03	
	I1ST-116		7.68E-03	7.68E-03	
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM	7.6E-01	7.6E-01	
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	7.18E-01	7.18E-01	
130)	YTRANISTRX	TRANSIENT WITH ISOLATION INITIATOR	7.70E-02	7.70E-02	3.47E-09
	D67S1CCBCD	CHARGERS 6 7 E22 AND 8 FAIL FROM COMMON CAUSE	7.00E-20	7.00E-20	
	F1STMTRDRV	UNAVAILABILITY OR FAILURE OF MOTOR DRIVEN FEED PUMP	7.54E-03	7.54E-03	
131)	YTRANISTRX	TRANSIENT WITH ISOLATION INITIATOR	7.70E-02	7.70E-02	3.46E-09
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM	7.00E-02	7.00E-02	
	F1STBYPASS	FEEDWATER SYSTEM VALVE FAILURES CAUSING BYPASS TO CONDENSER	7.40E-03	7.40E-03	
	IR1SYSS2SYM	RCIC DOWN FOR PREVENTIVE MAINTENANCE	7.00E-05	7.00E-05	
	G1STADSHDW	ADS SYSTEM HARDWARE FAILURES	7.63E-04	7.63E-04	
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	7.18E-01	7.18E-01	
132)	YTRANISTRX	TRANSIENT WITH ISOLATION INITIATOR	7.70E-02	7.70E-02	3.37E-09
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM	7.00E-02	7.00E-02	
	F1STBYPASS	FEEDWATER SYSTEM VALVE FAILURES CAUSING BYPASS TO CONDENSER	7.40E-03	7.40E-03	
	GADSMANSYH	OPERATOR FAILS TO MANUALLY INITIATE ADS	7.00E-05	7.00E-05	
	IR1SYSS1SYM	RCIC DOWN FOR CORRECTIVE MAINTENANCE	7.00E-05	7.00E-05	
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	7.18E-01	7.18E-01	
133)	YTRANISTRX	TRANSIENT WITH ISOLATION INITIATOR	7.70E-02	7.70E-02	3.21E-09
	P3LOGICLGH	HPCS COMPONENTS DOWN FOR MAINTENANCE	7.00E-21	7.00E-21	
	FFWCCORTRM	C MDRFP TRAIN OUT FOR CORRECTIVE MAINT	7.06E-02	7.06E-02	
	H1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM	7.46E-02	7.46E-02	
	G1STADSHDW	ADS SYSTEM HARDWARE FAILURES	7.63E-04	7.63E-04	
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM	7.6E-01	7.6E-01	
134)	YTRANISTRX	TRANSIENT WITH ISOLATION INITIATOR	7.70E-02	7.70E-02	3.18E-09

ID	Event Description	Frequency	Value 1	Value 2	Value 3
135)	135) 067S8CCBCD CHARGERS 6 7 E22 AND 8 FAIL FROM COMMON CAUSE YTRANSTRX TRANSIENT WITH ISOLATION INITIATOR	1E-6	6.00E-03	6.00E-03	3.18E-09
136)	136) 067S8CCBCD CHARGERS 6 7 E22 AND 8 FAIL FROM COMMON CAUSE YTRANSTRX TRANSIENT WITH ISOLATION INITIATOR A1STATXFR TRANSFER OF NON-SAFETY BUSES FROM UAT TO RAT FAILS	1E-6	6.00E-03	6.00E-03	3.18E-09
137)	137) 067S8CCBCD CHARGERS 6 7 E22 AND 8 FAIL FROM COMMON CAUSE YTRANSTRX TRANSIENT WITH ISOLATION INITIATOR	1E-6	6.00E-03	6.00E-03	3.13E-09
138)	138) 067S8CCBCD CHARGERS 6 7 AND E22 FAIL FROM COMMON CAUSE F1STBYPASS FEEDWATER SYSTEM VALVE FAILURES CAUSING BYPASS TO CONDENSER YTRANSTRX TRANSIENT WITH ISOLATION INITIATOR H1STINJECT INDEPENDENT FAILURES OF HPCS SYSTEM I1STINJECT INDEPENDENT FAILURES OF HPCS SYSTEM DCUPS1ASWH OPERATOR MISPOSITIONS UP (A BYPASS SWITCH) D1STADSHDW ADS SYSTEM HARDWARE FAILURES G1STADSHDW ADS SYSTEM HARDWARE FAILURES B1STHPINJR OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM B1STHPINJR OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM YTRANSTRX TRANSIENT WITH ISOLATION INITIATOR HPSYS2SYM HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE FFW01PCSYH C MDRFP TRAIN PROP REST FROM MAINT I1STINJECT INDEPENDENT FAILURES OF RCIC SYSTEM GADSMANSYW OPERATOR FAILS TO MANUALLY INITIATE ADS B1STRINJR OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM	1E-6	7.00E-02	7.00E-02	3.11E-09
