
RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

APR1400 Design Certification

Korea Electric Power Corporation / Korea Hydro & Nuclear Power Co., LTD

Docket No. 52-046

RAI No.: ER 1-8429
SRP Section: Environmental Report
Application Section: APR1400 Environmental Report
Date of RAI Issue: 03/22/2016

Question No. EIS ACC/SAMDA-7

10 CFR 51.55(a) requires each applicant for a standard design certification under subpart B of 10 CFR Part 52 (i.e., 10 CFR 52.47(b)(2)) to submit with its application a separate document entitled, "Applicant's Environmental Report—Standard Design Certification." The environmental report must address the costs and benefits of severe accident mitigation design alternatives, and the bases for not incorporating severe accident mitigation design alternatives in the design to be certified.

The environmental standard review plan (ESRP) Section 7.3, Severe Accident Mitigation Alternatives, directs the staff to evaluate and independently confirm an applicant's severe accident mitigation design alternatives (SAMDA) analysis presented in an Environmental Report (ER) (i.e., the APR1400 ER, "Applicant's Environmental Report – Standard Design Certification," found under ML15006A038 and the technical report, "Severe Accident Mitigation Design Alternatives (SAMDA) for the APR1400," proprietary under ML15012A105 and non-proprietary under ML15009A246) that applies design and site information along with a cost-benefit analysis based on the guidance provided in NUREG/BR-0184. The scope includes the identification and evaluation of design alternatives and procedural modifications that reduce the radiological risk from a severe accident by preventing substantial core damage (i.e., preventing a severe accident) or by limiting releases from containment in the event that substantial core damage occurs (i.e., mitigating the impacts of a severe accident). The purpose of the review is to ensure that plant design changes with the potential for improved severe accident safety performance are identified and evaluated.

The staff requires the following additional information in order to complete its review of the environmental impacts of severe accidents and to ensure appropriate documentation of the applicant's assessment in the APR1400 Environmental Report.

For APR1400-E-P-NR-14006-P, Rev 0, provide documentation showing all of the subsections in Section 7 are cited to a SAMDA in Table 4 or to a basic event in Table 5.

The NRC staff request that any revisions to the ER or supporting technical reports be provided as a markup as part of the response to this RAI.

This RAI is related to the Environmental Audit Information Needs ER-CON-1 (ML15198A023).

Response

The SAMDA Technical Report (APR1400-E-P-NR-14006-P) is revised to provide documentation showing all of the subsections in Section 7 that are cited to a SAMDA in Table 4 or to a basic event in Table 5 (see Attachment 1).

Impact on DCD

There is no impact on the DCD.

Impact on PRA

There is no impact on the PRA.

Impact on Technical Specifications

There is no impact on the Technical Specifications.

Impact on Technical/Topical/Environmental Reports

The SAMDA Technical Report (APR1400-E-P-NR-14006-NP) will be revised as stated in the response.

7. SAMDA BENEFIT EVALUATION

Each of the potential SAMDAs not screened was evaluated to determine the potential benefits that could be achieved if implemented. In evaluating the benefits, a precisely described modification was not necessarily considered because exact design details would only be defined once an option was chosen. Rather, SAMDA benefit evaluation was performed using bounding techniques to estimate any risk reduction that would be possible. For example, evaluation of the SAMDA to install an additional component cooling water pump bounded the risk reduction possible by assuming that implementation of the SAMDA would entirely eliminate the unavailability of component cooling water pumps.

Evaluation of potential benefits would be performed using the methodology described in Reference 1 and, in general, would be performed as follows. First, the potential reduction in CDF, if any, was estimated. Next, the reduction in source term release was estimated. Finally, the potential benefit to offsite consequences was determined and presented in monetary terms.

Based on the information provided in Sections 4 and Tables 4, 5a through 5f, and 6a through 6f, the total maximum cost reduction calculated for any of the important basic events (FV > 0.5 percent) would be much lower than described in Tables 4, 5a through 5f, and 6a through 6f, because in reality, not all offsite consequences would be eliminated. Therefore, a design change would be expected to cost more than this amount and, as a result, not provide a positive benefit.

The following sections describe the costs vs. benefits of the important basic events and why no further SAMDA cost-benefit evaluation is needed. The important basic events are grouped by the associated component to contribute to an overall maximum benefit. For components that can be considered identical, like emergency diesel generators (EDGs) or identical system pumps, the total of the component benefits is evaluated for overall maximum benefit.

7.1. Emergency Diesel Generator Events

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7.1.1. EDG DG001A Events

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SAMDAs

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7.1.2. EDG DG001B Events

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7.1.3. EDG DG001C Events

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7.1.4. EDG DG001D Events

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7.1.5. Load Sequencer Events

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7.1.6. Total EDG Event Summary

[] TS

SAMDAs

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7.2. Alternate AC Diesel Generator Events

7.2.1. AAC DG Events

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7.2.2. AAC DG Fuel Oil Pump PP02 Events

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SAMDAs

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7.3. Auxiliary Feedwater Events

TS

7.3.1. AFW Isolation Valve MOV-45 Events

TS

7.3.2. AFW Isolation Valve MOV-46 Events

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7.3.3. Turbine-Driven AFW Pump PP01A Events

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SAMDAs

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7.3.4. Turbine-Driven AFW Pump PP01B Events

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7.3.5. Motor-Driven AFW Pump PP02A Events

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SAMDAs

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7.3.6. Motor-Driven AFW Pump PP02B Events

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7.3.7. Startup FW Pump PP07 Events

[] TS

7.3.8. Total AFW Isolation Valve Event Summary

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[] TS

7.3.9. Total Turbine-Driven AFW Pump Event Summary

[] TS

7.3.10. Total Motor-Driven AFW Pump Event Summary

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7.4. Barrier Failure Events

TS

7.4.1. Barrier Unavailability Between F078-AGAC and F078-AGAD Event

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7.4.2. Barrier Failure Between F120-AGAC and F120-AGAD Event

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7.4.3. Total Barrier Failure Event Summary

[] TS

7.5. Component Cooling Water Events

7.5.1. CCW Pump PP02A Events

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SAMDAs

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7.5.2. CCW Pump PP02B Events

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7.5.3. Containment Spray Heat Exchanger HE01A CCW Inlet Valve MOV-97

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7.5.4. Containment Spray Heat Exchanger HE01B CCW Inlet Valve MOV-98

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SAMDAs

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7.5.5. Total CCW Pump Event Summary

[] TS

7.5.6. Total Containment Spray Heat Exchanger CCW Inlet Valve Event Summary

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7.6. Containment Spray Events

7.6.1. Containment Spray Pump PP01A Events

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7.6.2. Containment Spray Pump PP01B Events

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7.6.3. Containment Spray Isolation Valve MOV-003 Events

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7.6.4. Containment Spray Isolation Valve MOV-004 Events

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7.6.5. Total Containment Spray Pump Event Summary

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7.6.6. Total Containment Spray Isolation Valve Event Summary

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SAMDAs

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7.7. Charging Pump Events

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7.7.1. Charging Pump PP03 Events

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7.8. 125 Vdc Power Events

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7.8.1. 125 Vdc Battery BT01A Events

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7.8.2. 125 Vdc Battery BT01B Events

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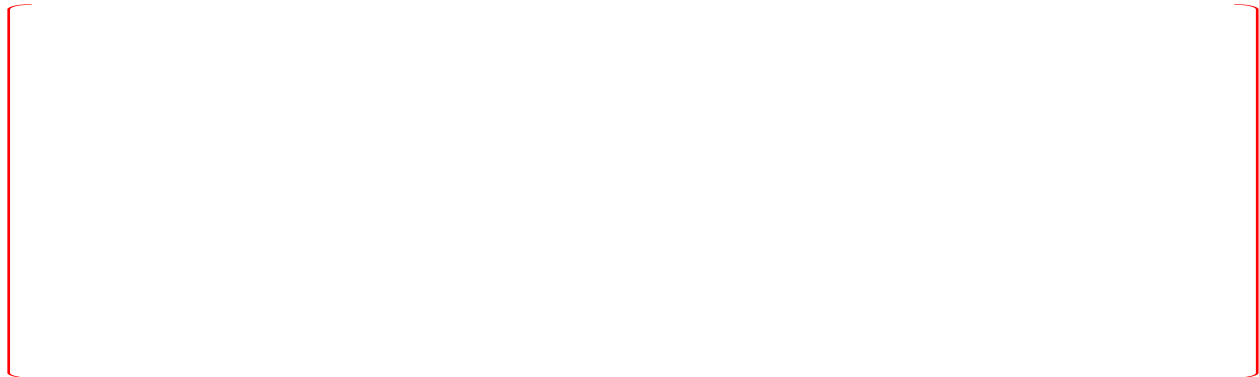
7.8.3. 125 Vdc Battery BT01C Events

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7.8.4. 125 Vdc Battery BT01D Events

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7.8.5. Total 125 Vdc Battery Event Summary

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7.9. 120 Vac Power Events

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7.9.1. 120 Vac Inverter IN01A

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7.9.2. 120 Vac Inverter IN01B

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SAMDAs

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7.9.3. 120 Vac Inverter IN01C

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7.9.4. 120 Vac Inverter IN01D

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7.9.5. Total 120 Vac Inverter Event Summary

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7.10. Grid Collapse on Turbine Trip Events

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7.11. AC Power Events

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7.11.1. Standby Auxiliary Transformer 02M Events

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7.11.2. Standby Auxiliary Transformer 02N Events

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7.11.3. 1E 4.16kV Switchgear SW01A Feed PCB SW01A-A2 from SAT Events

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7.11.4. 1E 4.16kV Switchgear SW01B Feed PCB SW01B-A2 from SAT Events

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SAMDAs

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7.11.5. 1E 4.16kV Switchgear SW01C Feed PCB SW01C-A2 from SAT Events

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7.11.6. 1E 4.16kV Switchgear SW01A Feed PCB SW01A-H2 from UAT Events

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7.11.7. 1E 4.16kV Switchgear SW01B Feed PCB SW01B-H2 from UAT Events

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7.11.8. 1E 4.16kV Switchgear SW01C Feed PCB SW01C-C2 from UAT Events

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7.11.9. 1E 4.16kV Switchgear SW01D Feed PCB SW01D-G2 from UAT Events

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SAMDAs

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7.11.10. 1E 4.16kV Switchgear SW01A Feed PCB SW01A-E2 from EDG Events

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7.11.11. 1E 4.16kV Switchgear SW01C Feed PCB SW01C-E2 from AAC TG Events

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7.11.12. 1E 4.16kV Switchgear SW01C Feed PCB SW01C-F2 from EDG Events

TS



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7.11.13. N1E 4.16kV PNS Switchgear Feed PCB SW03N-F2 from AAC Switchgear Events

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7.11.14. Primary Loop Controller LX06A Events

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7.11.15. Primary Loop Controller LX03C Events

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7.11.16. Standby Auxiliary Transformer Event Summary

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7.11.17. 4.16kV Circuit Breaker Event Summary

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7.11.18. Primary Loop Controller Event Summary

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7.12. Pilot-Operated Safety Relief Valve Events

7.12.1. Pilot-Operated Safety Relief Valve V200 Events

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7.12.2. Pilot-Operated Safety Relief Valve V201 Events

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SAMDAs

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7.12.3. Pilot-Operated Safety Relief Valve V202 Events

[Redacted]

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7.12.4. Pilot-Operated Safety Relief Valve V203 Events

[Redacted]

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7.12.5. Total POSRV Event Summary

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[Redacted content for 7.12.5]

7.13. Seal Failure Events

TS

[Redacted content for 7.13]

7.14. Station Blackout due to Turbine-Driven Auxiliary Feedwater Pump Events

TS

[Redacted content for 7.14]

7.15. Chiller/Cooler Events

TS

7.15.1. Safety Injection Pump Room Cubicle Cooler HV11A Events

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[Redacted content for 7.15.1]

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7.15.2. Safety Injection Pump Room Cubicle Cooler HV11B Events

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7.15.3. Essential Chilled Water Chiller CH01A Events

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7.15.4. Essential Chilled Water Chiller CH01B Events

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SAMDAs

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7.15.5. Essential Chilled Water Chiller CH02A Events

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7.15.6. Essential Chilled Water Chiller CH02B Events

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SAMDAs

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7.15.7. Essential Chilled Water Chiller CH03A Events

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7.15.8. Essential Chilled Water Chiller CH03B Events

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7.15.9. Essential Chilled Water Chiller CH04A Events

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7.15.10. Essential Chilled Water Chiller CH04B Events

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7.15.11. Emergency Diesel Generator Room Cubicle Cooler HV12A Events

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7.15.12. Emergency Diesel Generator Room Cubicle Cooler HV12B Events

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7.15.13. Emergency Diesel Generator Room Cubicle Cooler HV12C Events

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7.15.14. Emergency Diesel Generator Room Cubicle Cooler HV12D Events

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7.15.15. Emergency Diesel Generator Room Cubicle Cooler HV13A Events

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7.15.16. Emergency Diesel Generator Room Cubicle Cooler HV13B Events

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7.15.17. Emergency Diesel Generator Room Cubicle Cooler HV13C Events

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SAMDAs

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7.15.18. Emergency Diesel Generator Room Cubicle Cooler HV13D Events

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7.15.19. Shutdown Cooling Pump 02A Room Cubicle Cooler HV16A Events

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7.15.20. Shutdown Cooling Pump 02B Room Cubicle Cooler HV16B Events

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SAMDAs

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7.15.21. Motor-Driven AFW Pump Room A Cubicle Cooler HV33A Events

[Redacted content]

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7.15.22. Motor-Driven AFW Pump Room B Cubicle Cooler HV33B Events

[Redacted content]

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7.15.23. Total SI Pump Room Cubicle Cooler Event Summary

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7.15.24. Total ECW Chiller Event Summary

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7.15.25. Total EDG Room Cubicle Cooler Event Summary

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7.15.26. Total Shutdown Cooling Pump Room Cubicle Cooler Event Summary

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7.15.27. Total Motor-Driven AFW Pump Room Cubicle Cooler Event Summary

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7.16. Safety Injection Events

TS

7.16.1. SI Pump PP02 Events

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SAMDAs

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7.16.2. SI Pump PP03 Suction Valve VV-130 Events

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7.16.3. SI Pump PP03 Discharge Valve VV-435 Events

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7.16.4. SI Pump PP01 Injection Line MOV-636 Events

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SAMDAs

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7.16.5. In-Containment Refueling Water Storage Tank Sump Events

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7.17. Essential Service Water Events

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7.17.1. ESW Pump PP02A Events

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SAMDAs

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7.17.2. ESW Pump PP02B Events

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7.17.3. ESW Filter FT01A Events

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7.17.4. Total ESW Pump Events Summary

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SAMDAs

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7.18. Essential Chilled Water System Events

TS

7.18.1. ECW Pump PP02A Events

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7.18.2. ECW Pump PP02B Events

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7.18.3. ECW Pump PP05A Events

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7.18.4. Total ECW Pump Event Summary

[] TS

7.19. Turbine-Driven Auxiliary Feedwater Pump Steam Supply Valve Events

7.19.1. Turbine-Driven AFW Pump Steam Supply Valve AOV-109 Events

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7.19.2. Turbine-Driven AFW Pump Steam Supply Valve AOV-110 Events

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7.19.3. Total Turbine-Driven AFW Pump Steam Supply Valve Event Summary

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7.20. Scram due to Mechanical Failure Events

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[] TS

7.21. Group Controller GC1-PM3 Events

7.21.1. Group Controller Channel A GC-1 Output Events

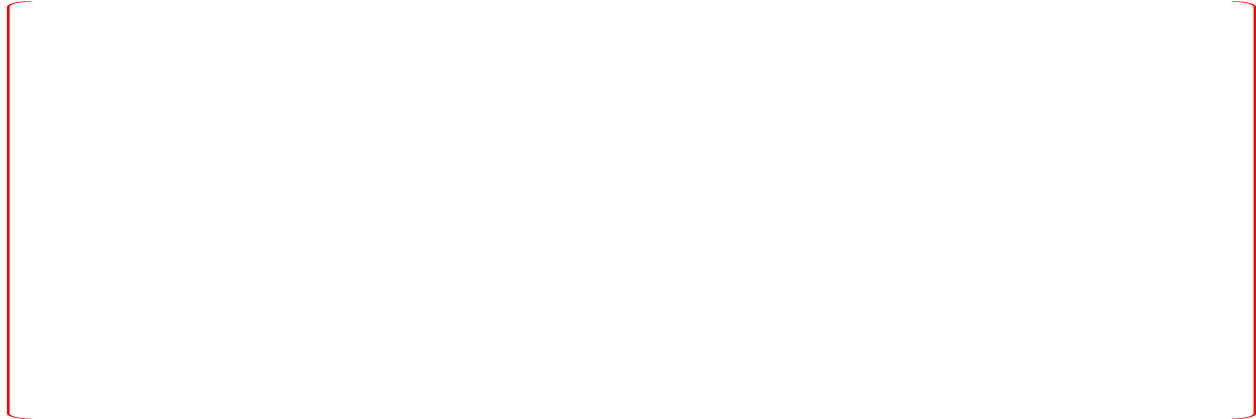
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7.21.2. Group Controller Channel B GC-1 Output Events

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7.21.3. Total Group Controller GC-1 Output Channel Events