139)	139) YTRANSTRX TRANSIENT WITH ISOLATION INITIATOR HPSYS2SYM HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE FFW01PCSYH C MDRFP TRAIN PROP REST FROM MAINT I1STINJECT INDEPENDENT FAILURES OF RCIC SYSTEM GADSMANSYW OPERATOR FAILS TO MANUALLY INITIATE ADS B1STRINJR OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM YTRANSTRX TRANSIENT WITH ISOLATION INITIATOR P3MAINTLGH HPCS FAILURE TO PROPERLY RESTORE FROM MAINT ARCVR1MSWH Operator Fails to Prevent/Recover Bus 1M Shunt Trip AL2TRANTRX Other Events That Could Result in Reactor Level 2 or Lower I1STINJECT INDEPENDENT FAILURES OF RCIC SYSTEM GADSMANSYW OPERATOR FAILS TO MANUALLY INITIATE ADS B1STRINJR OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM	1E-6	7.00E-02	7.00E-02	3.09E-09
140)	140) YTRANSTRX TRANSIENT WITH ISOLATION INITIATOR P3MAINTLGH HPCS FAILURE TO PROPERLY RESTORE FROM MAINT ARCVR1MSWH Operator Fails to Prevent/Recover Bus 1M Shunt Trip AL2TRANTRX Other Events That Could Result in Reactor Level 2 or Lower I1STINJECT INDEPENDENT FAILURES OF RCIC SYSTEM GADSMANSYW OPERATOR FAILS TO MANUALLY INITIATE ADS B1STRINJR OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM	1E-6	7.00E-02	7.00E-02	3.05E-09
141)	141) YTRANSTRX TRANSIENT WITH ISOLATION INITIATOR HPXND5FSH MISCALIBRATION OF HPCS LOW TRANSMITTER ARCVR1MSWH Operator Fails to Prevent/Recover Bus 1M Shunt Trip AL2TRANTRX Other Events That Could Result in Reactor Level 2 or Lower I1STINJECT INDEPENDENT FAILURES OF RCIC SYSTEM GADSMANSYW OPERATOR FAILS TO MANUALLY INITIATE ADS B1STRINJR OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM	1E-6	7.00E-02	7.00E-02	3.05E-09
142)	142) YTRANSTRX TRANSIENT WITH ISOLATION INITIATOR H1STINJECT INDEPENDENT FAILURES OF HPCS SYSTEM F1STBYPASS FEEDWATER SYSTEM VALVE FAILURES CAUSING BYPASS TO CONDENSER G1STADSHDW ADS SYSTEM HARDWARE FAILURES I1STCOOLNG FAILURE OF COOLING SUPPORT FOR THE RCIC PUMP B1STHPINJR OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM YTRANSTRX TRANSIENT WITH ISOLATION INITIATOR H1STINJECT INDEPENDENT FAILURES OF HPCS SYSTEM ARCVR1MSWH Operator Fails to Prevent/Recover Bus 1M Shunt Trip AL2TRANTRX Other Events That Could Result in Reactor Level 2 or Lower G1STADSHDW ADS SYSTEM HARDWARE FAILURES I1SYS1SYM RCIC DOWN FOR CORRECTIVE MAINTENANCE B1STHPINJR OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	1E-6	7.00E-02	7.00E-02	3.02E-09
143)	143) YTRANSTRX TRANSIENT WITH ISOLATION INITIATOR H1STINJECT INDEPENDENT FAILURES OF HPCS SYSTEM ARCVR1MSWH Operator Fails to Prevent/Recover Bus 1M Shunt Trip AL2TRANTRX Other Events That Could Result in Reactor Level 2 or Lower G1STADSHDW ADS SYSTEM HARDWARE FAILURES I1SYS1SYM RCIC DOWN FOR CORRECTIVE MAINTENANCE B1STHPINJR OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM YTRANSTRX TRANSIENT WITH ISOLATION INITIATOR HPSYS1SYM HP SYSTEM DOWN FOR PREVENTIVE MAINTENANCE GADSMANSYW OPERATOR FAILS TO MANUALLY INITIATE ADS I1SYS1SYM RCIC DOWN FOR CORRECTIVE MAINTENANCE F1STR1STRB HRA DEPENDENT FAILURE TO RESTORE TRIPPED FEEDWATER SYSTEM	1E-6	7.00E-02	7.00E-02	2.96E-09
144)	144) YTRANSTRX TRANSIENT WITH ISOLATION INITIATOR HPSYS1SYM HP SYSTEM DOWN FOR PREVENTIVE MAINTENANCE GADSMANSYW OPERATOR FAILS TO MANUALLY INITIATE ADS I1SYS1SYM RCIC DOWN FOR CORRECTIVE MAINTENANCE F1STR1STRB HRA DEPENDENT FAILURE TO RESTORE TRIPPED FEEDWATER SYSTEM YTRANSTRX TRANSIENT WITH ISOLATION INITIATOR HPSYS2SYM HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE FFW01PCSYH C MDRFP TRAIN OUT FOR CORRECTIVE MAINT I1SYS2SYM RCIC DOWN FOR PREVENTIVE MAINTENANCE GADSMANSYW OPERATOR FAILS TO MANUALLY INITIATE ADS	1E-6	7.00E-02	7.00E-02	2.93E-09