TS



7.22. Other Events from Top 100 Cutsets

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SAMDA

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Table 5a(1 of 16) List of Basic Events from APR1400 PRA CDF Importance Analysis (At-Power Internal Events)

| Item No. | Event Name | Probability | Fussell-Vesely Importance | Description | Disposition |
|----------|-----------------|-------------|---------------------------|---|--|
| 1 | PFLOOP-TRANS | 2.400E-03 | 1.966E-01 | CONDITIONAL LOOP UPON TRANSIENTS | Conditional LOOP event - no impact on SAMDA analysis |
| 2 | %LOOP-GR | 1.160E-02 | 1.393E-01 | GRID-RELATED LOOP | Initiating event - no impact on SAMDA analysis |
| 3 | %LOOP-SW | 9.880E-03 | 1.122E-01 | SWITCHYARD-CENTERED LOOP | Initiating event - no impact on SAMDA analysis |
| 4 | SEAL-AFSUC | 4.000E-03 | 1.015E-01 | SEAL FAILURE PROBABILITY (SECONDARY HEAT REMOVAL SUCCESS) | The component associated with this basic event is evaluated in Section 7.13. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 5 | %MLOCA | 4.850E-04 | 9.522E-02 | MEDIUM LOSS OF COOLANT ACCIDENT | Initiating event - no impact on SAMDA analysis |
| 6 | %PLOCCW | 4.360E-03 | 9.429E-02 | PARTIAL LOSS OF COMPONANT COOLING WATER | Initiating event - no impact on SAMDA analysis |
| 7 | %LOOP-WE | 3.710E-03 | 8.863E-02 | WEATHER-RELATED LOOP | Initiating event - no impact on SAMDA analysis |
| 8 | PFLOOP-LOCA | 2.400E-02 | 7.895E-02 | CONDITIONAL LOOP UPON LOCA INITIATORS | Conditional LOOP event - no impact on SAMDA analysis |
| 9 | %TLOCCW | 2.340E-04 | 7.435E-02 | TOTAL LOSS OF COMPONANT COOLING WATER | Initiating event - no impact on SAMDA analysis |
| 10 | %TLOESW | 2.340E-04 | 7.435E-02 | TOTAL LOSS OF ESSENTIAL SERVICE WATER | Initiating event - no impact on SAMDA analysis |
| 11 | RCOPH-S-SDSE-FW | 9.100E-03 | 7.409E-02 | FAILURE OF SDS VALVES EARLY PHASE OPEN (1/4) | Procedural changes are not in the scope of this SAMDA analysis |
| 12 | CVDPR-S-PP03 | 4.776E-02 | 7.053E-02 | FAILS TO RUN AUX. CHARGING PUMP PP03 | The component associated with this basic event is evaluated in Section 7.7.1. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |

SAMDA

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Table 5a(2 of 16)

| Item No. | Event Name | Probability | Fussell-Vesely Importance | Description | Disposition |
|----------|------------------|-------------|---------------------------|---|---|
| 13 | DGDGM-B-DGB | 1.440E-02 | 6.772E-02 | DG 01B UNAVAILABLE DUE TO MAINTENANCE | The component associated with this basic event is evaluated in Section 7.1.2. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 14 | DGDGR-B-DGB | 2.492E-02 | 6.239E-02 | FAILS TO RUN OF EMERGENCY DIESEL GENERATOR DG01B | The component associated with this basic event is evaluated in Section 7.1.2. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 15 | AFTPR1A-TDP01A | 3.518E-02 | 6.107E-02 | FAILS TO RUN AFW TDP PP01A | The component associated with this basic event is evaluated in Section 7.3.3. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 16 | %GTRN | 6.560E-01 | 5.557E-02 | GENERAL TRANSIENT | Initiating event - no impact on SAMDA analysis |
| 17 | %PLOESW | 2.520E-03 | 5.433E-02 | PARTIAL LOSS OF ESSENTIAL SERVICE WATER | Initiating event - no impact on SAMDA analysis |
| 18 | SXFLP-S-FT0123AB | 5.580E-05 | 5.379E-02 | ESW DEBIS FILTER FT01A PLUGGED | The component associated with this basic event is evaluated in Section 7.17.3. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 19 | DCBTM-B-BT01B | 2.820E-03 | 5.277E-02 | CLASS 1E 125V DC BATTERY BT01B UNAVAILABLE DUE TO T&M | The component associated with this basic event is evaluated in Section 7.8.2. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 20 | DATGR-S-AACTG | 1.564E-01 | 5.091E-02 | AAC GAS TURBINE GENERATOR FAILS TO RUN | The component associated with this basic event is evaluated in Section 7.2.1. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |

SAMDA

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Table 5a(3 of 16)

| Item No. | Event Name | Probability | Fussell-Vesely Importance | Description | Disposition |
|----------|----------------|-------------|---------------------------|---|--|
| 21 | DGDGR-D-DGD | 2.492E-02 | 4.824E-02 | FAILS TO RUN OF EMERGENCY DIESEL GENERATOR DG01D | The component associated with this basic event is evaluated in Section 7.1.4. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 22 | DCBTM-A-BT01A | 2.820E-03 | 4.708E-02 | CLASS 1E 125V DC BATTERY BT01A UNAVAILABLE DUE TO T&M | The component associated with this basic event is evaluated in Section 7.8.1. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 23 | AFTPR1B-TDP01B | 3.518E-02 | 4.596E-02 | FAILS TO RUN AFW TDP PP01B | The component associated with this basic event is evaluated in Section 7.3.4. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 24 | I-ATWS-RPMCF | 2.981E-07 | 4.490E-02 | FAILURE TO SCRAM DUE TO MECHANICAL FAILURES | The component associated with this basic event is evaluated in Section 7.20. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 25 | AFMVC1A-045 | 5.783E-02 | 4.450E-02 | AFW ISOL. MOV 0045 FAILS TO CLOSE FOR CYCLING OPERATION | The component associated with this basic event is evaluated in Section 7.3.1. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 26 | AFMVO1A-045 | 5.783E-02 | 4.450E-02 | AFW ISOL. MOV 045 FAILS TO OPEN FOR CYCLING OPERATION | The component associated with this basic event is evaluated in Section 7.3.1. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 27 | AFMVC1B-046 | 5.783E-02 | 4.269E-02 | AFW ISOL. MOV 046 FAILS TO CLOSE FOR CYCLING OPERATION | The component associated with this basic event is evaluated in Section 7.3.2. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |

SAMDA

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Table 5a(4 of 16)

| Item No. | Event Name | Probability | Fussell-Vesely Importance | Description | Disposition |
|----------|----------------------|-------------|---------------------------|---|--|
| 28 | AFMVO1B-046 | 5.783E-02 | 4.269E-02 | AFW ISOL. MOV 046 FAILS TO OPEN FOR CYCLING OPERATION | The component associated with this basic event is evaluated in Section 7.3.2. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 29 | PFOPH-S-UATBKR-LOCAL | 5.200E-02 | 4.224E-02 | OPERATOR FAILS TO RECOVER PCB FOR 1E 4.16KV SW01A,B,C,D AT LOCAL | Procedural changes are not in the scope of this SAMDA analysis. The component associated with this basic event is evaluated in Section 7.11. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 30 | RAC-16H-WE | 1.590E-01 | 4.216E-02 | NON-RECOVERY PROBABILITY OF OFFSITE POWER WITHIN 16HR (WEATHER RELATED) | This event represents characteristics of the site at which the plant will be located and the probability is based on generic industry data. Design changes to affect the risk from site characteristics are not applicable to the SAMDA analysis and this event is not considered further. |
| 31 | IPINM-B-IN01B | 2.740E-03 | 4.040E-02 | CLASS 1E 120V AC INVERTER IN01B UNAVAILABLE DUE TO T&M | The component associated with this basic event is evaluated in Section 7.9.2. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 32 | DGDGM-A-DGA | 1.440E-02 | 3.906E-02 | DG 01A UNAVAILABLE DUE TO MAINTENANCE | The component associated with this basic event is evaluated in Section 7.1.1. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 33 | %SLOCA | 1.990E-03 | 3.804E-02 | SMALL LOSS OF COOLANT ACCIDENT | Initiating event - no impact on SAMDA analysis |
| 34 | RCOPH-S-SDSE-FW-HD | 5.046E-01 | 3.779E-02 | FAILURE OF SDS VALVES EARLY PHASE OPEN (1/4) WITH HIGH DEP. | Procedural changes are not in the scope of this SAMDA analysis |
| 35 | %SGTR | 1.970E-03 | 3.764E-02 | STEAM GENERATOR TUBE RUPTURE | Initiating event - no impact on SAMDA analysis |

SAMDA

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| Item No. | Event Name | Probability | Fussell-Vesely Importance | Description | Disposition |
|----------|------------------|-------------|---------------------------|---|---|
| 36 | IPINM-A-IN01A | 2.740E-03 | 3.709E-02 | CLASS 1E 120V AC INVERTER IN01A UNAVAILABLE DUE TO T&M | The component associated with this basic event is evaluated in Section 7.9.1. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 37 | DGDGM-D-DGD | 1.440E-02 | 3.537E-02 | DG 01D UNAVAILABLE DUE TO MAINTENANCE | The component associated with this basic event is evaluated in Section 7.1.4. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 38 | %LSSB-D | 7.320E-03 | 3.524E-02 | LARGE SECONDARY SIDE BREAK (MSIV DOWNSTREAM) | Initiating event - no impact on SAMDA analysis |
| 39 | WOCHM2B-CH02B | 1.976E-02 | 3.494E-02 | ECW CHILLER 02B TRAIN UNAVAILABLE DUE TO T&M | The component associated with this basic event is evaluated in Section 7.15.6. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 40 | PFHBWQ4-SW2OUAT | 2.712E-05 | 3.159E-02 | CCF OF PCB BETWEEN UAT & 4.16KV SW01A,1B,1C,1D FAIL TO OPEN | The components associated with this basic event are evaluated in Sections 7.11.6 through 7.11.9. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 41 | MTC-ATWS | 1.600E-01 | 2.977E-02 | MODERATE COEFFICIENT | The effects of reducing the risk associates with this basic event are evaluated in Section 7.20. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 42 | PI-SGTR | 2.700E-02 | 2.948E-02 | PRESSURE INDUECD SGTR PROBABILITY UNDER LSSB, ATWS, FWLB | This event would affect a portion of offsite consequences only. The benefit of eliminating this failure mode would be negligible. |
| 43 | PFHBO1B-SW01B-H2 | 6.663E-03 | 2.921E-02 | FAILS TO OPEN OF PCB SW01B-H2 OF 4.16KV SWGR SW01B FROM UAT | The component associated with this basic event is evaluated in Section 7.11.7. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |

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| Item No. | Event Name | Probability | Fussell-Vesely Importance | Description | Disposition |
|----------|-----------------|-------------|---------------------------|--|---|
| 44 | AFOPV-S-AFAS-FW | 5.900E-03 | 2.892E-02 | OPERATOR FAILS TO RECOVER AFAS | Procedural changes are not in the scope of this SAMDA analysis |
| 45 | SISPP-S-IRWST | 1.219E-05 | 2.445E-02 | FAILURE OF IRWST SUMP DUE TO PLUGGING | The component associated with this basic event is evaluated in Section 7.16.5. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 46 | DGDGR-C-DGC | 2.492E-02 | 2.429E-02 | FAILS TO RUN OF EMERGENCY DIESEL GENERATOR DG01C | The component associated with this basic event is evaluated in Section 7.1.3. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 47 | %RVR | 3.060E-08 | 2.363E-02 | REACTOR VESSEL RUPTURE | Initiating event - no impact on SAMDA analysis |
| 48 | WOCHS2B-CH02B | 1.299E-02 | 2.197E-02 | ECW CHILLER CH02B FAILS TO START ON DEMAND | The component associated with this basic event is evaluated in Section 7.15.6. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 49 | DGDGM-C-DGC | 1.440E-02 | 2.156E-02 | DG 01C UNAVAILABLE DUE TO MAINTENANCE | The component associated with this basic event is evaluated in Section 7.1.3. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 50 | WOCHM2A-CH02A | 1.976E-02 | 1.891E-02 | ECW CHILLER 02A TRAIN UNAVAILABLE DUE TO T&M | The component associated with this basic event is evaluated in Section 7.15.5. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 51 | SXMPM2B-PP02B | 1.320E-02 | 1.788E-02 | ESW PUMP PP02B UNAVAILABLE DUE TO T/M | The component associated with this basic event is evaluated in Section 7.17.2. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |

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| Item No. | Event Name | Probability | Fussell-Vesely Importance | Description | Disposition |
|----------|------------------|-------------|---------------------------|---|---|
| 52 | NBHC2A-SW03N-F2 | 6.663E-03 | 1.748E-02 | FAILS TO CLOSE OF FEEDER BKR SW03N-F2 FROM AAC BUS SW03N TO 1E BUS SW01C | The component associated with this basic event is evaluated in Section 7.11.13a. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 53 | PFHBC2A-SW01C-E2 | 6.663E-03 | 1.748E-02 | FAILS TO CLOSE OF FEEDER BKR SW01C-E2 FROM AAC BUS SW03N TO 1E BUS SW01C | The component associated with this basic event is evaluated in Section 7.11.11. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 54 | CVOPH-S-RCPSEAL | 1.100E-02 | 1.697E-02 | OPERATOR FAILS TO RECOVER RCP SEAL COOLING (CCW CONNTECT. OR AUX. CHG PUMP) | Procedural changes are not in the scope of this SAMDA analysis |
| 55 | PFHBO1A-SW01A-H2 | 6.663E-03 | 1.696E-02 | FAILS TO OPEN OF PCB SW01A-H2 OF 4.16KV SWGR SW01A FROM UAT | The component associated with this basic event is evaluated in Section 7.11.6. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 56 | %LOOP-PL | 1.830E-03 | 1.626E-02 | PLANT-CENTERED LOOP | Initiating event - no impact on SAMDA analysis |
| 57 | MSAVO-B-110 | 4.199E-03 | 1.589E-02 | FAILS TO OPEN MS AFW TDP PP01A TBN STM. SUPPLY AOV 110 | The component associated with this basic event is evaluated in Section 7.19.2. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 58 | PFHBO2B-SW01D-G2 | 6.663E-03 | 1.573E-02 | FAILS TO OPEN OF PCB SW01D-G2 OF 4.16KV SWGR SW01D FROM UAT | The component associated with this basic event is evaluated in Section 7.11.9. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 59 | DGDGL-B-DGB | 3.775E-03 | 1.540E-02 | DG B FAILS TO LOAD AND RUN DURING 1ST 1HR OF OPERATION | The component associated with this basic event is evaluated in Section 7.1.2. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |

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| Item No. | Event Name | Probability | Fussell-Vesely Importance | Description | Disposition |
|----------|------------------|-------------|---------------------------|--|--|
| 60 | DATGM-S-AACTG | 5.000E-02 | 1.490E-02 | AAC DG UNAVAILABLE DUE TO MAINTENANCE | The component associated with this basic event is evaluated in Section 7.2.1. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 61 | HR-RCSCD1-ISOL | 1.400E-03 | 1.477E-02 | OPERATOR FAILS TO TAKE ACTION FOR SG COOLDOWN, RC DEPRESS AND SG ISOLATION | Procedural changes are not in the scope of this SAMDA analysis |
| 62 | HR-RCSCD2-CD | 1.000E+00 | 1.474E-02 | OPERATOR FAILS TO TAKE ACTION FOR SG COOLDOWN, RC DEPRESS WITH COMPLETE DEP. | Procedural changes are not in the scope of this SAMDA analysis |
| 63 | %FWLB | 1.740E-03 | 1.462E-02 | FEEDWATER LINE BREAK | Initiating event - no impact on SAMDA analysis |
| 64 | WOCHS1B-CH01B | 1.299E-02 | 1.287E-02 | ECW CHILLER CH01B FAILS TO START ON DEMAND | The component associated with this basic event is evaluated in Section 7.15.4. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 65 | DGDGR-A-DGA | 2.492E-02 | 1.270E-02 | FAILS TO RUN OF EMERGENCY DIESEL GENERATOR DG01A | The component associated with this basic event is evaluated in Section 7.1.1. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 66 | FWOPH-S-ERY | 5.500E-03 | 1.248E-02 | OPERATOR FAILS TO ALINE STARTUP FEEDWATER PUMP PP07 (EARLY PHASE) | Procedural changes are not in the scope of this SAMDA analysis |
| 67 | DGDGKQ4-DG01ABCD | 4.634E-05 | 1.237E-02 | 4/4 CCF OF EDG 01A/01B/01C/01D FAIL TO RUN | The components associated with this basic event is-are evaluated in Sections 7.1.1 through 7.1.4. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |

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| Item No. | Event Name | Probability | Fussell-Vesely Importance | Description | Disposition |
|----------|--------------------|-------------|---------------------------|--|---|
| 68 | WOCHS1A-CH01A | 1.299E-02 | 1.237E-02 | ECW CHILLER CH01A FAILS TO START ON DEMAND | The component associated with this basic event is evaluated in Section 7.15.3. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 69 | FWMPM-S-PP07 | 6.900E-03 | 1.222E-02 | START-UP FW PUMP PP07 UNAVAILABLE DUE TO T&M | The component associated with this basic event is evaluated in Section 7.3.7. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 70 | RCOPH-S-SDSE-FW-MD | 1.507E-01 | 1.216E-02 | FAILURE OF SDS VALVES EARLY PHASE OPEN (1/4) WITH MEDIUM DEP. | Procedural changes are not in the scope of this SAMDA analysis |
| 71 | %LOFW | 6.550E-02 | 1.213E-02 | LOSS OF MAIN FEEDWATER | Initiating event - no impact on SAMDA analysis |
| 72 | %LOCV | 5.570E-02 | 1.206E-02 | LOSS OF CONDENSER VACCUM | Initiating event - no impact on SAMDA analysis |
| 73 | FWOPH-S-ERY-CD | 1.000E+00 | 1.206E-02 | OPERATOR FAILS TO ALINE STARTUP FEEDWATER PUMP PP07 (EARLY PHASE) WITH COMPLETE DEP. | Procedural changes are not in the scope of this SAMDA analysis |
| 74 | DCBTM-D-BT01D | 2.820E-03 | 1.187E-02 | CLASS 1E 125V DC BATTERY BT01D UNAVAILABLE DUE TO T&M | The component associated with this basic event is evaluated in Section 7.8.4. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 75 | PFHBO2A-SW01C-C2 | 6.663E-03 | 1.158E-02 | FAILS TO OPEN OF PCB SW01C-C2 OF 4.16KV SWGR SW01C FROM UAT | The component associated with this basic event is evaluated in Section 7.11.8. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |

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| Item No. | Event Name | Probability | Fussell-Vesely Importance | Description | Disposition |
|----------|-----------------|-------------|---------------------------|---|---|
| 76 | WOCHS2A-CH02A | 1.299E-02 | 1.145E-02 | ECW CHILLER CH02A FAILS TO START ON DEMAND | The component associated with this basic event is evaluated in Section 7.15.5. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 77 | CSMVWD2-003/004 | 3.039E-05 | 1.142E-02 | CCF (FTO) OF ISOL. MOV 003/004 IN CS TRS HX DISCH. PATH | The components associated with this basic event is are evaluated in Sections 7.6.3 and 7.6.4. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 78 | DGDGS-B-DGB | 2.890E-03 | 1.133E-02 | FAILS TO START OF EMERGENCY DIESEL GENERATOR DG01B | The component associated with this basic event is evaluated in Section 7.1.2. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 79 | IPINM-D-IN01D | 2.740E-03 | 1.066E-02 | CLASS 1E 120V AC INVERTER IN01D UNAVAILABLE DUE TO T&M | The component associated with this basic event is evaluated in Section 7.9.4. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 80 | WOMPM2B-PP02B | 6.900E-03 | 1.053E-02 | ECW PP02B TRAIN UNAVAILABLE DUE TO T&M | The component associated with this basic event is evaluated in Section 7.18.2. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 81 | AFMPM2A-MDP02A | 3.630E-03 | 1.049E-02 | AFW MDP PP02A UNAVAILABLE DUE TO T/M | The component associated with this basic event is evaluated in Section 7.3.5. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |

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| Item No. | Event Name | Probability | Fussell-Vesely Importance | Description | Disposition |
|----------|------------------------|-------------|---------------------------|--|--|
| 82 | AFTPKD2-TDP01A/B | 8.197E-04 | 1.032E-02 | 2/2 CCF OF FOR AFW TDP PP01/A/B FAIL TO RUN | The components associated with this basic event is-are evaluated in Sections 7.3.3 and 7.3.4. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 83 | RAC-12H-WE | 1.970E-01 | 1.020E-02 | NON-RECOVERY PROBABILITY OF OFFSITE POWER WITHIN 9.5HR (WEATHER RELATED) | This event represents characteristics of the site at which the plant will be located and the probability is based on generic industry data. Design changes to affect the risk from site characteristics are not applicable to the SAMDA analysis and this event is not considered further. |
| 84 | WOCHWQ4-CH01A/2A/1B/2B | 4.377E-05 | 9.798E-03 | DEMAND CCF OF ECW CHILLERS 1A/2A/1B/2B | The components associated with this basic event is-are evaluated in Sections 7.15.3 through 7.15.6. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 85 | AFTPS1A-TDP01A | 6.481E-03 | 9.556E-03 | FAILS TO START AFW TDP PP01A | The component associated with this basic event is evaluated in Section 7.3.3. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 86 | DCBTM-C-BT01C | 2.820E-03 | 9.366E-03 | CLASS 1E 125V DC BATTERY BT01C UNAVAILABLE DUE TO T&M | The component associated with this basic event is evaluated in Section 7.8.3. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 87 | WOOPH-B-1/2B | 1.700E-02 | 9.211E-03 | OPERATOR FAILS TO OPERATE ECW PUMPS PP01/2B | Procedural changes are not in the scope of this SAMDA analysis |
| 88 | WOOPH-A-1/2A | 1.700E-02 | 8.862E-03 | OPERATOR FAILS TO OPERATE ECW PUMPS PP01/2A | Procedural changes are not in the scope of this SAMDA analysis |

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| Item No. | Event Name | Probability | Fussell-Vesely Importance | Description | Disposition |
|----------|---------------------|-------------|---------------------------|--|--|
| 89 | VDHVZO8-HV12/13ABCD | 3.234E-05 | 8.613E-03 | 8/8 CCF OF RUN FOR EDG ROOM CUBICLE COOLER HV12A, 12B, 12C, 12D 13A, 13B, 13C, 14D FOR 1HR | The components associated with this basic event is-are evaluated in Sections 7.15.11 through 7.15.18. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 90 | DGDGL-D-DGD | 3.775E-03 | 8.515E-03 | DG D FAILS TO LOAD AND RUN DURING 1ST 1HR OF OPERATION | The component associated with this basic event is evaluated in Section 7.1.4. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 91 | CSMPM2B-PP01B | 7.050E-03 | 8.457E-03 | CS PUMP PP01B UNAVAILABLE DUE TO MAINTENANCE | The component associated with this basic event is evaluated in Section 7.6.2. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 92 | VDHVKO8-HV12/13ABCD | 3.150E-05 | 8.389E-03 | 8/8 CCF OF RUN FOR EDG ROOM CUBICLE COOLER HV12A, 12B, 12C, 12D 13A, 13B, 13C, 14D | The components associated with this basic event is-are evaluated in Sections 7.15.11 through 7.15.18. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 93 | IPINM-C-IN01C | 2.740E-03 | 8.209E-03 | CLASS 1E 120V AC INVERTER IN01C UNAVAILABLE DUE TO T&M | The component associated with this basic event is evaluated in Section 7.9.3. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 94 | SXMPM2A-PP02A | 1.320E-02 | 7.994E-03 | ESW PUMP PP02A UNAVAILABLE DUE TO T/M | The component associated with this basic event is evaluated in Section 7.17.1. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |

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| Item No. | Event Name | Probability | Fussell-Vesely Importance | Description | Disposition |
|----------|-------------------------|-------------|---------------------------|--|--|
| 95 | DGDGL-A-DGA | 3.775E-03 | 7.969E-03 | DG A FAILS TO LOAD AND RUN DURING 1ST 1HR OF OPERATION | The component associated with this basic event is evaluated in Section 7.1.1. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 96 | AFOPH-S-ALT-LT | 9.100E-04 | 7.938E-03 | OPERATOR FAIL TO ALIGNE FOR SUPPLYING AN ALTERNATE SOURCE | Procedural changes are not in the scope of this SAMDA analysis |
| 97 | RCOPH-S-SDSL-LD | 5.789E-02 | 7.865E-03 | FAILURE OF SDS VALVES (1/4) LATE PHASE OPEN WITH LOW DEP. | Procedural changes are not in the scope of this SAMDA analysis |
| 98 | RAC-16H-GR | 1.010E-02 | 7.730E-03 | NON-RECOVERY PROBABILITY OF OFFSITE POWER WITHIN 16HR (GRID RELATED) | This event represents characteristics of the site at which the plant will be located and the probability is based on generic industry data. Design changes to affect the risk from site characteristics are not applicable to the SAMDA analysis and this event is not considered further. |
| 99 | AFTPM1A-TDP01A | 5.330E-03 | 7.722E-03 | AFW TDP PP01A UNAVAILABLE DUE TO T/M | The component associated with this basic event is evaluated in Section 7.3.3. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 100 | %LLOCA-HL2 | 5.050E-07 | 7.617E-03 | LARGE LOCA IN HOT LEG 2 (SDC LOOP2) | Initiating event - no impact on SAMDA analysis |
| 101 | AFTPS1B-TDP01B | 6.481E-03 | 7.073E-03 | FAILS TO START AFW TDP PP01B | The component associated with this basic event is evaluated in Section 7.3.4. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 102 | AFPVKQ4-TP01A/B/MP02A/B | 4.118E-06 | 7.007E-03 | 4/4 CCF OF AFW TDP01A/B, MDP02A/B DUE TO THE VOLUTE FAIL TO RUN | The components associated with this basic event is-are evaluated in Sections 7.3.3 through 7.3.6. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |

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| Item No. | Event Name | Probability | Fussell-Vesely Importance | Description | Disposition |
|----------|----------------|-------------|---------------------------|---|--|
| 103 | CCMVWD2-097/8 | 1.852E-05 | 6.956E-03 | 2/2 CCF OF CCW MOV 097/098 FOR CS HX. HE01A/B INLET | The components associated with this basic event is-are evaluated in Sections 7.5.3 and 7.5.4. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 104 | CSMPM2A-PP01A | 7.050E-03 | 6.919E-03 | CS PUMP 1 PP01A UNAVAILABLE DUE TO MAINTENANCE | The component associated with this basic event is evaluated in Section 7.6.1. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 105 | VDHVM-B-HV12B | 1.996E-03 | 6.463E-03 | CUBICLE COOLER HV12A UNAVAILABLE DUE TO T&M | The component associated with this basic event is evaluated in Section 7.15.11. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 106 | VDHVM-B-HV13B | 1.996E-03 | 6.463E-03 | CUBICLE COOLER HV13B UNAVAILABLE DUE TO T&M | The component associated with this basic event is evaluated in Section 7.15.16. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 107 | DGSQA-B-LOADSQ | 1.765E-03 | 6.410E-03 | LOAD SEQUENCER A FAILS TO OPERATE | The component associated with this basic event is evaluated in Section 7.1.5. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 108 | DGDGS-D-DGD | 2.890E-03 | 6.370E-03 | FAILS TO START OF EMERGENCY DIESEL GENERATOR DG01D | The component associated with this basic event is evaluated in Section 7.1.4. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |

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| Item No. | Event Name | Probability | Fussell-Vesely Importance | Description | Disposition |
|----------|-----------------|-------------|---------------------------|---|--|
| 109 | AFTPL1A-TDP01A | 4.417E-03 | 6.279E-03 | FAILS TO RUN AFW TDP PP01A FOR 1HR | The component associated with this basic event is evaluated in Section 7.3.3. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 110 | EFGXT-A-PM3-GC1 | 1.440E-03 | 6.105E-03 | FAILURE OF CH. A GC-1 OUTPUT GC1-PM3 | The component associated with this basic event is evaluated in Section 7.21.1. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 111 | EFGXT-B-PM3-GC1 | 1.440E-03 | 5.927E-03 | FAILURE OF CH. B GC-1 OUTPUT GC1-PM3 | The component associated with this basic event is evaluated in Section 7.21.2. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 112 | RAC-12H-GR | 2.000E-02 | 5.886E-03 | NON-RECOVERY PROBABILITY OF OFFSITE POWER WITHIN 9.5HR (GRID RELATED) | This event represents characteristics of the site at which the plant will be located and the probability is based on generic industry data. Design changes to affect the risk from site characteristics are not applicable to the SAMDA analysis and this event is not considered further. The component associated with this basic event is evaluated in Section 7.1. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 113 | CCMPM2B-PP02B | 4.720E-03 | 5.839E-03 | CCW PUMP PP02B UNAVAILABLE DUE TO T/M | The component associated with this basic event is evaluated in Section 7.5.1. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 114 | AFTPM1B-TDP01B | 5.330E-03 | 5.677E-03 | AFW TDP PP01B UNAVAILABLE DUE TO T/M | The component associated with this basic event is evaluated in Section 7.3.4. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |

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| Item No. | Event Name | Probability | Fussell-Vesely Importance | Description | Disposition |
|----------|--------------------|-------------|---------------------------|--|--|
| 115 | DGDGS-A-DGA | 2.890E-03 | 5.658E-03 | FAILS TO START OF EMERGENCY DIESEL GENERATOR DG01A | The component associated with this basic event is evaluated in Section 7.1.1. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 116 | VOHVM2A-HV33A | 1.996E-03 | 5.567E-03 | CUBICLE COOLER HV33A UNAVAILABLE DUE TO T&M | The component associated with this basic event is evaluated in Section 7.15.21. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 117 | WOMPM2A-PP02A | 6.900E-03 | 5.027E-03 | ECW PP02A TRAIN UNAVAILABLE DUE TO T&M | The component associated with this basic event is evaluated in Section 7.18.1. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 118 | VDHWO8-HV12/13ABCD | 1.886E-05 | 5.002E-03 | 8/8 CCF OF START FOR EDG ROOM CUBICLE COOLER HV12A, 12B, 12C, 12D 13A, 13B, 13C, 14D | The components associated with this basic event is-are evaluated in Sections 7.15.11 through 7.15.18. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |

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Table 5b (1 of 9) List of Basic Events from APR1400 PRA CDF Importance Analysis (At-Power Internal Flooding Events)

| Item No. | Event Name | Probability | Fussell-Vesely Importance | Description | Disposition |
|----------|------------------|-------------|---------------------------|---|--|
| 1 | PFHBWQ4-SW2OUAT | 2.712E-05 | 2.170E-01 | CCF OF PCB BETWEEN UAT & 4.16KV SW01A,1B,1C,1D FAIL TO OPEN | The components associated with this basic event is-are evaluated in Sections 7.11.6 through 7.11.9. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 2 | PFHBO1A-SW01A-H2 | 6.663E-03 | 1.830E-01 | FAILS TO OPEN OF PCB SW01A-H2 OF 4.16KV SWGR SW01A FROM UAT | The component associated with this basic event is evaluated in Section 7.11.6. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 3 | PFHBO1B-SW01B-H2 | 6.663E-03 | 1.480E-01 | FAILS TO OPEN OF PCB SW01B-H2 OF 4.16KV SWGR SW01B FROM UAT | The component associated with this basic event is evaluated in Section 7.11.7. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 4 | AFMVC1A-045 | 5.783E-02 | 7.330E-02 | AFW ISOL. MOV 0045 FAILS TO CLOSE FOR CYCLING OPERATION | The component associated with this basic event is evaluated in Section 7.3.1. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 5 | AFMVO1A-045 | 5.783E-02 | 7.330E-02 | AFW ISOL. MOV 045 FAILS TO OPEN FOR CYCLING OPERATION | The component associated with this basic event is evaluated in Section 7.3.1. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 6 | PFHBO2A-SW01C-C2 | 6.663E-03 | 6.720E-02 | FAILS TO OPEN OF PCB SW01C-C2 OF 4.16KV SWGR SW01C FROM UAT | The component associated with this basic event is evaluated in Section 7.11.8. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 7 | AFMVO1B-046 | 5.783E-02 | 6.380E-02 | AFW ISOL. MOV 046 FAILS TO OPEN FOR CYCLING OPERATION | The component associated with this basic event is evaluated in Section 7.3.2. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |

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| Item No. | Event Name | Probability | Fussell-Vesely Importance | Description | Disposition |
|----------|--------------------|-------------|---------------------------|--|---|
| 8 | AFMVC1B-046 | 5.783E-02 | 6.380E-02 | AFW ISOL. MOV 046 FAILS TO CLOSE FOR CYCLING OPERATION | The component associated with this basic event is evaluated in Section 7.3.2. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 9 | RCOPH-S-SDSE-FW | 9.100E-03 | 6.110E-02 | FAILURE OF SDS VALVES EARLY PHASE OPEN (1/4) | Procedural changes are not in the scope of this SAMDA analysis |
| 10 | PFHBWQ3-SW2OUATACD | 1.646E-05 | 6.010E-02 | 3/4 CCF OF PCB BETWEEN UAT & 4.16KV SW01A,1C,1D FAIL TO OPEN | The components associated with this basic event is-are evaluated in Sections 7.11.6, 7.11.8, and 7.11.9. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 11 | PFHBWQ3-SW2OUATBCD | 1.646E-05 | 5.410E-02 | 3/4 CCF OF PCB BETWEEN UAT & 4.16KV SW01B,1C,1D FAIL TO OPEN | The components associated with this basic event is-are evaluated in Sections 7.11.7 through 7.11.9. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 12 | PFHBWQ2-SW2OUATAC | 6.017E-05 | 4.990E-02 | 2/4 CCF OF PCB BETWEEN UAT & 4.16KV SW01A,1C FAIL TO OPEN | The components associated with this basic event is-are evaluated in Sections 7.11.6 and 7.11.8. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 13 | AFTPR1A-TDP01A | 3.518E-02 | 4.750E-02 | FAILS TO RUN AFW TDP PP01A | The component associated with this basic event is evaluated in Section 7.3.3. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 14 | WOCHM2A-CH02A | 1.976E-02 | 4.700E-02 | ECW CHILLER 02A TRAIN UNAVAILABLE DUE TO T&M | The component associated with this basic event is evaluated in Section 7.15.5. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 15 | PFHBWQ2-SW2OUATBD | 6.017E-05 | 4.590E-02 | 2/4 CCF OF PCB BETWEEN UAT & 4.16KV SW01B,1D FAIL TO OPEN | The components associated with this basic event is-are evaluated in Sections 7.11.7 and 7.11.9. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |

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| Item No. | Event Name | Probability | Fussell-Vesely Importance | Description | Disposition |
|----------|--------------------|-------------|---------------------------|--|--|
| 16 | WOCHM2B-CH02B | 1.976E-02 | 4.530E-02 | ECW CHILLER 02B TRAIN UNAVAILABLE DUE TO T&M | The component associated with this basic event is evaluated in Section 7.15.6. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 17 | PFHBO2B-SW01D-G2 | 6.663E-03 | 4.520E-02 | FAILS TO OPEN OF PCB SW01D-G2 OF 4.16KV SWGR SW01D FROM UAT | The component associated with this basic event is evaluated in Section 7.11.9. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 18 | AFTPR1B-TDP01B | 3.518E-02 | 4.220E-02 | FAILS TO RUN AFW TDP PP01B | The component associated with this basic event is evaluated in Section 7.3.4. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 19 | DGDGR-D-DGD | 2.492E-02 | 3.990E-02 | FAILS TO RUN OF EMERGENCY DIESEL GENERATOR DG01D | The component associated with this basic event is evaluated in Section 7.1.4. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 20 | DGDGR-C-DGC | 2.492E-02 | 3.590E-02 | FAILS TO RUN OF EMERGENCY DIESEL GENERATOR DG01C | The component associated with this basic event is evaluated in Section 7.1.3. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 21 | PFHBWQ3-SW2OUATABC | 1.646E-05 | 3.220E-02 | 3/4 CCF OF PCB BETWEEN UAT & 4.16KV SW01A,1B,1C FAIL TO OPEN | The components associated with this basic event is-are evaluated in Sections 7.11.6 through 7.11.9. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 22 | SXMPM2A-PP02A | 1.320E-02 | 3.070E-02 | ESW PUMP PP02A UNAVAILABLE DUE TO T/M | The component associated with this basic event is evaluated in Section 7.17.1. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |

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| Item No. | Event Name | Probability | Fussell-Vesely Importance | Description | Disposition |
|----------|----------------|-------------|---------------------------|---|---|
| 23 | WOCHS2A-CH02A | 1.299E-02 | 3.010E-02 | ECW CHILLER CH02A FAILS TO START ON DEMAND | The component associated with this basic event is evaluated in Section 7.15.5. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 24 | SXMPM2B-PP02B | 1.320E-02 | 2.950E-02 | ESW PUMP PP02B UNAVAILABLE DUE TO T/M | The component associated with this basic event is evaluated in Section 7.17.2. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 25 | WOCHS2B-CH02B | 1.299E-02 | 2.900E-02 | ECW CHILLER CH02B FAILS TO START ON DEMAND | The component associated with this basic event is evaluated in Section 7.15.6. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 26 | FPOPH-1-ISO-FL | 1.000E+00 | 2.540E-02 | OPERATOR FAILS TO ISOLATE A FIRE PROTECTION BREAK IN LESS THAN 20 MINUTES | Procedural changes are not in the scope of this SAMDA analysis |
| 27 | WOOPH-B-1/2B | 1.700E-02 | 2.420E-02 | OPERATOR FAILS TO OPERATE ECW PUMPS PP01/2B | Procedural changes are not in the scope of this SAMDA analysis |
| 28 | DCBTM-A-BT01A | 2.820E-03 | 2.310E-02 | CLASS 1E 125V DC BATTERY BT01A UNAVAILABLE DUE TO T&M | The component associated with this basic event is evaluated in Section 7.8.1. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 29 | DGDGM-D-DGD | 1.440E-02 | 2.220E-02 | DG 01D UNAVAILABLE DUE TO MAINTENANCE | The component associated with this basic event is evaluated in Section 7.1.4. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |

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| Item No. | Event Name | Probability | Fussell-Vesely Importance | Description | Disposition |
|----------|------------------|-------------|---------------------------|--|---|
| 30 | DCBTM-B-BT01B | 2.820E-03 | 2.170E-02 | CLASS 1E 125V DC BATTERY BT01B UNAVAILABLE DUE TO T&M | The component associated with this basic event is evaluated in Section 7.8.2. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 31 | WOOPH-A-1/2A | 1.700E-02 | 2.150E-02 | OPERATOR FAILS TO OPERATE ECW PUMPS PP01/2A | Procedural changes are not in the scope of this SAMDA analysis |
| 32 | DGDGM-C-DGC | 1.440E-02 | 2.000E-02 | DG 01C UNAVAILABLE DUE TO MAINTENANCE | The component associated with this basic event is evaluated in Section 7.1.3. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 33 | AFMPM2A-MDP02A | 3.630E-03 | 1.890E-02 | AFW MDP PP02A UNAVAILABLE DUE TO T/M | The component associated with this basic event is evaluated in Section 7.3.5. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 34 | DGDGR-B-DGB | 2.492E-02 | 1.880E-02 | FAILS TO RUN OF EMERGENCY DIESEL GENERATOR DG01B | The component associated with this basic event is evaluated in Section 7.1.2. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 35 | PFHBC1A-SW01A-A2 | 6.663E-03 | 1.690E-02 | FAILS TO CLOSE OF PCB SW01A-A2 OF 4.16KV SWGR SW01A | The component associated with this basic event is evaluated in Section 7.11.3. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 36 | IPINM-A-IN01A | 2.740E-03 | 1.650E-02 | CLASS 1E 120V AC INVERTER IN01A UNAVAILABLE DUE TO T&M | The component associated with this basic event is evaluated in Section 7.9.1. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |

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| Item No. | Event Name | Probability | Fussell-Vesely Importance | Description | Disposition |
|----------|--------------------|-------------|---------------------------|--|---|
| 37 | IPINM-B-IN01B | 2.740E-03 | 1.530E-02 | CLASS 1E 120V AC INVERTER IN01B UNAVAILABLE DUE TO T&M | The component associated with this basic event is evaluated in Section 7.449.2. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 38 | WOMPM2A-PP02A | 6.900E-03 | 1.530E-02 | ECW PP02A TRAIN UNAVAILABLE DUE TO T&M | The component associated with this basic event is evaluated in Section 7.18.1. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 39 | PFHBWQ3-SW2OUATABD | 1.646E-05 | 1.510E-02 | 3/4 CCF OF PCB BETWEEN UAT & 4.16KV SW01A,1B,1D FAIL TO OPEN | The components associated with this basic event is-are evaluated in Sections 7.11.6, 7.11.7, and 7.11.9. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 40 | PFHBC1B-SW01B-A2 | 6.663E-03 | 1.490E-02 | FAILS TO CLOSE OF PCB SW01B-A2 OF 4.16KV SWGR SW01B | The component associated with this basic event is evaluated in Section 7.11.4. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 41 | WOMPM2B-PP02B | 6.900E-03 | 1.470E-02 | ECW PP02B TRAIN UNAVAILABLE DUE TO T&M | The component associated with this basic event is evaluated in Section 7.18.2. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 42 | NPXHM-N-SAT02N | 1.750E-03 | 1.460E-02 | SAT TR02N UNAVAILABLE DUE TO MAINTENANCE | The component associated with this basic event is evaluated in Section 7.11.2. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 43 | NPXHM-M-SAT02M | 1.750E-03 | 1.370E-02 | SAT TR02M UNAVAILABLE DUE TO MAINTENANCE | The component associated with this basic event is evaluated in Section 7.11.1. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |

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| Item No. | Event Name | Probability | Fussell-Vesely Importance | Description | Disposition |
|----------|---------------|-------------|---------------------------|--|---|
| 44 | RCPVO-C-201 | 3.543E-03 | 1.150E-02 | POSRV V200 FAILS TO OPEN (HARDWARE FAIL) | The component associated with this basic event is evaluated in Section 7.12.1. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 45 | RCPVO-A-200 | 3.543E-03 | 1.150E-02 | POSRV V201 FAILS TO OPEN (HARDWARE FAIL) | The component associated with this basic event is evaluated in Section 7.12.2. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 46 | DGDGR-A-DGA | 2.492E-02 | 1.090E-02 | FAILS TO RUN OF EMERGENCY DIESEL GENERATOR DG01A | The component associated with this basic event is evaluated in Section 7.1.1. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 47 | CCMPM2A-PP02A | 4.720E-03 | 1.010E-02 | CCW PUMP PP02A UNAVAILABLE DUE TO T/M | The component associated with this basic event is evaluated in Section 7.5.1. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 48 | RCPVO-B-202 | 3.543E-03 | 1.010E-02 | POSRV V202 FAILS TO OPEN (HARDWARE FAIL) | The component associated with this basic event is evaluated in Section 7.12.3. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 49 | RCPVO-D-203 | 3.543E-03 | 1.010E-02 | POSRV V203 FAILS TO OPEN (HARDWARE FAIL) | The component associated with this basic event is evaluated in Section 7.12.4. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 50 | DGDGM-B-DGB | 1.440E-02 | 1.010E-02 | DG 01B UNAVAILABLE DUE TO MAINTENANCE | The component associated with this basic event is evaluated in Section 7.1.2. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |

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| Item No. | Event Name | Probability | Fussell-Vesely Importance | Description | Disposition |
|----------|-------------------|-------------|---------------------------|---|--|
| 51 | AFMPM2B-MDP02B | 3.630E-03 | 9.950E-03 | AFW MDP PP02B UNAVAILABLE DUE TO T/M | The component associated with this basic event is evaluated in Section 7.3.6. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 52 | VOHVM2A-HV33A | 1.996E-03 | 9.800E-03 | CUBICLE COOLER HV33A UNAVAILABLE DUE TO T&M | The component associated with this basic event is evaluated in Section 7.15.21. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 53 | CCMPM2B-PP02B | 4.720E-03 | 9.710E-03 | CCW PUMP PP02B UNAVAILABLE DUE TO T/M | The component associated with this basic event is evaluated in Section 7.5.2. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 54 | CSMPM2A-PP01A | 7.050E-03 | 7.480E-03 | CS PUMP 1 PP01A UNAVAILABLE DUE TO MAINTENANCE | The component associated with this basic event is evaluated in Section 7.6.1. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 55 | PFHBWQ2-SW2OUATBC | 6.017E-05 | 6.970E-03 | 2/4 CCF OF PCB BETWEEN UAT & 4.16KV SW01B,1C FAIL TO OPEN | The components associated with this basic event is-are evaluated in Sections 7.11.7 and 7.11.8. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 56 | AFTPS1A-TDP01A | 6.481E-03 | 6.950E-03 | FAILS TO START AFW TDP PP01A | The component associated with this basic event is evaluated in Section 7.3.3. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 57 | PFHBWQ2-SW2OUATAD | 6.017E-05 | 6.910E-03 | 2/4 CCF OF PCB BETWEEN UAT & 4.16KV SW01A,1D FAIL TO OPEN | The components associated with this basic event is-are evaluated in Sections 7.11.6 and 7.11.9. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |

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| Item No. | Event Name | Probability | Fussell-Vesely Importance | Description | Disposition |
|----------|------------------|-------------|---------------------------|--|--|
| 58 | AFTPS1B-TDP01B | 6.481E-03 | 6.270E-03 | FAILS TO START AFW TDP PP01B | The component associated with this basic event is evaluated in Section 7.3.4. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 59 | CSMPM2B-PP01B | 7.050E-03 | 5.750E-03 | CS PUMP PP01B UNAVAILABLE DUE TO MAINTENANCE | The component associated with this basic event is evaluated in Section 7.6.2. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 60 | DGDGM-A-DGA | 1.440E-02 | 5.600E-03 | DG 01A UNAVAILABLE DUE TO MAINTENANCE | The component associated with this basic event is evaluated in Section 7.1.1. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 61 | AFTPM1A-TDP01A | 5.330E-03 | 5.470E-03 | AFW TDP PP01A UNAVAILABLE DUE TO T/M | The component associated with this basic event is evaluated in Section 7.3.3. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 62 | DGDGL-D-DGD | 3.775E-03 | 5.120E-03 | DG D FAILS TO LOAD AND RUN DURING 1ST 1HR OF OPERATION | The component associated with this basic event is evaluated in Section 7.1.4. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 63 | VOHVM1B-HV33B | 1.996E-03 | 5.060E-03 | CUBICLE COOLER HV33B UNAVAILABLE DUE TO T&M | The component associated with this basic event is evaluated in Section 7.15.22. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 64 | PFHBC2A-SW01C-A2 | 6.663E-03 | 5.000E-03 | FAILS TO CLOSE OF PCB SW01C-A2 OF 4.16KV SWGR SW01C | The component associated with this basic event is evaluated in Section 7.11.5. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |

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Table 5c(1 of 10) List of Basic Events from APR1400 PRA CDF Importance Analysis (At-Power Fire Events)

| Item No. | Event Name | Probability | Fussell-Vesely Importance | Description | Disposition |
|----------|----------------------|-------------|---------------------------|--|--|
| 1 | ASD-CDF | 1.000E-01 | 4.370E-01 | ALTERNATE SHUTDOWN FAILURE PROBABILITY FOR CDF | This event represents operator actions and procedural changes are not in the scope of this SAMDA analysis |
| 2 | #F157-AMCR-4-4 | 2.359E-06 | 1.799E-01 | Trans Fire, Supp. Fails, ASD | Fire frequency for compartment - no impact on SAMDA analysis |
| 3 | SHR1-E12TD | 1.000E+00 | 1.378E-01 | UNRECOVERABLE SBO LEADS TO TDAFW PUMP FAILURE | The component associated with this basic event is evaluated in Section 7.14. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 4 | #F157-AMCR-3-4 | 1.516E-06 | 1.156E-01 | Safety Console Fire, Supp. Fails, ASD | Fire frequency for compartment - no impact on SAMDA analysis |
| 5 | AFTPR1A-TDP01A | 3.675E-02 | 1.035E-01 | FAILS TO RUN AFW TDP PP01A | The component associated with this basic event is evaluated in Section 7.3.3. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 6 | PFGRID | 5.300E-03 | 8.536E-02 | GRID COLLAPSE ON TURBINE TRIP | The component associated with this basic event is evaluated in Section 7.10. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 7 | F-WOOPH-S-CROSSTIE-A | 5.000E-01 | 6.956E-02 | Operator Fails to Open 1025A AND Align Flow Path | Procedural changes are not in the scope of this SAMDA analysis |
| 8 | AFTPR1B-TDP01B | 3.675E-02 | 6.811E-02 | FAILS TO RUN AFW TDP PP01B | The component associated with this basic event is evaluated in Section 7.3.4. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 9 | RCOPH-S-SDSE-SL | 2.900E-02 | 6.428E-02 | FAILURE OF SDS VALVES EARLY PHASE OPEN (2/4) | Procedural changes are not in the scope of this SAMDA analysis |
| 10 | #F157-AMCR-2-4 | 7.560E-07 | 5.766E-02 | Fire Cont Pnl Fire, Supp. Fails, ASD | Fire frequency for compartment - no impact on SAMDA analysis |
| 11 | #F157-AMCR-1-4 | 7.560E-07 | 5.766E-02 | CCTV Fire, Supp. Fails, ASD | Fire frequency for compartment - no impact on SAMDA analysis |

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| Item No. | Event Name | Probability | Fussell-Vesely Importance | Description | Disposition |
|----------|----------------------|-------------|---------------------------|--|--|
| 12 | DAMPR-A-PP02 | 4.984E-02 | 5.563E-02 | AAC FUEL OIL FEED PUMP PP02 FAILS TO RUN | The component associated with this basic event is evaluated in Section 7.2.2. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 13 | #F078-AAFD_F078-AGAD | 1.978E-06 | 5.467E-02 | MULTI-COMPARTMENT FIRE FROM F078-AAFD TO F078-AGAD | Fire frequency for compartment - no impact on SAMDA analysis |
| 14 | WOCHM4A-CH04A | 1.980E-02 | 4.525E-02 | ECW CHILLER 04A TRAIN UNAVAILABLE DUE TO T&M | The component associated with this basic event is evaluated in Section 7.15.9. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 15 | #F078-A52D-U | 3.480E-04 | 4.225E-02 | F078-A52D Unsuppressed Fires | Fire frequency for compartment - no impact on SAMDA analysis |
| 16 | #F122-T01-U | 7.610E-04 | 3.807E-02 | F122-T01 Unsuppressed Fires | Fire frequency for compartment - no impact on SAMDA analysis |
| 17 | WOCHS4A-CH04A | 1.300E-02 | 2.911E-02 | ECW CHILLER CH04A FAILS TO START ON DEMAND | The component associated with this basic event is evaluated in Section 7.18.15.9. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 18 | #F000-TB-LOOP2 | 4.700E-04 | 2.796E-02 | TB Fires Leading to LOOP2 | Fire frequency for compartment - no impact on SAMDA analysis |
| 19 | WOMPM5A-PP05A | 6.900E-03 | 2.778E-02 | ECW PP05A TRAIN UNAVAILABLE DUE TO TEST OR MAINTENANCE | The component associated with this basic event is evaluated in Section 7.18.3. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 20 | #F157-AMCR-6-4 | 3.430E-07 | 2.616E-02 | Cable W/C Fire, Supp. Fails, ASD | Fire frequency for compartment - no impact on SAMDA analysis |
| 21 | DADGR-S-AACDG | 2.605E-02 | 2.600E-02 | AAC DG FAILS TO RUN | The component associated with this basic event is evaluated in Section 7.2.1. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 22 | #F100-T15-U | 5.390E-04 | 2.533E-02 | F100-T15 Unsuppressed Fires | Fire frequency for compartment - no impact on SAMDA analysis |

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| Item No. | Event Name | Probability | Fussell-Vesely Importance | Description | Disposition |
|----------|----------------------|-------------|---------------------------|---|---|
| 23 | AFOPV-S-AFAS-TR | 1.000E-02 | 2.402E-02 | OPERATOR FAILS TO RECOVER AFAS | Procedural changes are not in the scope of this SAMDA analysis |
| 24 | PR | 9.160E-04 | 2.316E-02 | POSRV FAILS TO RECLOSE | The components associated with this basic event is is are evaluated in Sections 7.12.1 through 7.12.4. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 25 | ASD-CDF-MCA | 1.000E-02 | 2.315E-02 | ALTERNATE SHUTDOWN FAILURE PROBABILITY FOR MCA CDF | This event represents operator actions and procedural changes are not in the scope of this SAMDA analysis |
| 26 | PFHBO1A-SW01A-H2 | 6.660E-03 | 2.216E-02 | FAILS TO OPEN OF PCB SW01A-H2 OF 4.16KV SWGR SW01A FROM UAT | The component associated with this basic event is evaluated in Section 7.11.6. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 27 | #F120-A05C-U | 2.980E-04 | 2.164E-02 | F120-A05C Unsuppressed Fires | Fire frequency for compartment - no impact on SAMDA analysis |
| 28 | DGDGR-B-DGB | 2.605E-02 | 2.081E-02 | FAILS TO RUN OF EMERGENCY DIESEL GENERATOR DG01B | The component associated with this basic event is evaluated in Section 7.1.2. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 29 | PFHBO2A-SW01C-C2 | 6.660E-03 | 2.077E-02 | FAILS TO OPEN OF PCB SW01C-C2 OF 4.16KV SWGR SW01C FROM UAT | The component associated with this basic event is evaluated in Section 7.11.8. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 30 | RCOPH-S-SDSE-SL-MD | 2.286E-01 | 2.014E-02 | FAILURE OF SDS VALVES EARLY PHASE OPEN (2/4) WITH MEDIUM DEPENDENCY | Procedural changes are not in the scope of this SAMDA analysis |
| 31 | #F078-AGAD_F078-AAFD | 7.079E-07 | 1.950E-02 | MULTI-COMPARTMENT FIRE FROM F078-AGAD TO F078-AAFD | Fire frequency for compartment - no impact on SAMDA analysis |
| 32 | #F157-A25C-U | 1.680E-04 | 1.922E-02 | F157-A25C Unsuppressed Fires | Fire frequency for compartment - no impact on SAMDA analysis |