145)	145) YTRANSTRX TRANSIENT WITH ISOLATION INITIATOR HPSYS2SYM HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE FFW01PCSYH C MDRFP TRAIN OUT FOR CORRECTIVE MAINT I1SYS2SYM RCIC DOWN FOR PREVENTIVE MAINTENANCE GADSMANSYW OPERATOR FAILS TO MANUALLY INITIATE ADS YTRANSTRX TRANSIENT WITH ISOLATION INITIATOR H1STINJECT INDEPENDENT FAILURES OF HPCS SYSTEM FFW01PCSYH C MDRFP TRAIN OUT FOR CORRECTIVE MAINT G1STADSHDW ADS SYSTEM HARDWARE FAILURES I1RCIC1CM RCIC COMPONENTS DOWN FOR MAINTENANCE B1STHPINJR OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	1E-6	7.00E-02	7.00E-02	2.79E-09
146)	146) YTRANSTRX TRANSIENT WITH ISOLATION INITIATOR HPSYS2SYM HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE GADSMANSYW OPERATOR FAILS TO MANUALLY INITIATE ADS I1RCIC1CM RCIC COMPONENTS DOWN FOR MAINTENANCE B1STHPINJR OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM YTRANSTRX TRANSIENT WITH ISOLATION INITIATOR HPSYS2SYM HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE GADSMANSYW OPERATOR FAILS TO MANUALLY INITIATE ADS PR1MAINLGH RCIC FAILURE TO PROPERLY RESTORE FROM MAINT F1STR1STRB HRA DEPENDENT FAILURE TO RESTORE TRIPPED FEEDWATER SYSTEM	1E-6	7.00E-02	7.00E-02	2.76E-09
147)	147) YTRANSTRX TRANSIENT WITH ISOLATION INITIATOR HPSYS2SYM HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE GADSMANSYW OPERATOR FAILS TO MANUALLY INITIATE ADS PR1MAINLGH RCIC FAILURE TO PROPERLY RESTORE FROM MAINT F1STR1STRB HRA DEPENDENT FAILURE TO RESTORE TRIPPED FEEDWATER SYSTEM YTRANSTRX TRANSIENT WITH ISOLATION INITIATOR HPSYS2SYM HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE GADSMANSYW OPERATOR FAILS TO MANUALLY INITIATE ADS I1RCIC1CM RCIC COMPONENTS DOWN FOR MAINTENANCE B1STHPINJR OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	1E-6	7.00E-02	7.00E-02	2.76E-09
148)	148) YTRANSTRX TRANSIENT WITH ISOLATION INITIATOR HPSYS2SYM HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE GADSMANSYW OPERATOR FAILS TO MANUALLY INITIATE ADS I1RCIC1CM RCIC COMPONENTS DOWN FOR MAINTENANCE B1STHPINJR OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM YTRANSTRX TRANSIENT WITH ISOLATION INITIATOR HPSYS2SYM HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE GADSMANSYW OPERATOR FAILS TO MANUALLY INITIATE ADS PR1MAINLGH RCIC FAILURE TO PROPERLY RESTORE FROM MAINT F1STR1STRB HRA DEPENDENT FAILURE TO RESTORE TRIPPED FEEDWATER SYSTEM YTRANSTRX TRANSIENT WITH ISOLATION INITIATOR HPSYS2SYM HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE GADSMANSYW OPERATOR FAILS TO MANUALLY INITIATE ADS I1RCIC1CM RCIC COMPONENTS DOWN FOR MAINTENANCE B1STHPINJR OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	3.0E-3	7.00E-02	7.00E-02	2.76E-09
149)	149) YTRANSTRX TRANSIENT WITH ISOLATION INITIATOR HPSYS2SYM HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE GADSMANSYW OPERATOR FAILS TO MANUALLY INITIATE ADS I1RCIC1CM RCIC COMPONENTS DOWN FOR MAINTENANCE B1STHPINJR OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM YTRANSTRX TRANSIENT WITH ISOLATION INITIATOR HPSYS2SYM HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE GADSMANSYW OPERATOR FAILS TO MANUALLY INITIATE ADS PR1MAINLGH RCIC FAILURE TO PROPERLY RESTORE FROM MAINT F1STR1STRB HRA DEPENDENT FAILURE TO RESTORE TRIPPED FEEDWATER SYSTEM YTRANSTRX TRANSIENT WITH ISOLATION INITIATOR HPSYS2SYM HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE GADSMANSYW OPERATOR FAILS TO MANUALLY INITIATE ADS I1RCIC1CM RCIC COMPONENTS DOWN FOR MAINTENANCE B1STHPINJR OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	3.0E-3	7.00E-02	7.00E-02	2.76E-09