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| Item No. | Event Name | Probability | Fussell-Vesely Importance | Description | Disposition |
|----------|------------------------|-------------|---------------------------|---|---|
| 33 | SEAL-AFSUC | 1.160E-03 | 1.651E-02 | SEAL FAILURE PROBABILITY (SECONDARY HEAT REMOVAL SUCCESS) | The component associated with this basic event is evaluated in Section 7.13. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 34 | #F157-A01D-U | 1.690E-04 | 1.593E-02 | F157-A01D Unsuppressed Fires | Fire frequency for compartment - no impact on SAMDA analysis |
| 35 | AFTPS1A-TDP01A | 6.490E-03 | 1.580E-02 | FAILS TO START AFW TDP PP01A | The component associated with this basic event is evaluated in Section 7.3.3. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 36 | WOCHWQ4-CH03A/4A/3B/4B | 4.381E-05 | 1.541E-02 | DEMAND CCF OF ECW CHILLERS 3A/4A/3B/4B | The components associated with this basic event is-are evaluated in Sections 7.15.7 through 7.15.10. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 37 | WOCHWQ4-CH01A/2A/1B/2B | 4.381E-05 | 1.534E-02 | DEMAND CCF OF ECW CHILLERS 1A/2A/1B/2B | The components associated with this basic event is-are evaluated in Sections 7.15.3 through 7.15.6. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 38 | DGDGKQ4-DG01ABCD | 4.846E-05 | 1.502E-02 | CCF OF EDG 01A/01B/01C/01D FAIL TO RUN | The components associated with this basic event is-are evaluated in Sections 7.1.1 through 7.1.4. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 39 | VOHVS2A-HV33A | 3.860E-03 | 1.465E-02 | FAILS TO START OF MAFP ROOM A CUBICLE COOLER HV33A | The component associated with this basic event is evaluated in Section 7.15.21. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 40 | #F078-A19B-U | 7.240E-04 | 1.395E-02 | F078-A19B Unsuppressed Fires | Fire frequency for compartment - no impact on SAMDA analysis |
| 41 | #F078-AEEB-U | 1.350E-04 | 1.386E-02 | F078-AEEB Unsuppressed Fires | Fire frequency for compartment - no impact on SAMDA analysis |

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| Item No. | Event Name | Probability | Fussell-Vesely Importance | Description | Disposition |
|----------|--------------------|-------------|---------------------------|---|--|
| 42 | AFMPM2A-MDP02A | 3.630E-03 | 1.374E-02 | AFW MDP PP02A UNAVAILABLE DUE TO T/M | The component associated with this basic event is evaluated in Section 7.3.5. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 43 | #F055-AGAC-U | 2.010E-04 | 1.371E-02 | F055-AGAC Unsuppressed Fires | Fire frequency for compartment - no impact on SAMDA analysis |
| 44 | RCOPH-S-SDSE-SL-LD | 1.450E-01 | 1.351E-02 | FAILURE OF SDS VALVES EARLY PHASE OPEN (2/4) WITH LOW DEPENDENCY | Procedural changes are not in the scope of this SAMDA analysis |
| 45 | #F100-AEEB-U | 3.010E-04 | 1.306E-02 | F100-AEEB Unsuppressed Fires | Fire frequency for compartment - no impact on SAMDA analysis |
| 46 | DGDGR-A-DGA | 2.605E-02 | 1.283E-02 | FAILS TO RUN OF EMERGENCY DIESEL GENERATOR DG01A | The component associated with this basic event is evaluated in Section 7.1.1. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 47 | DGDGR-D-DGD | 2.605E-02 | 1.276E-02 | FAILS TO RUN OF EMERGENCY DIESEL GENERATOR DG01D | The component associated with this basic event is evaluated in Section 7.1.4. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 48 | AFTPM1A-TDP01A | 5.330E-03 | 1.266E-02 | AFW TDP PP01A UNAVAILABLE DUE TO T/M | The component associated with this basic event is evaluated in Section 7.3.3. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 49 | #F078-A05D-U | 3.170E-04 | 1.234E-02 | F078-A05D Unsuppressed Fires | Fire frequency for compartment - no impact on SAMDA analysis |
| 50 | FWOPH-S-ERY | 1.000E-02 | 1.110E-02 | OPERATOR FAILS TO ALINE STARTUP FEEDWATER PUMP PP07 (EARLY PHASE) | Procedural changes are not in the scope of this SAMDA analysis |

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| Item No. | Event Name | Probability | Fussell-Vesely Importance | Description | Disposition |
|----------|----------------|-------------|---------------------------|---|--|
| 51 | DADGM-S-AAC | 1.260E-02 | 1.109E-02 | AAC DG UNAVAILABLE DUE TO MAINTENANCE | The component associated with this basic event is evaluated in Section 7.2.1. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 52 | FLAG-L-FNB | 1.000E+00 | 1.087E-02 | FLAG FOR CONSIDERING THE FAILURE OF LONG TERM 2NDARY HEAT REMOVAL | Flag event – no impact on SAMDA analysis |
| 53 | AFOPH-S-ALT-LT | 7.200E-03 | 1.080E-02 | OPERATOR FAIL TO ALIGNE FOR SUPPLYING AN ALTERNATE SOURCE | Procedural changes are not in the scope of this SAMDA analysis |
| 54 | DAOPH-S-AACDG | 1.200E-02 | 1.048E-02 | OPERATOR FAILS TO PROVIDE 1E 4.16KV SW01A,B,C,D | Procedural changes are not in the scope of this SAMDA analysis |
| 55 | AFTPS1B-TDP01B | 6.490E-03 | 1.030E-02 | FAILS TO START AFW TDP PP01B | The component associated with this basic event is evaluated in Section 7.3.4. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 56 | DGDGR-C-DGC | 2.605E-02 | 1.008E-02 | FAILS TO RUN OF EMERGENCY DIESEL GENERATOR DG01C | The component associated with this basic event is evaluated in Section 7.1.3. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 57 | MSAVO-B-110 | 4.200E-03 | 9.704E-03 | FAILS TO OPEN MS AFW TDP PP01A TBN STM. SUPPLY AOV 110 | The component associated with this basic event is evaluated in Section 7.3.19.2.- A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 58 | #F000-TB-LOCV2 | 3.180E-03 | 9.323E-03 | TB Fires Leading to LOCV2 | Fire frequency for compartment - no impact on SAMDA analysis |

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| Item No. | Event Name | Probability | Fussell-Vesely Importance | Description | Disposition |
|----------|----------------------|-------------|---------------------------|---|--|
| 59 | DGDGM-B-DGB | 1.440E-02 | 9.211E-03 | DG B UNAVAILABLE DUE TO MAINTENANCE | The component associated with this basic event is evaluated in Section 7.1.2. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 60 | VOHVM2A-HV33A | 2.480E-03 | 9.201E-03 | CUBICLE COOLER HV33A UNAVAILABLE DUE TO T&M | The component associated with this basic event is evaluated in Section 7.15.21. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 61 | PFHBO1B-SW01B-H2 | 6.660E-03 | 8.980E-03 | FAILS TO OPEN OF PCB SW01B-H2 OF 4.16KV SWGR SW01B FROM UAT | The component associated with this basic event is evaluated in Section 7.11.7. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 62 | #F137-A03C_F157-AMCR | 1.160E-06 | 8.848E-03 | MULTI-COMPARTMENT FIRE FROM F137-A03C TO F157-AMCR | Fire frequency for compartment - no impact on SAMDA analysis |
| 63 | #F157-A25C_F157-A17C | 1.485E-06 | 8.685E-03 | MULTI-COMPARTMENT FIRE FROM F157-A25C TO F157-A17C | Fire frequency for compartment - no impact on SAMDA analysis |
| 64 | VOHVS2B-HV33B | 3.860E-03 | 8.268E-03 | FAILS TO START OF MAFP ROOM B CUBICLE COOLER HV33B | The component associated with this basic event is evaluated in Section 7.315.22. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 65 | PFHBWQ4-SW1OSAT | 2.711E-05 | 8.236E-03 | CCF OF PCB BETWEEN SAT & 4.16KV SW01A,1B,1C,1D FAIL TO OPEN | The components associated with this basic event is-are evaluated in Sections 7.11.6 through 7.11.9. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 66 | AFTPM1B-TDP01B | 5.330E-03 | 8.228E-03 | AFW TDP PP01B UNAVAILABLE DUE TO T/M | The component associated with this basic event is evaluated in Section 7.3.4. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |

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| Item No. | Event Name | Probability | Fussell-Vesely Importance | Description | Disposition |
|----------|------------------|-------------|---------------------------|---|--|
| 67 | PFHBWQ4-SW2OUAT | 2.711E-05 | 7.884E-03 | CCF OF PCB BETWEEN UAT & 4.16KV SW01A,1B,1C,1D FAIL TO OPEN | The components associated with this basic event is-are evaluated in Sections 7.11.6 through 7.11.9. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 68 | AFMPM2B-MDP02B | 3.630E-03 | 7.741E-03 | AFW MDP PP02B UNAVAILABLE DUE TO T/M | The component associated with this basic event is evaluated in Section 7.3.6. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 69 | CCOPV-S-NSMV | 8.000E-03 | 7.679E-03 | OPERATOR FAILS TO CLOSE CC MOV 143~150 (NON-ESSENTIAL LOAD) | Procedural changes are not in the scope of this SAMDA analysis |
| 70 | CCOPH-S-HX-ALIGN | 5.000E-01 | 7.517E-03 | OPERATOR FAILS TO OPEN CCW HX3A/B ISOL. V1145 /6 /ESW SUPPLYING V1027/8, 3014/5 | Procedural changes are not in the scope of this SAMDA analysis |
| 71 | #F000-ACVU-U | 2.100E-04 | 7.436E-03 | F000-ACVU Unsuppressed Fires | Fire frequency for compartment - no impact on SAMDA analysis |
| 72 | #F120-A15B-U | 1.730E-04 | 7.352E-03 | F120-A15B Unsuppressed Fires | Fire frequency for compartment - no impact on SAMDA analysis |
| 73 | #F000-TB-GTR | 3.230E-02 | 7.283E-03 | TB Fires Leading to GTRN | Fire frequency for compartment - no impact on SAMDA analysis |
| 74 | WOCHM2A-CH02A | 1.980E-02 | 6.889E-03 | ECW CHILLER 02A TRAIN UNAVAILABLE DUE TO T&M | The component associated with this basic event is evaluated in Section 7.15.5. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 75 | EFOPV-S-SIAS | 1.000E+00 | 6.715E-03 | OPERATOR FAILS TO MANUALLY INITIATE ALL CHANNELS VIA MCR FOR SIAS | Procedural changes are not in the scope of this SAMDA analysis |
| 76 | WOCHM2B-CH02B | 1.980E-02 | 6.696E-03 | ECW CHILLER 02B TRAIN UNAVAILABLE DUE TO T&M | The component associated with this basic event is evaluated in Section 7.15.6. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |

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| Item No. | Event Name | Probability | Fussell-Vesely Importance | Description | Disposition |
|----------|------------------------|-------------|---------------------------|--|--|
| 77 | #F157-ACPX-U_F157-AMCR | 8.690E-07 | 6.628E-03 | MULTI-COMPARTMENT FIRE FROM F157-ACPX TO F157-AMCR | Fire frequency for compartment - no impact on SAMDA analysis |
| 78 | WOCHM4B-CH04B | 1.980E-02 | 6.443E-03 | ECW CHILLER 04B TRAIN UNAVAILABLE DUE TO T&M | The component associated with this basic event is evaluated in Section 7.15.10. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 79 | MSAVO-A-109 | 4.200E-03 | 6.288E-03 | FAILS TO OPEN MS AFW TDP PP01B TBN STM. SUPPLY AOV 109 | The component associated with this basic event is evaluated in Section 7.319.1. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 80 | #FN-N00 | 2.757E-03 | 6.115E-03 | AAC D/G BUILDING | Fire frequency for compartment - no impact on SAMDA analysis |
| 81 | DGDGM-D-DGD | 1.440E-02 | 5.932E-03 | DG D UNAVAILABLE DUE TO MAINTENANCE | The component associated with this basic event is evaluated in Section 7.1.4. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 82 | #F078-AGAC_F078-AGAD | 1.395E-06 | 5.780E-03 | MULTI-COMPARTMENT FIRE FROM F078-AGAC TO F078-AGAD | Fire frequency for compartment - no impact on SAMDA analysis |
| 83 | #F120-A11B-U | 5.450E-05 | 5.689E-03 | F120-A11B Unsuppressed Fires | Fire frequency for compartment - no impact on SAMDA analysis |
| 84 | #F157-A25C_F157-A16C | 1.485E-06 | 5.575E-03 | MULTI-COMPARTMENT FIRE FROM F157-A25C TO F157-A16C | Fire frequency for compartment - no impact on SAMDA analysis |
| 85 | AFTPKD2-TDP01A/B | 2.719E-04 | 5.539E-03 | 2/2 CCF OF RUNNING AFW TDP PP01A/B | The components associated with this basic event is-are evaluated in Sections 7.3.3 and 7.3.4. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 86 | AXVVO-A-V1623 | 1.920E-04 | 5.482E-03 | FAILS TO OPEN CT SYSTEM MANUAL VALVE V1623 | Procedural changes are not in the scope of this SAMDA analysis |

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| Item No. | Event Name | Probability | Fussell-Vesely Importance | Description | Disposition |
|----------|------------------|-------------|---------------------------|---|--|
| 87 | WOMPS5A-PP05A | 1.360E-03 | 5.303E-03 | FAILS TO START OF ECW PUMP 05A | The component associated with this basic event is evaluated in Section 7.18.3. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 88 | VOHVM1B-HV33B | 2.480E-03 | 5.154E-03 | CUBICLE COOLER HV33B UNAVAILABLE DUE TO T&M | The component associated with this basic event is evaluated in Section 7.15.22. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 89 | NBHBC-S-SW03N-A2 | 6.660E-03 | 5.135E-03 | FAIL TO CLOSE OF SWGR SW03N-A2 FEED BREAKER FROM AAC DG | The component associated with this basic event is evaluated in Section 7.11.13. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 90 | DGDGM-A-DGA | 1.440E-02 | 5.084E-03 | DG 01A UNAVAILABLE DUE TO MAINTENANCE | The component associated with this basic event is evaluated in Section 7.1.1. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 91 | SIOPV-S-SIAS | 7.500E-02 | 5.043E-03 | OPERATOR FAILS TO RECOVERY FOR SIAS | Procedural changes are not in the scope of this SAMDA analysis |
| 92 | #F078-AGAD-U | 3.550E-05 | 5.031E-03 | F078-AGAD Unsuppressed Fires | Fire frequency for compartment - no impact on SAMDA analysis |

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Table 5d (1 of 6) List of Basic Events from APR1400 PRA CDF Importance Analysis (LPSD Internal Events)

| Item No. | Event Name | Probability | Fussell-Vesely Importance | Description | Disposition |
|----------|-------------------|-------------|---------------------------|--|--|
| 1 | BE-RATE-OT | 6.667E-01 | 5.878E-01 | Conversion factor (Outage-yr -> Calendar yr, 1/(18month/12month)) for Demand Fai | Conversion factor - no impact on SAMDA analysis |
| 2 | %SO | 2.900E-03 | 5.519E-01 | RCS Overdraining due to SCS | Initiating event - no impact on SAMDA analysis |
| 3 | HR-FB-SOP05-01-DE | 5.120E-02 | 2.797E-01 | HRA Dependence for RS & FB at SO POS05 | Procedural changes are not in the scope of this SAMDA analysis |
| 4 | HR-RS-SOP05 | 7.642E-03 | 2.797E-01 | OPERATOR FAILS TO RESTORE SCS AT SO POS05 | Procedural changes are not in the scope of this SAMDA analysis |
| 5 | BE-RATE-P05 | 1.231E-03 | 1.440E-01 | Conversion factor (SD-yr -> Calendar yr) for POS5 duration | Conversion factor - no impact on SAMDA analysis |
| 6 | HR-FB-SOP11-01-DE | 5.120E-02 | 1.258E-01 | HRA Dependence for RS & FB at SO POS11 | Procedural changes are not in the scope of this SAMDA analysis |
| 7 | HR-RS-SOP11 | 3.436E-03 | 1.258E-01 | OPERATOR FAILS TO RESTORE SCS AT SO POS11 | Procedural changes are not in the scope of this SAMDA analysis |
| 8 | %SL | 2.900E-01 | 9.478E-02 | Failure to Maintain Water Level at Reduced Inventory | Initiating event - no impact on SAMDA analysis |
| 9 | HR-MI-SOP05 | 1.899E-03 | 8.643E-02 | Operator Fails To Isolate and Makeup Over-Drainage (SO) PATH at POS05 | Procedural changes are not in the scope of this SAMDA analysis |
| 10 | HR-FB-SOP05-02-DE | 6.367E-02 | 8.643E-02 | HRA Dependence for MI & FB at SO POS05 | Procedural changes are not in the scope of this SAMDA analysis |
| 11 | BE-RATE-P03A | 3.360E-04 | 7.140E-02 | Conversion factor (SD-yr -> Calendar yr) for POS03A duration | Conversion factor - no impact on SAMDA analysis |
| 12 | %SL1 | 1.600E-01 | 5.229E-02 | Small LOCA at Reduced Inventory | Initiating event - no impact on SAMDA analysis |
| 13 | HR-FB-SLP05-01-DE | 5.120E-02 | 5.163E-02 | HRA Dependence for RS & FB at SL POS05 | Procedural changes are not in the scope of this SAMDA analysis |
| 14 | HR-RS-SLP05 | 7.642E-03 | 5.163E-02 | OPERATOR FAILS TO RESTORE SCS AT SL POS05 | Procedural changes are not in the scope of this SAMDA analysis |