150)	150) YTRANSTRX TRANSIENT WITH ISOLATION INITIATOR HPSYS2SYM HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE GADSMANSYW OPERATOR FAILS TO MANUALLY INITIATE ADS I1RCIC1CM RCIC COMPONENTS DOWN FOR MAINTENANCE B1STHPINJR OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM YTRANSTRX TRANSIENT WITH ISOLATION INITIATOR HPSYS2SYM HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE GADSMANSYW OPERATOR FAILS TO MANUALLY INITIATE ADS PR1MAINLGH RCIC FAILURE TO PROPERLY RESTORE FROM MAINT F1STR1STRB HRA DEPENDENT FAILURE TO RESTORE TRIPPED FEEDWATER SYSTEM YTRANSTRX TRANSIENT WITH ISOLATION INITIATOR HPSYS2SYM HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE GADSMANSYW OPERATOR FAILS TO MANUALLY INITIATE ADS I1RCIC1CM RCIC COMPONENTS DOWN FOR MAINTENANCE B1STHPINJR OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM	3.0E-3	7.00E-02	7.00E-02	2.76E-09
151)	151) YTRANSTRX TRANSIENT WITH ISOLATION INITIATOR H1STINJECT INDEPENDENT FAILURES OF HPCS SYSTEM	3.0E-3	7.00E-02	7.00E-02	2.65E-09







	G1STADSHDW	ADS SYSTEM HARDWARE FAILURES		3.6E-04	6.3E-04
	PR1MAINLGH	RCIC FAILURE TO PROPERLY RESTORE FROM MAINT		0.03000	0.00000
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		1.8E-01	1.8E-01
181)	YTRANISTRX	TRANSIENT WITH ISOLATION INITIATOR		7.7E-02	7.0E+00
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM		0.0E-02	0.0E+00
	ARCVR1MSWH	Operator Fails to Prevent/Recover Bus 1M Shunt Trip		0.00000	0.0E+00
	AL2TRANTRX	Other Events That Could Result in Reactor Level 2 or Lower		0.29000	0.0E+00
	G1STADSHDW	ADS SYSTEM HARDWARE FAILURES		6.3E-04	6.3E-04
	TR1SYSTSYH	RCIC IMPROPERLY RESTORED FROM MAINTENANCE		0.03000	0.00000
182)	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		1.8E-01	1.8E-01
	YTRANISTRX	TRANSIENT WITH ISOLATION INITIATOR		7.7E-02	7.0E+00
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM		0.0E-02	0.0E+00
	ARCVR1MSWH	Operator Fails to Prevent/Recover Bus 1M Shunt Trip		0.00000	0.0E+00
	AL2TRANTRX	Other Events That Could Result in Reactor Level 2 or Lower		0.29000	0.0E+00
	G1STADSHDW	ADS SYSTEM HARDWARE FAILURES		6.3E-04	6.3E-04
	TR1F013MVO	MIN FLOW VLV FAILS TO OPEN	3.0E-3	0.00000	0.00000
183)	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		1.8E-01	1.8E-01
	YTRANISTRX	TRANSIENT WITH ISOLATION INITIATOR		7.7E-02	7.0E+00
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM		0.0E-02	0.0E+00
	ARCVR1MSWH	Operator Fails to Prevent/Recover Bus 1M Shunt Trip		0.00000	0.0E+00
	AL2TRANTRX	Other Events That Could Result in Reactor Level 2 or Lower		0.29000	0.0E+00
	G1STADSHDW	ADS SYSTEM HARDWARE FAILURES		6.3E-04	6.3E-04
	TR1F013MVO	MOV F013 FAILS TO OPEN	3.0E-3	0.00000	0.00000
184)	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		1.8E-01	1.8E-01
	YTRANISTRX	TRANSIENT WITH ISOLATION INITIATOR		7.7E-02	7.0E+00
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM		0.0E-02	0.0E+00
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		4.6E-02	4.6E-02
	I1ST-56			1.0E-03	1.0E-03
	G1STADSHDW	ADS SYSTEM HARDWARE FAILURES		6.3E-04	6.3E-04
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		2.5E-01	2.5E-01
185)	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		1.8E-01	1.8E-01
	YTRANISTRX	TRANSIENT WITH ISOLATION INITIATOR		7.7E-02	7.0E+00
	HPSYST1SYM	HP SYSTEM DOWN FOR PREVENTIVE MAINTENANCE		0.06100	0.1E+00
	GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS		0.00500	0.0E+00
	PR1MAINLGH	RCIC FAILURE TO PROPERLY RESTORE FROM MAINT		0.03000	0.00000
186)	F1STRESTRB	HRA DEPENDENT FAILURE TO RESTORE TRIPPED FEEDWATER SYSTEM		2.3E-01	2.3E-01
	YTRANISTRX	TRANSIENT WITH ISOLATION INITIATOR		7.7E-02	7.0E+00
	HPSYST1SYM	HP SYSTEM DOWN FOR PREVENTIVE MAINTENANCE		0.06100	0.1E+00
	GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS		0.00500	0.0E+00
	TR1F013MVO	MIN FLOW VLV FAILS TO OPEN	3.0E-3	0.00000	0.00000
187)	F1STRESTRB	HRA DEPENDENT FAILURE TO RESTORE TRIPPED FEEDWATER SYSTEM		2.3E-01	2.3E-01
	YTRANISTRX	TRANSIENT WITH ISOLATION INITIATOR		7.7E-02	7.0E+00
	HPSYST1SYM	HP SYSTEM DOWN FOR PREVENTIVE MAINTENANCE		0.06100	0.1E+00
	GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS		0.00500	0.0E+00
	TR1SYSTSYH	RCIC IMPROPERLY RESTORED FROM MAINTENANCE		0.03000	0.00000
188)	F1STRESTRB	HRA DEPENDENT FAILURE TO RESTORE TRIPPED FEEDWATER SYSTEM		2.3E-01	2.3E-01
	YTRANISTRX	TRANSIENT WITH ISOLATION INITIATOR		7.7E-02	7.0E+00
	HPSYST1SYM	HP SYSTEM DOWN FOR PREVENTIVE MAINTENANCE		0.06100	0.1E+00
	GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS		0.00500	0.0E+00
	TR1F013MVO	MOV F013 FAILS TO OPEN	3.0E-3	0.00000	0.00000
189)	F1STRESTRB	HRA DEPENDENT FAILURE TO RESTORE TRIPPED FEEDWATER SYSTEM		2.3E-01	2.3E-01
	YTRANISTRX	TRANSIENT WITH ISOLATION INITIATOR		7.7E-02	7.0E+00
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM		0.0E-02	0.0E+00
	ARCVR1MSWH	Operator Fails to Prevent/Recover Bus 1M Shunt Trip		0.00000	0.0E+00
	AL2TRANTRX	Other Events That Could Result in Reactor Level 2 or Lower		0.29000	0.0E+00
	GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS		0.00500	0.0E+00
	P12RCICLGM	RCIC COMPONENTS DOWN FOR MAINTENANCE		0.02100	0.1E+00
190)	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		1.8E-01	1.8E-01
	YTRANISTRX	TRANSIENT WITH ISOLATION INITIATOR		7.7E-02	7.0E+00
	I1ST-65			0.0E-03	0.0E+00
	HPSYST2SYM	HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE		0.08800	0.0E+00
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		4.6E-02	4.6E-02
	GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS		0.00500	0.0E+00
191)	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		2.5E-01	2.5E-01
	YTRANISTRX	TRANSIENT WITH ISOLATION INITIATOR		7.7E-02	7.0E+00
	I1ST-131			0.0E-03	0.0E+00
	HPSYST2SYM	HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE		0.08800	0.0E+00
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		4.6E-02	4.6E-02
	GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS		0.00500	0.0E+00
192)	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		2.5E-01	2.5E-01
	YTRANISTRX	TRANSIENT WITH ISOLATION INITIATOR		7.7E-02	7.0E+00
	A1STUATXFR	TRANSFER OF NON-SAFETY BUSES FROM UAT TO RAT FAILS		0.0E-03	0.0E+00
	HPSYST2SYM	HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE		0.08800	0.0E+00
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		4.6E-02	4.6E-02
	GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS		0.00500	0.0E+00
193)	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		2.5E-01	2.5E-01
	YTRANISTRX	TRANSIENT WITH ISOLATION INITIATOR		7.7E-02	7.0E+00
	HPSYST2SYM	HP SYSTEM DOWN FOR CORRECTIVE MAINTENANCE		0.08800	0.0E+00
	FFWCORTRM	C MDRFP TRAIN OUT FOR CORRECTIVE MAINT		0.00000	0.0E+00
	G1STADSHDW	ADS SYSTEM HARDWARE FAILURES		6.3E-04	6.3E-04
	I1STCOOLING	FAILURE OF COOLING SUPPORT FOR THE RCIC PUMP		6.8E-03	6.8E-03
194)	YTRANISTRX	TRANSIENT WITH ISOLATION INITIATOR		7.7E-02	7.0E+00
	P3MAINTLGH	HPCS FAILURE TO PROPERLY RESTORE FROM MAINT		0.03000	0.0E+00
	I1STBYPASS	FEEDWATER SYSTEM VALVE FAILURES CAUSING BYPASS TO CONDENSER		4.0E-02	4.0E-02
	H1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		4.6E-02	4.6E-02
	G1STADSHDW	ADS SYSTEM HARDWARE FAILURES		6.3E-04	6.3E-04
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		2.5E-01	2.5E-01
195)	YTRANISTRX	TRANSIENT WITH ISOLATION INITIATOR		7.7E-02	7.0E+00
	HPXN056FSH	MISCALIBRATION OF HPCS FLOW TRANSMITTER		0.00300	0.0E+00
	F1STBYPASS	FEEDWATER SYSTEM VALVE FAILURES CAUSING BYPASS TO CONDENSER		4.0E-02	4.0E-02

	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		4.4E-02	4.4E-02
	G1STADSHDW	ADS SYSTEM HARDWARE FAILURES		2.6E-04	2.6E-04
196)	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		2.6E-01	2.6E-01
	Y1RAN1STRX	TRANSIENT WITH ISOLATION INITIATOR		7.0E-02	7.0E-02
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM		0.0E-02	0.0E-02
	FWCCORTRM	C MDRFP TRAIN OUT FOR CORRECTIVE MAINT		0.060000	0.060000
	DC71S1ASWH	OPERATOR MISPOSITIONS C71S001A BYPASS SWITCH		0.000000	0.000000
	DC71S1ASSO	STATIC XFER SWITCH C71S001A FAILS OPEN	1E-3	0.000000	0.000000
	GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS		0.000500	0.000500
197)	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		1.8E-01	1.8E-01
	Y1RAN1STRX	TRANSIENT WITH ISOLATION INITIATOR		7.0E-02	7.0E-02
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM		0.0E-02	0.0E-02
	F1CD059AVC	SJAE MIN FLOW TO COND VALVE 1CD039 FAILS TO CLOSE	2E-3	0.000000	0.000000
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		4.4E-02	4.4E-02
	G1STADSHDW	ADS SYSTEM HARDWARE FAILURES		2.6E-04	2.6E-04
	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		2.6E-01	2.6E-01
198)	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		1.8E-01	1.8E-01
	Y1RAN1STRX	TRANSIENT WITH ISOLATION INITIATOR		7.0E-02	7.0E-02
	D67S8CCBCD	CHARGERS 6 7 E22 AND 8 FAIL FROM COMMON CAUSE	1E-6	0.013000	0.013000
	DCUPSTASWH	OPERATOR MISPOSITIONS UPS1A BYPASS SWITCH		0.000000	0.000000
	D1STUPSXTA	FAILURE OF UPS INVERTER 1A		4.0E-03	4.0E-03
199)	Y1RAN1STRX	TRANSIENT WITH ISOLATION INITIATOR		7.0E-02	7.0E-02
	P3MAINTLGH	HPCS FAILURE TO PROPERLY RESTORE FROM MAINT		0.003000	0.003000
	GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS		0.000500	0.000500
	I1STCOOLNG	FAILURE OF COOLING SUPPORT FOR THE RCIC PUMP		6.8E-03	6.8E-03
200)	F1STRESTRB	HRA DEPENDENT FAILURE TO RESTORE TRIPPED FEEDWATER SYSTEM		4.3E-01	4.3E-01
	Y1RAN1STRX	TRANSIENT WITH ISOLATION INITIATOR		7.0E-02	7.0E-02
	HPXN056FSH	MISCALIBRATION OF HPCS FLOW TRANSMITTER		0.003000	0.003000
	GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS		0.000500	0.000500
	I1STCOOLNG	FAILURE OF COOLING SUPPORT FOR THE RCIC PUMP		6.8E-03	6.8E-03