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| Item No. | Event Name | Probability | Fussell-Vesely Importance | Description | Disposition |
|----------|-------------------|-------------|---------------------------|---|--|
| 15 | BE-RATE-P10 | 6.262E-03 | 4.748E-02 | Conversion factor (SD-yr -> Calendar yr) for POS10 duration | Conversion factor - no impact on SAMDA analysis |
| 16 | HR-MI-SOP11 | 1.249E-03 | 4.571E-02 | Operator Fails To Isolate and Makeup Over-Drainage (SO) PATH at POS11 | Procedural changes are not in the scope of this SAMDA analysis |
| 17 | HR-FB-SOP11-02-DE | 5.120E-02 | 4.571E-02 | HRA Dependence for MI & FB at SO POS11 | Procedural changes are not in the scope of this SAMDA analysis |
| 18 | BE-RATE-P11 | 9.662E-04 | 4.499E-02 | Conversion factor (SD-yr -> Calendar yr) for POS11 duration | Conversion factor - no impact on SAMDA analysis |
| 19 | %LPSW | 6.390E-02 | 4.070E-02 | Loss of offsite power of Switchyard-centered for LPSD | Initiating event - no impact on SAMDA analysis |
| 20 | BE-RATE-P06 | 4.011E-03 | 3.591E-02 | Conversion factor (SD-yr -> Calendar yr) for POS6 duration | Conversion factor - no impact on SAMDA analysis |
| 21 | %PL | 3.664E-03 | 3.586E-02 | STUCK OPEN OF POSRV | Initiating event - no impact on SAMDA analysis |
| 22 | %S1 | 1.400E-01 | 3.562E-02 | Loss of SCS (S1) | Initiating event - no impact on SAMDA analysis |
| 23 | BE-RATE-P03B | 2.743E-03 | 3.499E-02 | Conversion factor (SD-yr -> Calendar yr) for POS03B duration | Conversion factor - no impact on SAMDA analysis |
| 24 | %TS | 2.340E-04 | 3.293E-02 | Total Loss of Essential Service Water | Initiating event - no impact on SAMDA analysis |
| 25 | %TC | 2.340E-04 | 3.293E-02 | Total Loss of Component Cooling Water | Initiating event - no impact on SAMDA analysis |
| 26 | %LPPL | 5.280E-02 | 3.279E-02 | Loss of offsite power of Plant-centered for LPSD | Initiating event - no impact on SAMDA analysis |
| 27 | HR-RS-JLP05 | 7.642E-03 | 2.937E-02 | OPERATOR FAILS TO RESTORE SCS AT JL POS05 | Procedural changes are not in the scope of this SAMDA analysis |
| 28 | HR-FB-JLP05-01-DE | 5.120E-02 | 2.937E-02 | HRA Dependence for RS & FB at JL POS05 | Procedural changes are not in the scope of this SAMDA analysis |
| 29 | %LPWE | 3.670E-02 | 2.742E-02 | Loss of offsite power of Weather-related for LPSD | Initiating event - no impact on SAMDA analysis |

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| Item No. | Event Name | Probability | Fussell-Vesely Importance | Description | Disposition |
|----------|-------------------|-------------|---------------------------|--|--|
| 30 | %SL2 | 3.500E-02 | 2.288E-02 | Small LOCA above Reduced Inventory | Initiating event - no impact on SAMDA analysis |
| 31 | DGDGR-A-DGA | 2.605E-02 | 1.926E-02 | FAILS TO RUN OF EMERGENCY DIESEL GENERATOR DG01A | The component associated with this basic event is evaluated in Section 7.1.1. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 32 | DGDGR-B-DGB | 2.605E-02 | 1.889E-02 | FAILS TO RUN OF EMERGENCY DIESEL GENERATOR DG01B | The component associated with this basic event is evaluated in Section 7.1.2. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 33 | HR-FB-SLP11-01-DE | 5.120E-02 | 1.823E-02 | HRA Dependence for RS & FB at SL POS11 | Procedural changes are not in the scope of this SAMDA analysis |
| 34 | HR-RS-SLP11 | 3.436E-03 | 1.823E-02 | OPERATOR FAILS TO RESTORE SCS AT SL POS11 | Procedural changes are not in the scope of this SAMDA analysis |
| 35 | BE-RATE-P4B | 1.485E-03 | 1.680E-02 | Conversion factor (SD-yr -> Calendar yr) for POS4B duration | Conversion factor - no impact on SAMDA analysis |
| 36 | HR-MI-SLP05 | 1.899E-03 | 1.595E-02 | Operator Fails To Isolate and Makeup Failing to maintain water level (SL) PATH a | Procedural changes are not in the scope of this SAMDA analysis |
| 37 | HR-FB-SLP05-02-DE | 6.367E-02 | 1.595E-02 | HRA Dependence for MI & FB at SL POS05 | Procedural changes are not in the scope of this SAMDA analysis |
| 38 | HR-RS-LPP05 | 3.367E-03 | 1.293E-02 | OPERATOR FAILS TO RESTORE SCS AT LO POS05 | Procedural changes are not in the scope of this SAMDA analysis |
| 39 | HR-FB-LPP05-DE | 5.120E-02 | 1.293E-02 | HRA Dependence for RS & FB at LP POS05 | Procedural changes are not in the scope of this SAMDA analysis |
| 40 | HR-RS-LPP03B | 2.703E-02 | 1.253E-02 | OPERATOR FAILS TO RESTORE SCS AT LO POS03B | Procedural changes are not in the scope of this SAMDA analysis |

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| Item No. | Event Name | Probability | Fussell-Vesely Importance | Description | Disposition |
|----------|--------------------|-------------|---------------------------|--|---|
| 41 | HR-SG-LPP03B-DE | 5.097E-02 | 1.253E-02 | HRA Dependence for RS & SG at LP POS03B | Procedural changes are not in the scope of this SAMDA analysis |
| 42 | HR-FB-LPP03B-01-DE | 5.432E-02 | 1.252E-02 | HRA Dependence for SG & FB at LP POS03B | Procedural changes are not in the scope of this SAMDA analysis |
| 43 | SISPP-S-IRWST | 1.219E-05 | 1.103E-02 | FAILURE OF IRWST SUMP DUE TO PLUGGING | The component associated with this basic event is evaluated in Section 7.16.5. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 44 | HR-RS-S1P05 | 3.367E-03 | 1.098E-02 | OPERATOR FAILS TO RESTORE SCS AT S1 POS05 | Procedural changes are not in the scope of this SAMDA analysis |
| 45 | HR-FB-S1P05-DE | 5.120E-02 | 1.098E-02 | HRA Dependence for RS & FB at S1 POS05 | Procedural changes are not in the scope of this SAMDA analysis |
| 46 | HR-RS-S1P03B | 2.703E-02 | 1.064E-02 | OPERATOR FAILS TO RESTORE SCS AT S1 POS03B | Procedural changes are not in the scope of this SAMDA analysis |
| 47 | HR-SG-S1P03B-DE | 5.097E-02 | 1.064E-02 | HRA Dependence for RS & SG at S1 POS03B | Procedural changes are not in the scope of this SAMDA analysis |
| 48 | HR-FB-S1P03B-01-DE | 5.432E-02 | 1.063E-02 | HRA Dependence for SG & FB at S1 POS03B | Procedural changes are not in the scope of this SAMDA analysis |
| 49 | HR-FB-JLP11-01-DE | 5.120E-02 | 1.037E-02 | HRA Dependence for RS & FB at JL POS11 | Procedural changes are not in the scope of this SAMDA analysis |
| 50 | HR-RS-JLP11 | 3.436E-03 | 1.037E-02 | OPERATOR FAILS TO RESTORE SCS AT JL POS11 | Procedural changes are not in the scope of this SAMDA analysis |
| 51 | %KV | 3.500E-02 | 1.029E-02 | Loss of Class 1E 4.16KV | Initiating event - no impact on SAMDA analysis |
| 52 | HR-MI-JLP05 | 1.899E-03 | 9.077E-03 | Operator Fails To Isolate and Makeup Unrecoverable LOCA (JL) PATH at POS05 | Procedural changes are not in the scope of this SAMDA analysis |

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| Item No. | Event Name | Probability | Fussell-Vesely Importance | Description | Disposition |
|----------|-------------------|-------------|---------------------------|--|--|
| 53 | HR-FB-JLP05-02-DE | 6.367E-02 | 9.077E-03 | HRA Dependence for MI & FB at JL POS05 | Procedural changes are not in the scope of this SAMDA analysis |
| 54 | BE-RATE-P12A | 3.068E-04 | 8.382E-03 | Conversion factor (SD-yr -> Calendar yr) for POS12A duration | Conversion factor - no impact on SAMDA analysis |
| 55 | DADGR-S-AACDG | 2.605E-02 | 8.260E-03 | AAC DG FAILS TO RUN | The component associated with this basic event is evaluated in Section 7.2.1. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 56 | BE-RATE-P13 | 2.445E-03 | 7.822E-03 | Conversion factor (SD-yr -> Calendar yr) for POS13 duration | Conversion factor - no impact on SAMDA analysis |
| 57 | %LPGR | 1.150E-02 | 7.342E-03 | Loss of offsite power of Grid-related for LPSD | Initiating event - no impact on SAMDA analysis |
| 58 | VKHVS2A-HV11A | 3.860E-03 | 7.166E-03 | FAILS TO START SI PUMP ROOM CUBICLE COOLER HV11A | The component associated with this basic event is evaluated in Section 7.15.1. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 59 | VKHVS2B-HV16B | 3.860E-03 | 7.144E-03 | FAILS TO START SC PUMP 02B ROOM CUBICLE COOLER HV16B | The component associated with this basic event is evaluated in Section 7.15.20. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 60 | %ES | 1.860E-02 | 7.139E-03 | Loss of Essential Service Water | Initiating event - no impact on SAMDA analysis |
| 61 | HR-FB-JLP06-02-DE | 6.304E-02 | 7.102E-03 | HRA Dependence for MI & FB at JL POS06 | Procedural changes are not in the scope of this SAMDA analysis |
| 62 | HR-MI-JLP06 | 1.899E-03 | 7.102E-03 | Operator Fails To Isolate and Makeup Unrecoverable LOCA (JL) PATH at POS06 | Procedural changes are not in the scope of this SAMDA analysis |
| 63 | %S2 | 2.200E-02 | 6.721E-03 | Loss of SCS (S2) | Initiating event - no impact on SAMDA analysis |

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| Item No. | Event Name | Probability | Fussell-Vesely Importance | Description | Disposition |
|----------|-------------------|-------------|---------------------------|--|--|
| 64 | HR-FB-SOP05-01 | 1.265E-03 | 6.703E-03 | OPERATOR FAILS TO OPERATE F&B AT SO POS05 01 | Procedural changes are not in the scope of this SAMDA analysis |
| 65 | HR-MI-SLP11 | 1.249E-03 | 6.625E-03 | Operator Fails To Isolate and Makeup Failing to maintain water level (SL) PATH a | Procedural changes are not in the scope of this SAMDA analysis |
| 66 | HR-FB-SLP11-02-DE | 5.120E-02 | 6.625E-03 | HRA Dependence for MI & FB at SL POS11 | Procedural changes are not in the scope of this SAMDA analysis |
| 67 | HR-FB-SOP11-01 | 1.265E-03 | 6.606E-03 | OPERATOR FAILS TO OPERATE F&B AT SO POS11 01 | Procedural changes are not in the scope of this SAMDA analysis |
| 68 | VKHVS2B-HV11B | 3.860E-03 | 6.582E-03 | FAILS TO START SI PUMP ROOM CUBICLE COOLER HV11B | The component associated with this basic event is evaluated in Section 7.15.2. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 69 | VKHVS2A-HV16A | 3.860E-03 | 6.372E-03 | FAILS TO START SC PUMP 02A ROOM CUBICLE COOLER HV16A | The component associated with this basic event is evaluated in Section 7.15.19. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 70 | WOCHS2A-CH02A | 1.300E-02 | 6.347E-03 | ECW CHILLER CH02A FAILS TO START ON DEMAND | The component associated with this basic event is evaluated in Section 7.15.5. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 71 | HR-MI-JLP10 | 1.249E-03 | 5.970E-03 | Operator Fails To Isolate and Makeup Unrecoverable LOCA (JL) PATH at POS10 | Procedural changes are not in the scope of this SAMDA analysis |
| 72 | HR-FB-JLP10-02-DE | 5.161E-02 | 5.970E-03 | HRA Dependence for MI & FB at JL POS10 | Procedural changes are not in the scope of this SAMDA analysis |
| 73 | WOCHS2B-CH02B | 1.300E-02 | 5.575E-03 | ECW CHILLER CH02B FAILS TO START ON DEMAND | The component associated with this basic event is evaluated in Section 7.15.6. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |

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Table 5e(1 of 5) List of Basic Events from APR1400 PRA CDF Importance Analysis (LPSD Internal Flooding Events)

| Item No. | Event Name | Probability | Fussell-Vesely Importance | Description | Disposition |
|----------|------------------|-------------|---------------------------|--|---|
| 1 | SC-PP-A-B-FLOOD | 1.000E+00 | 9.566E-01 | FLAG TO DENOTE SC PUMPS A & B FLOOD | Internal flooding flag - no impact on SAMDA analysis |
| 2 | IE-78-44B-FP-X-L | 3.600E-04 | 7.244E-01 | Major FP break in room 078-A44B during LPSD | Internal flooding frequency for room – no impact on SAMDA analysis |
| 3 | BE-RATE-P06 | 4.010E-03 | 5.239E-01 | Conversion factor (SD-yr -> Calendar yr) for POS6 duration | Conversion factor - no impact on SAMDA analysis |
| 4 | SEQ-S2-P06-03 | 1.000E+00 | 5.239E-01 | S2 POS 6 SEQUENCE 03 IDENTIFIER | Sequence identifier - no impact on SAMDA analysis |
| 5 | FPOPH-1-ISO-FL | 1.000E+00 | 2.254E-01 | Operator fails to isolate FP break with less than 20 minutes available | Procedural changes are not in the scope of this SAMDA analysis |
| 6 | BE-RATE-P10 | 6.260E-03 | 2.201E-01 | Conversion factor (SD-yr -> Calendar yr) for POS10 duration | Conversion factor - no impact on SAMDA analysis |
| 7 | SEQ-S2-P10-03 | 1.000E+00 | 2.201E-01 | S2 POS 10 SEQUENCE 03 IDENTIFIER | Sequence identifier - no impact on SAMDA analysis |
| 8 | HR-FB-S2P10 | 1.270E-03 | 2.085E-01 | OPERATOR FAILS TO OPERATE F&B AT S2 POS10 | Procedural changes are not in the scope of this SAMDA analysis |
| 9 | IE-100-37B-FP-X | 9.940E-05 | 1.999E-01 | Large break of FP piping in room 100-A37B | Internal flooding frequency for room – no impact on SAMDA analysis |
| 10 | HR-FB-S2P06 | 1.340E-03 | 1.428E-01 | OPERATOR FAILS TO OPERATE F&B AT S2 POS06 | Procedural changes are not in the scope of this SAMDA analysis |
| 11 | SIMVO2A-636 | 9.630E-04 | 1.003E-01 | SI PUMP 1 INJECTION LINE MOV 636 FAILS TO OPEN | The component associated with this basic event is evaluated in Section 7.16.4. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 12 | SIMPS2A-PP02C | 9.470E-04 | 9.864E-02 | FAILS TO START SI PUMP PP02C | The component associated with this basic event is evaluated in Section 7.16.1. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |

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| Item No. | Event Name | Probability | Fussell-Vesely Importance | Description | Disposition |
|----------|-------------------|-------------|---------------------------|--|--|
| 13 | BE-RATE-P03A | 3.360E-04 | 8.281E-02 | Conversion factor (SD-yr -> Calendar yr) for POS03A duration | Conversion factor - no impact on SAMDA analysis |
| 14 | SEQ-S2-P03A-04 | 1.000E+00 | 8.150E-02 | S2 POS 3A SEQUENCE 04 IDENTIFIER | Sequence identifier - no impact on SAMDA analysis |
| 15 | SIVVT2A-V435 | 5.530E-04 | 5.760E-02 | SI PUMP 3 DISCHARGE VV 435 FAILS TO REMAIN OPEN | The component associated with this basic event is evaluated in Section 7.16.3. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 16 | BE-RATE-P4B | 1.490E-03 | 5.536E-02 | Conversion factor (SD-yr -> Calendar yr) for POS4B duration | Conversion factor - no impact on SAMDA analysis |
| 17 | SEQ-S2-P04B-03 | 1.000E+00 | 5.536E-02 | S2 POS 4B SEQUENCE 03 IDENTIFIER | Sequence identifier - no impact on SAMDA analysis |
| 18 | HR-FB-S2P04B | 1.270E-03 | 5.029E-02 | OPERATOR FAILS TO OPERATE F&B AT S2 POS04B | Procedural changes are not in the scope of this SAMDA analysis |
| 19 | BE-RATE-P05 | 1.230E-03 | 4.611E-02 | Conversion factor (SD-yr -> Calendar yr) for POS5 duration | Conversion factor - no impact on SAMDA analysis |
| 20 | SEQ-S2-P05-03 | 1.000E+00 | 4.611E-02 | S2 POS 5 SEQUENCE 03 IDENTIFIER | Sequence identifier - no impact on SAMDA analysis |
| 21 | HR-FB-S2P05 | 1.270E-03 | 4.194E-02 | OPERATOR FAILS TO OPERATE F&B AT S2 POS05 | Procedural changes are not in the scope of this SAMDA analysis |
| 22 | PFHBC2A-SW01C-A2 | 6.660E-03 | 4.128E-02 | FAILS TO CLOSE OF PCB SW01C-A2 OF 4.16KV SWGR SW01C | The component associated with this basic event is evaluated in Section 7.11.5. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 23 | VOHVS2A-HV33A | 3.860E-03 | 3.619E-02 | FAILS TO START OF MAFP ROOM A CUBICLE COOLER HV33A | The component associated with this basic event is evaluated in Section 7.315.21.- A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 24 | SC-PP-A-BUS-FLOOD | 1.000E+00 | 3.575E-02 | FLAG TO DENOTE SC PUMP A POWER SUPPLY FLOOD | Internal flooding flag - no impact on SAMDA analysis |