201)	F1STRESTRB	HRA DEPENDENT FAILURE TO RESTORE TRIPPED FEEDWATER SYSTEM		4.3E-01	4.3E-01
	Y1RAN1STRX	TRANSIENT WITH ISOLATION INITIATOR		7.0E-02	7.0E-02
	P3LOGICLGM	HPCS COMPONENTS DOWN FOR MAINTENANCE		0.002100	0.002100
	F1STBYPASS	FEEDWATER SYSTEM VALVE FAILURES CAUSING BYPASS TO CONDENSER		4.0E-02	4.0E-02
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		4.4E-02	4.4E-02
	GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS		0.000500	0.000500
202)	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		2.6E-01	2.6E-01
	Y1RAN1STRX	TRANSIENT WITH ISOLATION INITIATOR		7.0E-02	7.0E-02
	HPSYS1SYM	HP SYSTEM DOWN FOR PREVENTIVE MAINTENANCE		0.006100	0.006100
	FWCCORTRM	C MDRFP TRAIN OUT FOR CORRECTIVE MAINT		0.060000	0.060000
	GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS		0.000500	0.000500
203)	I1STCOOLNG	FAILURE OF COOLING SUPPORT FOR THE RCIC PUMP		6.8E-03	6.8E-03
	Y1RAN1STRX	TRANSIENT WITH ISOLATION INITIATOR		7.0E-02	7.0E-02
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM		0.0E-02	0.0E-02
	ARCVR1MSWH	Operator fails to Prevent/Recover Bus 1M Shunt Trip		0.000000	0.000000
	AL2RANTRX	Other Events That Could Result in Reactor Level 2 or Lower		0.020000	0.020000
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		4.4E-02	4.4E-02
	I1ST-115			6.8E-03	6.8E-03
	I1ST-116			6.8E-03	6.8E-03
204)	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		2.6E-01	2.6E-01
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		1.8E-01	1.8E-01
	Y1RAN1STRX	TRANSIENT WITH ISOLATION INITIATOR		7.0E-02	7.0E-02
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM		0.0E-02	0.0E-02
	FW01PCSYH	C MDRFP TRAIN IMPROP REST FROM MAINT		0.010000	0.010000
	GADSMANSYW	OPERATOR FAILS TO MANUALLY INITIATE ADS		0.000500	0.000500
205)	I1STCOOLNG	FAILURE OF COOLING SUPPORT FOR THE RCIC PUMP		6.8E-03	6.8E-03
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		1.8E-01	1.8E-01
	Y1RAN1STRX	TRANSIENT WITH ISOLATION INITIATOR		7.0E-02	7.0E-02
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM		0.0E-02	0.0E-02
	F1STBYPASS	FEEDWATER SYSTEM VALVE FAILURES CAUSING BYPASS TO CONDENSER		4.0E-02	4.0E-02
	G1STADSHDW	ADS SYSTEM HARDWARE FAILURES		2.6E-04	2.6E-04
206)	PR1MAINLGH	RCIC FAILURE TO PROPERLY RESTORE FROM MAINT		0.003000	0.003000
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		1.8E-01	1.8E-01
	Y1RAN1STRX	TRANSIENT WITH ISOLATION INITIATOR		7.0E-02	7.0E-02
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM		0.0E-02	0.0E-02
	F1STBYPASS	FEEDWATER SYSTEM VALVE FAILURES CAUSING BYPASS TO CONDENSER		4.0E-02	4.0E-02
	G1STADSHDW	ADS SYSTEM HARDWARE FAILURES		2.6E-04	2.6E-04
207)	IR1FO1SMVO	MOV F013 FAILS TO OPEN	3.0E-3	0.000000	0.000000
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		1.8E-01	1.8E-01
	Y1RAN1STRX	TRANSIENT WITH ISOLATION INITIATOR		7.0E-02	7.0E-02
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM		0.0E-02	0.0E-02
	F1STBYPASS	FEEDWATER SYSTEM VALVE FAILURES CAUSING BYPASS TO CONDENSER		4.0E-02	4.0E-02
	G1STADSHDW	ADS SYSTEM HARDWARE FAILURES		2.6E-04	2.6E-04
208)	IR1FO1SMVO	MIN FLOW VLV FAILS TO OPEN	3.0E-3	0.000000	0.000000
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		1.8E-01	1.8E-01
	Y1RAN1STRX	TRANSIENT WITH ISOLATION INITIATOR		7.0E-02	7.0E-02
	H1STINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM		0.0E-02	0.0E-02
	F1STBYPASS	FEEDWATER SYSTEM VALVE FAILURES CAUSING BYPASS TO CONDENSER		4.0E-02	4.0E-02