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| Item No. | Event Name | Probability | Fussell-Vesely Importance | Description | Disposition |
|----------|-----------------|-------------|---------------------------|--|---|
| 25 | BE-RATE-P11 | 9.660E-04 | 3.372E-02 | Conversion factor (SD-yr -> Calendar yr) for POS11 duration | Conversion factor - no impact on SAMDA analysis |
| 26 | SEQ-S2-P11-03 | 1.000E+00 | 3.372E-02 | S2 POS 11 SEQUENCE 03 IDENTIFIER | Sequence identifier - no impact on SAMDA analysis |
| 27 | HR-FB-S2P11 | 1.270E-03 | 3.217E-02 | OPERATOR FAILS TO OPERATE F&B AT S2 POS11 | Procedural changes are not in the scope of this SAMDA analysis |
| 28 | SIMPR2A-PP02C | 2.500E-04 | 2.603E-02 | FAILS TO RUN SI PUMP PP02C | The component associated with this basic event is evaluated in Section 7.16.1. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 29 | IE-137-29B-FP-X | 1.220E-05 | 2.449E-02 | Large break of FP piping in room 137-A29B | Internal flooding frequency for room – no impact on SAMDA analysis |
| 30 | DGDGR-C-DGC | 2.610E-02 | 1.838E-02 | FAILS TO RUN OF EMERGENCY DIESEL GENERATOR DG01C | The component associated with this basic event is evaluated in Section 7.1.3. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 31 | BE-RATE-P4A | 9.500E-05 | 1.268E-02 | Conversion factor (SD-yr -> Calendar yr) for POS4A duration | Conversion factor - no impact on SAMDA analysis |
| 32 | SEQ-S2-P04A-04 | 1.000E+00 | 1.268E-02 | S2 POS 4A SEQUENCE 04 IDENTIFIER | Sequence identifier - no impact on SAMDA analysis |
| 33 | HR-FB-S2P04A-01 | 4.550E-03 | 1.114E-02 | OPERATOR FAILS TO OPERATE F&B AT S2 POS04A 01 | Procedural changes are not in the scope of this SAMDA analysis |
| 34 | BE-RATE-P12A | 3.070E-04 | 1.075E-02 | Conversion factor (SD-yr -> Calendar yr) for POS12A duration | Conversion factor - no impact on SAMDA analysis |
| 35 | SEQ-S2-P12A-03 | 1.000E+00 | 1.075E-02 | S2 POS 12A SEQUENCE 03 IDENTIFIER | Sequence identifier - no impact on SAMDA analysis |
| 36 | BE-RATE-P03B | 2.740E-03 | 1.052E-02 | Conversion factor (SD-yr -> Calendar yr) for POS03B duration | Conversion factor - no impact on SAMDA analysis |

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| Item No. | Event Name | Probability | Fussell-Vesely Importance | Description | Disposition |
|----------|------------------|-------------|---------------------------|---|--|
| 37 | SEQ-S2-P03B-04 | 1.000E+00 | 1.052E-02 | S2 POS 3B SEQUENCE 04 IDENTIFIER | Sequence identifier - no impact on SAMDA analysis |
| 38 | HR-FB-S2P12A | 1.270E-03 | 1.028E-02 | OPERATOR FAILS TO OPERATE F&B AT S2 POS12A | Procedural changes are not in the scope of this SAMDA analysis |
| 39 | PELXY-A-LX06A-P | 9.480E-05 | 9.812E-03 | FAILURE OF PRIMARY LOOP CONTROLLER LX06A | The component associated with this basic event is evaluated in Section 7.11.14. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 40 | SIVVT2A-V130 | 9.220E-05 | 9.598E-03 | SI PUMP 3 SUCTION VV 130 FAILS TO REMAIN OPEN | The component associated with this basic event is evaluated in Section 7.16.2. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 41 | PFHBC1A-SW01A-A2 | 6.660E-03 | 9.302E-03 | FAILS TO CLOSE OF PCB SW01A-A2 OF 4.16KV SWGR SW01A | The component associated with this basic event is evaluated in Section 7.11.3. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 42 | HR-SG-S2P03A | 1.020E-03 | 9.151E-03 | OPERATOR FAILS TO OPERATE SHR WITH AFW AT S2 POS03A | Procedural changes are not in the scope of this SAMDA analysis |
| 43 | AFMPS2A-MDP02A | 9.470E-04 | 8.874E-03 | FAILS TO START AFW MDP PP02A | The component associated with this basic event is evaluated in Section 7.3.5. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 44 | FPOPH-2-ISO-FL | 1.000E+00 | 8.764E-03 | Operator fails to isolate FP break with 20-40 minutes available | Procedural changes are not in the scope of this SAMDA analysis |
| 45 | PELXY-B-LX03B-P | 9.480E-05 | 8.405E-03 | FAILURE OF PRIMARY LOOP CONTROLLERS 745-PE-LX03C | The component associated with this basic event is evaluated in Section 7.11.15. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 46 | IE-78-10C-FP-X | 3.510E-04 | 7.704E-03 | Large break of FP piping in room 078-A10C | Internal flooding frequency for room – no impact on SAMDA analysis |

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| Item No. | Event Name | Probability | Fussell-Vesely Importance | Description | Disposition |
|----------|-------------------|-------------|---------------------------|--|---|
| 47 | IE-100-20A-FP-X | 3.350E-04 | 7.349E-03 | Large break of FP piping in room 100-A20A | Internal flooding frequency for room – no impact on SAMDA analysis |
| 48 | SC-PP-B-BUS-FLOOD | 1.000E+00 | 7.339E-03 | FLAG TO DENOTE SC PUMP B POWER SUPPLY FLOOD | Internal flooding flag - no impact on SAMDA analysis |
| 49 | IE-78-19A-FP-X | 2.980E-04 | 6.526E-03 | Large break of FP piping in room 078-A19A | Internal flooding frequency for room – no impact on SAMDA analysis |
| 50 | FPOPH-3DEP-ISO-FL | 1.000E+00 | 5.439E-03 | FP ISOLATION FAILURE DEPENDENCY | Procedural changes are not in the scope of this SAMDA analysis |
| 51 | IE-78-31A-FP-X | 2.490E-04 | 5.439E-03 | Large break of FP piping in room 078-A31A | Internal flooding frequency for room – no impact on SAMDA analysis |
| 52 | IE-137-29B-FP-M | 2.660E-06 | 5.314E-03 | Moderate break of FP piping in room 137-A29B | Internal flooding frequency for room – no impact on SAMDA analysis |
| 53 | DGDGR-A-DGA | 2.610E-02 | 5.005E-03 | FAILS TO RUN OF EMERGENCY DIESEL GENERATOR DG01A | The component associated with this basic event is evaluated in Section 7.1.1. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 54 | PFHBC2A-SW01C-F2 | 6.660E-03 | 4.685E-03 | FAILS TO CLOSE OF FEEDER BRK SW01C-F2 TO EDG A | The component associated with this basic event is evaluated in Section 7.11.12. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit |

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Table 5f (1 of 11)

List of Basic Events from APR1400 PRA CDF Importance Analysis (LPSD Fire Events)

| Item No. | Event Name | Probability | Fussell-Vesely Importance | Description | Disposition |
|----------|-----------------|-------------|---------------------------|--|--|
| 1 | BE-RATE-P05 | 1.230E-03 | 4.579E-01 | Conversion factor (SD-yr -> Calendar yr) for POS5 duration | Conversion factor - no impact on SAMDA analysis |
| 2 | SEQ-KV-P05-03 | 1.000E+00 | 2.710E-01 | KV POS 5 SEQUENCE 03 IDENTIFIER | Sequence identifier - no impact on SAMDA analysis |
| 3 | HR-RS-KVP05 | 1.000E+00 | 2.709E-01 | OPERATOR FAILS TO RESTORE SCS AT KV POS05 | Procedural changes are not in the scope of this SAMDA analysis |
| 4 | HR-FB-KVP05 | 7.141E-04 | 2.709E-01 | OPERATOR FAILS TO OPERATE F&B AT KV POS05 | Procedural changes are not in the scope of this SAMDA analysis |
| 5 | COMBINATION_113 | 7.100E+01 | 2.709E-01 | HEP DEPENDENCY FACTOR FOR HR-RS-KVP05 AND HR-FB-KVP05 | Procedural changes are not in the scope of this SAMDA analysis |
| 6 | %F000-ADGC | 4.650E-03 | 1.950E-01 | FIRE IN DIESEL GENERATOR ROOM | Fire frequency for compartment - no impact on SAMDA analysis |
| 7 | BE-RATE-P10 | 6.260E-03 | 1.287E-01 | Conversion factor (SD-yr -> Calendar yr) for POS10 duration | Conversion factor - no impact on SAMDA analysis |
| 8 | BE-RATE-P12A | 3.070E-04 | 1.259E-01 | Conversion factor (SD-yr -> Calendar yr) for POS12A duration | Conversion factor - no impact on SAMDA analysis |
| 9 | BE-RATE-P03B | 2.740E-03 | 9.986E-02 | Conversion factor (SD-yr -> Calendar yr) for POS03B duration | Conversion factor - no impact on SAMDA analysis |
| 10 | SEQ-LP-P10-03 | 1.000E+00 | 8.919E-02 | LP POS 10 SEQUENCE 03 IDENTIFIER | Sequence identifier - no impact on SAMDA analysis |
| 11 | SEQ-CC-P05-03 | 1.000E+00 | 8.691E-02 | CC POS 5 SEQUENCE 03 IDENTIFIER | Sequence identifier - no impact on SAMDA analysis |
| 12 | HR-RS-CCP05 | 1.000E+00 | 8.689E-02 | OPERATOR FAILS TO RESTORE SCS AT CC POS05 | Procedural changes are not in the scope of this SAMDA analysis |
| 13 | HR-FB-CCP05 | 8.731E-04 | 8.688E-02 | OPERATOR FAILS TO OPERATE F&B AT CC POS05 | Procedural changes are not in the scope of this SAMDA analysis |
| 14 | COMBINATION_24 | 5.820E+01 | 8.687E-02 | HEP DEPENDENCY FACTOR FOR HR-RS-CCP05 AND HR-FB-CCP05 | Procedural changes are not in the scope of this SAMDA analysis |

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| Item No. | Event Name | Probability | Fussell-Vesely Importance | Description | Disposition |
|----------|------------------------|-------------|---------------------------|---|--|
| 15 | BE-RATE-P4B | 1.490E-03 | 8.180E-02 | Conversion factor (SD-yr -> Calendar yr) for POS4B duration | Conversion factor - no impact on SAMDA analysis |
| 16 | %F078-AGAC | 4.940E-04 | 7.169E-02 | FIRE IN GENERAL ACCESS AREA | Fire frequency for compartment - no impact on SAMDA analysis |
| 17 | SEQ-S2-P05-03 | 1.000E+00 | 7.091E-02 | S2 POS 5 SEQUENCE 03 IDENTIFIER | Sequence identifier - no impact on SAMDA analysis |
| 18 | HR-RS-S2P05 | 1.000E+00 | 7.090E-02 | OPERATOR FAILS TO RESTORE SCS AT S2 POS05 | Procedural changes are not in the scope of this SAMDA analysis |
| 19 | HR-FB-S2P05 | 8.731E-04 | 7.089E-02 | OPERATOR FAILS TO OPERATE F&B AT S2 POS05 | Procedural changes are not in the scope of this SAMDA analysis |
| 20 | COMBINATION_171 | 5.820E+01 | 7.089E-02 | HEP DEPENDENCY FACTOR FOR HR-RS-S2P05 AND HR-FB-S2P05 | Procedural changes are not in the scope of this SAMDA analysis |
| 21 | SEQ-KV-P12A-03 | 1.000E+00 | 6.813E-02 | KV POS 12A SEQUENCE 03 IDENTIFIER | Sequence identifier - no impact on SAMDA analysis |
| 22 | HR-RS-KVP12A | 1.000E+00 | 6.799E-02 | OPERATOR FAILS TO RESTORE SCS AT KV POS12A | Procedural changes are not in the scope of this SAMDA analysis |
| 23 | HR-FB-KVP12A | 8.731E-04 | 6.798E-02 | OPERATOR FAILS TO OPERATE F&B AT KV POS12A | Procedural changes are not in the scope of this SAMDA analysis |
| 24 | COMBINATION_117 | 5.820E+01 | 6.798E-02 | HEP DEPENDENCY FACTOR FOR HR-RS-KVP12A AND HR-FB-KVP12A | Procedural changes are not in the scope of this SAMDA analysis |
| 25 | SEQ-LP-P03B-04 | 1.000E+00 | 6.198E-02 | LP POS 3B SEQUENCE 04 IDENTIFIER | Sequence identifier - no impact on SAMDA analysis |
| 26 | BF_F078-AGAC_F078-AGAD | 9.800E-03 | 5.532E-02 | BARRIER FAILURE BETWEEN F078-AGAC AND F078-AGAD | The component associated with this basic event is evaluated in Section 7.4.1. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 27 | BE-RATE-P06 | 4.010E-03 | 4.942E-02 | Conversion factor (SD-yr -> Calendar yr) for POS6 duration | Conversion factor - no impact on SAMDA analysis |

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| Item No. | Event Name | Probability | Fussell-Vesely Importance | Description | Disposition |
|----------|-----------------|-------------|---------------------------|--|--|
| 28 | %F000-ADGD | 4.650E-03 | 4.643E-02 | FIRE IN DIESEL GENERATOR ROOM | Fire frequency for compartment - no impact on SAMDA analysis |
| 29 | HR-RS-LPP03B | 1.000E+00 | 4.619E-02 | OPERATOR FAILS TO RESTORE SCS AT LO POS03B | Procedural changes are not in the scope of this SAMDA analysis |
| 30 | HR-FB-LPP03B-01 | 3.479E-03 | 4.600E-02 | OPERATOR FAILS TO OPERATE F&B AT LP POS03B 01 | Procedural changes are not in the scope of this SAMDA analysis |
| 31 | HR-SG-LPP03B | 1.150E-03 | 4.329E-02 | OPERATOR FAILS TO OPERATE SHR WITH AFW AT LP POS03B | Procedural changes are not in the scope of this SAMDA analysis |
| 32 | COMBINATION_130 | 1.920E+03 | 4.303E-02 | HEP DEPENDENCY FACTOR FOR HR-RS-LPP03B, HR-SG-LPP03B AND HR-FB-LPP03B-01 | Procedural changes are not in the scope of this SAMDA analysis |
| 33 | %FK-K01 | 7.290E-04 | 3.805E-02 | FIRE IN ESW STRUCTURE "A" BUILDING | Fire frequency for compartment - no impact on SAMDA analysis |
| 34 | SEQ-KV-P04B-03 | 1.000E+00 | 3.785E-02 | KV POS 4B SEQUENCE 03 IDENTIFIER | Sequence identifier - no impact on SAMDA analysis |
| 35 | HR-FB-KVP04B | 8.731E-04 | 3.781E-02 | OPERATOR FAILS TO OPERATE F&B AT KV POS04B | Procedural changes are not in the scope of this SAMDA analysis |
| 36 | HR-RS-KVP04B | 1.149E-01 | 3.778E-02 | OPERATOR FAILS TO RESTORE SCS AT KV POS04B | Procedural changes are not in the scope of this SAMDA analysis |
| 37 | COMBINATION_112 | 5.820E+01 | 3.777E-02 | HEP DEPENDENCY FACTOR FOR HR-RS-KVP04B AND HR-FB-KVP04B | Procedural changes are not in the scope of this SAMDA analysis |
| 38 | %F137-ANEA | 7.340E-04 | 3.555E-02 | FIRE IN ELECTRICAL EQUIPMENT ROOM | Fire frequency for compartment - no impact on SAMDA analysis |
| 39 | SEQ-CC-P12A-03 | 1.000E+00 | 3.197E-02 | CC POS 12A SEQUENCE 03 IDENTIFIER | Sequence identifier - no impact on SAMDA analysis |