	G1STADSHDW	ADS SYSTEM HARDWARE FAILURES		2.6E-04	2.6E-04
209)	IR1SYS1SYH	RCIC IMPROPERLY RESTORED FROM MAINTENANCE		0.005000	0.005000
	B1STHPINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		1.8E-01	1.8E-01
	Y1RAN1STRX	TRANSIENT WITH ISOLATION INITIATOR		7.0E-02	7.0E-02
	HPSYS1SYM	HP SYSTEM DOWN FOR PREVENTIVE MAINTENANCE		0.006100	0.006100
	FW01PCSYH	C MDRFP TRAIN IMPROP REST FROM MAINT		0.010000	0.010000
	I1STINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		4.4E-02	4.4E-02
	G1STADSHDW	ADS SYSTEM HARDWARE FAILURES		2.6E-04	2.6E-04
210)	B1STR1INJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		2.6E-01	2.6E-01
	Y1RAN1STRX	TRANSIENT WITH ISOLATION INITIATOR		7.0E-02	7.0E-02
	P3LOGICLGM	HPCS COMPONENTS DOWN FOR MAINTENANCE		0.002100	0.002100
	ARCVR1MSWH	Operator Fails to Prevent/Recover Bus 1M Shunt Trip		0.000000	0.000000





	DC71S1ASSO	STATIC XFER SWITCH C71S001A FAILS OPEN	1E-3	1.00E-03	1.00E-03
	DC71S1ASSO	ADS SYSTEM HARDWARE FAILURES		1.00E-04	1.00E-04
225)	HISTINJECT	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		1.00E-01	1.00E-01
	HISTINJECT	TRANSIENT WITH ISOLATION INITIATOR		1.00E-03	1.33E-09
	HISTINJECT	FAILURE TO RESTART TRIPPED FEEDWATER SYSTEM		1.00E-03	1.33E-09
226)	DO/SBCCBCD	CHARGE S 6, 7, E22 AND 8 FAIL FROM COMMON CAUSE	1E-6	1.00E-06	1.30E-09
	YTRANISTRX	TRANSIENT WITH ISOLATION INITIATOR		1.00E-02	1.30E-09
	HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM		1.00E-02	1.30E-09
	HISTINJECT	RCIC DOWN FOR PREVENTIVE MAINTENANCE		1.00E-02	1.30E-09
	HISTINJECT	UNAVAILABILITY OR FAILURE OF MOTOR DRIVEN FEED PUMP		1.00E-03	1.30E-09
	GADSMANSYV	OPERATOR FAILS TO MANUALLY INITIATE ADS		1.00E-01	1.30E-09
227)	BTSTRINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		1.00E-01	1.26E-09
	HISTINJECT	TRANSIENT WITH ISOLATION INITIATOR		1.00E-02	1.26E-09
	HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM		1.00E-02	1.26E-09
	HISTINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		1.00E-02	1.26E-09
	HISTINJECT	C MDREFP TRAIN OUT FOR PREVENTATIVE MAINT		1.00E-01	1.26E-09
	GADSMANSYV	OPERATOR FAILS TO MANUALLY INITIATE ADS		1.00E-01	1.26E-09
228)	BTSTRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		1.00E-01	1.26E-09
	YTRANISTRX	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		1.00E-01	1.26E-09
	HISTINJECT	TRANSIENT WITH ISOLATION INITIATOR		1.00E-02	1.26E-09
	HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM		1.00E-02	1.26E-09
	HISTINJECT	C MDREFP TRAIN IMPROP REST FROM MAINT		1.00E-01	1.26E-09
	CTSTADSHDW	ADS SYSTEM HARDWARE FAILURES		1.00E-03	1.26E-09
	CTSTCOOLNG	FAILURE OF COOLING SUPPORT FOR THE RCIC PUMP		1.00E-03	1.26E-09
229)	BTSTRINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		1.00E-01	1.12E-09
	YTRANISTRX	TRANSIENT WITH ISOLATION INITIATOR		1.00E-02	1.12E-09
	HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM		1.00E-03	1.12E-09
	HISTINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		1.00E-03	1.12E-09
	HISTINJECT	INDEPENDENT FAILURES OF HPCS SYSTEM		1.00E-03	1.12E-09
	HISTINJECT	INDEPENDENT FAILURES OF RCIC SYSTEM		1.00E-03	1.12E-09
	GADSMANSYV	OPERATOR FAILS TO MANUALLY INITIATE ADS		1.00E-01	1.12E-09
	BTSTRINJR	OPERATOR FAILS TO RECOVER FAILED RCIC SYSTEM		1.00E-01	1.12E-09
	BTSTRINJR	OPERATOR FAILS TO RECOVER FAILED HPCS SYSTEM		1.00E-01	1.12E-09