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| Item No. | Event Name | Probability | Fussell-Vesely Importance | Description | Disposition |
|----------|----------------|-------------|---------------------------|--|--|
| 40 | HR-RS-CCP12A | 1.000E+00 | 3.197E-02 | OPERATOR FAILS TO RESTORE SCS AT CC POS12A | Procedural changes are not in the scope of this SAMDA analysis |
| 41 | HR-FB-CCP12A | 8.731E-04 | 3.197E-02 | OPERATOR FAILS TO OPERATE F&B AT CC POS12A | Procedural changes are not in the scope of this SAMDA analysis |
| 42 | COMBINATION_28 | 5.820E+01 | 3.196E-02 | HEP DEPENDENCY FACTOR FOR HR-RS-CCP12A AND HR-FB-CCP12A | Procedural changes are not in the scope of this SAMDA analysis |
| 43 | DADGR-S-AACDG | 2.610E-02 | 2.874E-02 | AAC DG FAILS TO RUN | The component associated with this basic event is evaluated in Section 7.2.1. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 44 | %F078-A19B | 9.260E-04 | 2.717E-02 | FIRE IN CORRIDOR | Fire frequency for compartment - no impact on SAMDA analysis |
| 45 | %F120-AGAC | 6.140E-04 | 2.703E-02 | FIRE IN GENERAL ACCESS AREA-120' C | Fire frequency for compartment - no impact on SAMDA analysis |
| 46 | %F078-A04C | 5.260E-04 | 2.670E-02 | FIRE IN MISC. ELECTRICAL EQUIP RM | Fire frequency for compartment - no impact on SAMDA analysis |
| 47 | BE-RATE-P03A | 3.360E-04 | 2.643E-02 | Conversion factor (SD-yr -> Calendar yr) for POS03A duration | Conversion factor - no impact on SAMDA analysis |
| 48 | %F055-AGAC | 6.260E-04 | 2.591E-02 | FIRE IN GENERAL ACCESS AREA-55' C | Fire frequency for compartment - no impact on SAMDA analysis |
| 49 | SEQ-LP-P06-03 | 1.000E+00 | 2.531E-02 | LP POS 6 SEQUENCE 03 IDENTIFIER | Sequence identifier - no impact on SAMDA analysis |
| 50 | SEQ-LP-P05-03 | 1.000E+00 | 2.408E-02 | LP POS 5 SEQUENCE 03 IDENTIFIER | Sequence identifier - no impact on SAMDA analysis |
| 51 | %F120-AGAD | 6.490E-04 | 2.203E-02 | FIRE IN GENERAL ACCESS AREA-120' D | Fire frequency for compartment - no impact on SAMDA analysis |
| 52 | DGDGR-A-DGA | 2.610E-02 | 2.089E-02 | FAILS TO RUN OF EMERGENCY DIESEL GENERATOR DG01A | The component associated with this basic event is evaluated in Section 7.1.1. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |

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| Item No. | Event Name | Probability | Fussell-Vesely Importance | Description | Disposition |
|----------|-----------------|-------------|---------------------------|---|--|
| 53 | SEQ-S2-P12A-03 | 1.000E+00 | 2.052E-02 | S2 POS 12A SEQUENCE 03 IDENTIFIER | Sequence identifier - no impact on SAMDA analysis |
| 54 | HR-RS-S2P12A | 1.000E+00 | 2.051E-02 | OPERATOR FAILS TO RESTORE SCS AT S2 POS12A | Procedural changes are not in the scope of this SAMDA analysis |
| 55 | HR-FB-S2P12A | 8.731E-04 | 2.051E-02 | OPERATOR FAILS TO OPERATE F&B AT S2 POS12A | Procedural changes are not in the scope of this SAMDA analysis |
| 56 | COMBINATION_175 | 5.820E+01 | 2.051E-02 | HEP DEPENDENCY FACTOR FOR HR-RS-S2P12A AND HR-FB-S2P12A | Procedural changes are not in the scope of this SAMDA analysis |
| 57 | %FD-D01A | 4.140E-04 | 2.034E-02 | FIRE IN CCW HEAT EXCHANGER "A" BUILDING | Fire frequency for compartment - no impact on SAMDA analysis |
| 58 | %F078-AGAD | 1.440E-04 | 1.935E-02 | FIRE IN GENERAL ACCESS AREA | Fire frequency for compartment - no impact on SAMDA analysis |
| 59 | SEQ-CC-P03B-04 | 1.000E+00 | 1.826E-02 | CC POS 3B SEQUENCE 04 IDENTIFIER | Sequence identifier - no impact on SAMDA analysis |
| 60 | HR-FB-CCP03B-01 | 2.959E-02 | 1.821E-02 | OPERATOR FAILS TO OPERATE F&B AT CC POS03B 01 | Procedural changes are not in the scope of this SAMDA analysis |
| 61 | HR-FB-LPP05 | 7.141E-04 | 1.800E-02 | OPERATOR FAILS TO OPERATE F&B AT LP POS05 | Procedural changes are not in the scope of this SAMDA analysis |
| 62 | HR-RS-LPP05 | 1.408E-01 | 1.799E-02 | OPERATOR FAILS TO RESTORE SCS AT LO POS05 | Procedural changes are not in the scope of this SAMDA analysis |
| 63 | COMBINATION_141 | 7.100E+01 | 1.799E-02 | HEP DEPENDENCY FACTOR FOR HR-RS-LPP05 AND HR-FB-LPP05 | Procedural changes are not in the scope of this SAMDA analysis |
| 64 | HR-RS-CCP03B | 1.000E+00 | 1.780E-02 | OPERATOR FAILS TO RESTORE SCS AT CC POS03B | Procedural changes are not in the scope of this SAMDA analysis |

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| Item No. | Event Name | Probability | Fussell-Vesely Importance | Description | Disposition |
|----------|------------------------|-------------|---------------------------|---|--|
| 65 | PROB-NON-SUPP-MCR | 4.650E-02 | 1.742E-02 | PROBABILITY OF NON-SUPPRESSION OF MCR FIRES RESULTING IN MCR EVACUATION | Factor - no impact on SAMDA analysis |
| 66 | BF_F120-AGAC_F120-AGAD | 1.200E-03 | 1.732E-03 | BARRIER FAILURE BETWEEN F120-AGAC AND F120-AGAD | The component associated with this basic event is evaluated in Section 7.4.2. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 67 | %F157-AMCR | 1.220E-04 | 1.692E-02 | FIRE IN MAIN CONTROL ROOM | Fire frequency for compartment - no impact on SAMDA analysis |
| 68 | BE-RATE-P13 | 2.440E-03 | 1.680E-02 | Conversion factor (SD-yr -> Calendar yr) for POS13 duration | Conversion factor - no impact on SAMDA analysis |
| 69 | SEQ-S2-P03B-04 | 1.000E+00 | 1.678E-02 | S2 POS 3B SEQUENCE 04 IDENTIFIER | Sequence identifier - no impact on SAMDA analysis |
| 70 | SEQ-JL-P10-03 | 1.000E+00 | 1.674E-02 | JL POS 10 SEQUENCE 03 IDENTIFIER | Sequence identifier - no impact on SAMDA analysis |
| 71 | HR-FB-JLP10-01 | 1.603E-03 | 1.622E-02 | OPERATOR FAILS TO OPERATE F&B AT JL POS10 01 | Procedural changes are not in the scope of this SAMDA analysis |
| 72 | %F078-A05C | 3.920E-04 | 1.613E-02 | FIRE IN CHANNEL-C DC & IP EQUIP RM | Fire frequency for compartment - no impact on SAMDA analysis |
| 73 | HR-RS-S2P03B | 1.000E+00 | 1.613E-02 | OPERATOR FAILS TO RESTORE SCS AT S2 POS03B | Procedural changes are not in the scope of this SAMDA analysis |
| 74 | BF_F078-AGAD_F078-AGAC | 9.800E-03 | 1.612E-02 | BARRIER FAILURE BETWEEN F078-AGAD AND F078-AGAC | The component associated with this basic event is evaluated in Section 7.4.1. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 75 | %F100-AEEA | 3.210E-04 | 1.605E-02 | FIRE IN 480V CLASS 1E MCC 01A RM | Fire frequency for compartment - no impact on SAMDA analysis |

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| Item No. | Event Name | Probability | Fussell-Vesely Importance | Description | Disposition |
|----------|-----------------|-------------|---------------------------|--|---|
| 76 | %F078-A03C | 3.140E-04 | 1.588E-02 | FIRE IN CLASS 1E LOADCENTER 01C RM | Fire frequency for compartment - no impact on SAMDA analysis |
| 77 | %F000-TB | 9.130E-04 | 1.524E-02 | FIRE IN TURBINE GENERATOR AREA RESULTING IN LOOP | Fire frequency for compartment - no impact on SAMDA analysis |
| 78 | HR-SG-CCP03B | 1.150E-03 | 1.517E-02 | OPERATOR FAILS TO OPERATE SHR WITH AFW AT CC POS03B | Procedural changes are not in the scope of this SAMDA analysis |
| 79 | COMBINATION_16 | 1.170E+02 | 1.514E-02 | HEP DEPENDENCY FACTOR FOR HR-RS-CCP03B, HR-SG-CCP03B AND HR-FB-CCP03B-01 | Procedural changes are not in the scope of this SAMDA analysis |
| 80 | SEQ-JL-P10-05 | 1.000E+00 | 1.486E-02 | JL POS 10 SEQUENCE 05 IDENTIFIER | Sequence identifier - no impact on SAMDA analysis |
| 81 | SEQ-JL-P06-03 | 1.000E+00 | 1.429E-02 | JL POS 6 SEQUENCE 03 IDENTIFIER | Sequence identifier - no impact on SAMDA analysis |
| 82 | HR-FB-JLP06-01 | 1.603E-03 | 1.387E-02 | OPERATOR FAILS TO OPERATE F&B AT JL POS06 01 | Procedural changes are not in the scope of this SAMDA analysis |
| 83 | HR-FB-S2P03B-01 | 2.880E-02 | 1.348E-02 | OPERATOR FAILS TO OPERATE F&B AT S2 POS03B 01 | Procedural changes are not in the scope of this SAMDA analysis |
| 84 | AS-CCDP-ST | 5.000E-01 | 1.343E-02 | SHORT TERM ALTERNATE SHUTDOWN CCDP EST. (<= 1.5 HRS FOR RS OR <= 3 HRS FOR SG) | This event represents operator actions and procedural changes are not in the scope of this SAMDA analysis |
| 85 | HR-SG-S2P03B | 1.150E-03 | 1.278E-02 | OPERATOR FAILS TO OPERATE SHR WITH AFW AT S2 POS03B | Procedural changes are not in the scope of this SAMDA analysis |
| 86 | COMBINATION_159 | 1.190E+02 | 1.273E-02 | HEP DEPENDENCY FACTOR FOR HR-RS-S2P03B, HR-SG-S2P03B AND HR-FB-S2P03B-01 | Procedural changes are not in the scope of this SAMDA analysis |
| 87 | SEQ-CC-P04B-03 | 1.000E+00 | 1.219E-02 | CC POS 4B SEQUENCE 03 IDENTIFIER | Sequence identifier - no impact on SAMDA analysis |
| 88 | HR-FB-CCP04B | 1.603E-03 | 1.218E-02 | OPERATOR FAILS TO OPERATE F&B AT CC POS04B | Procedural changes are not in the scope of this SAMDA analysis |

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| Item No. | Event Name | Probability | Fussell-Vesely Importance | Description | Disposition |
|----------|-----------------|-------------|---------------------------|---|--|
| 89 | HR-RS-CCP04B | 1.140E-01 | 1.215E-02 | OPERATOR FAILS TO RESTORE SCS AT CC POS04B | Procedural changes are not in the scope of this SAMDA analysis |
| 90 | %F078-AEEB | 4.120E-04 | 1.215E-02 | FIRE IN CLASS 1E SWITCHGEAR 01B ROOM | Fire frequency for compartment - no impact on SAMDA analysis |
| 91 | COMBINATION_23 | 3.210E+01 | 1.215E-02 | HEP DEPENDENCY FACTOR FOR HR-RS-CCP04B AND HR-FB-CCP04B | Procedural changes are not in the scope of this SAMDA analysis |
| 92 | %F100-AGAC | 2.300E-04 | 1.194E-02 | FIRE IN GENERAL ACCESS AREA | Fire frequency for compartment - no impact on SAMDA analysis |
| 93 | %F137-AEPA | 2.340E-04 | 1.164E-02 | FIRE IN ELECTRICAL PENETRATION ROOM (A) | Fire frequency for compartment - no impact on SAMDA analysis |
| 94 | BE-RATE-P11 | 9.660E-04 | 1.162E-02 | Conversion factor (SD-yr -> Calendar yr) for POS11 duration | Conversion factor - no impact on SAMDA analysis |
| 95 | SEQ-LP-P13-04 | 1.000E+00 | 1.090E-02 | LP POS 13 SEQUENCE 04 IDENTIFIER | Sequence identifier - no impact on SAMDA analysis |
| 96 | %F078-A19A | 4.740E-04 | 1.083E-02 | FIRE IN CORRIDOR | Fire frequency for compartment - no impact on SAMDA analysis |
| 97 | SEQ-S2-P04B-03 | 1.000E+00 | 1.034E-02 | S2 POS 4B SEQUENCE 03 IDENTIFIER | Sequence identifier - no impact on SAMDA analysis |
| 98 | HR-FB-S2P04B | 1.603E-03 | 1.034E-02 | OPERATOR FAILS TO OPERATE F&B AT S2 POS04B | Procedural changes are not in the scope of this SAMDA analysis |
| 99 | %F137-A11C | 2.090E-04 | 1.033E-02 | FIRE IN ELECTRICAL PENETRATION RM (C) | Fire frequency for compartment - no impact on SAMDA analysis |
| 100 | HR-RS-S2P04B | 1.140E-01 | 1.032E-02 | OPERATOR FAILS TO RESTORE SCS AT S2 POS04B | Procedural changes are not in the scope of this SAMDA analysis |
| 101 | COMBINATION_170 | 3.210E+01 | 1.032E-02 | HEP DEPENDENCY FACTOR FOR HR-RS-S2P04B AND HR-FB-S2P04B | Procedural changes are not in the scope of this SAMDA analysis |
| 102 | SEQ-LP-P04B-03 | 1.000E+00 | 1.018E-02 | LP POS 4B SEQUENCE 03 IDENTIFIER | Sequence identifier - no impact on SAMDA analysis |

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| Item No. | Event Name | Probability | Fussell-Vesely Importance | Description | Disposition |
|----------|----------------|-------------|---------------------------|--|---|
| 103 | %F000-ACVU | 3.430E-04 | 9.847E-03 | FIRE IN CVCS SYSTEM AREA | Fire frequency for compartment - no impact on SAMDA analysis |
| 104 | %F157-A19C | 2.020E-04 | 9.763E-03 | FIRE IN I & C EQUIP. RM | Fire frequency for compartment - no impact on SAMDA analysis |
| 105 | COMBINATION_84 | 1.460E+00 | 9.613E-03 | HEP DEPENDENCY FACTOR FOR HR-MI-JLP10 AND HR-FB-JLP10-02 | Procedural changes are not in the scope of this SAMDA analysis |
| 106 | HR-FB-JLP10-02 | 9.713E-02 | 9.613E-03 | OPERATOR FAILS TO OPERATE F&B AT JL POS10 02 | Procedural changes are not in the scope of this SAMDA analysis |
| 107 | HR-MI-JLP10 | 3.276E-03 | 9.613E-03 | Operator Fails To Isolate and Makeup Unrecoverable LOCA (JL) PATH at POS10 | Procedural changes are not in the scope of this SAMDA analysis |
| 108 | %F055-AGAD | 9.370E-04 | 9.437E-03 | FIRE IN GENERAL ACCESS AREA-55' D | Fire frequency for compartment - no impact on SAMDA analysis |
| 109 | %F067-T02 | 5.680E-04 | 9.228E-03 | FIRE IN UNDERGROUND COMMON TUNNEL | Fire frequency for compartment - no impact on SAMDA analysis |
| 110 | %F157-A25C | 1.810E-04 | 9.033E-03 | FIRE IN I & C EQUIP. RM | Fire frequency for compartment - no impact on SAMDA analysis |
| 111 | DGDGR-B-DGB | 2.610E-02 | 8.913E-03 | FAILS TO RUN OF EMERGENCY DIESEL GENERATOR DG01B | The component associated with this basic event is evaluated in Section 7.1.2. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 112 | %F137-A10C | 1.810E-04 | 8.746E-03 | FIRE IN 480V CLASS 1E MCC 03C RM | Fire frequency for compartment - no impact on SAMDA analysis |
| 113 | %F078-A25A | 3.550E-04 | 8.060E-03 | FIRE IN CLASS 1E SWITCHGEAR 01A RM | Fire frequency for compartment - no impact on SAMDA analysis |
| 114 | WOCHS1A-CH01A | 1.300E-02 | 7.792E-03 | ECW CHILLER CH01A FAILS TO START ON DEMAND | The component associated with this basic event is evaluated in Section 7.15.3. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |

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| Item No. | Event Name | Probability | Fussell-Vesely Importance | Description | Disposition |
|----------|-----------------|-------------|---------------------------|---|--|
| 115 | WOCHS3A-CH03A | 1.300E-02 | 7.785E-03 | ECW CHILLER CH03A FAILS TO START ON DEMAND | The component associated with this basic event is evaluated in Section 7.15.7. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 116 | SEQ-LP-P03A-05 | 1.000E+00 | 7.451E-03 | LP POS 3A SEQUENCE 05 IDENTIFIER | Sequence identifier - no impact on SAMDA analysis |
| 117 | %F050-A01C | 1.430E-04 | 7.357E-03 | FIRE IN CS PUMP & MINI FLOW HX RM | Fire frequency for compartment - no impact on SAMDA analysis |
| 118 | %F050-A02C | 1.430E-04 | 7.195E-03 | FIRE IN SI PUMP RM | Fire frequency for compartment - no impact on SAMDA analysis |
| 119 | NBHC-S-SW03N-A2 | 6.660E-03 | 7.007E-03 | FAIL TO CLOSE OF SWGR SW03N-A2 FEED BREAKER FROM AAC DG | The component associated with this basic event is evaluated in Section 7.11.13. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 120 | SEQ-AS-P06-02 | 1.000E+00 | 6.730E-03 | AS POS 6 SEQUENCE 02 IDENTIFIER | Sequence identifier - no impact on SAMDA analysis |
| 121 | %F100-A08D | 7.000E-04 | 6.682E-03 | FIRE IN N1E DC & IP EQUIPMENT RM | Fire frequency for compartment - no impact on SAMDA analysis |
| 122 | HR-RS-LPP03A | 1.000E+00 | 6.333E-03 | OPERATOR FAILS TO RESTORE SCS AT LO POS03A | Procedural changes are not in the scope of this SAMDA analysis |
| 123 | DGDGR-D-DGD | 2.610E-02 | 6.258E-03 | FAILS TO RUN OF EMERGENCY DIESEL GENERATOR DG01D | The component associated with this basic event is evaluated in Section 7.1.4. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |
| 124 | SEQ-JL-P03A-04 | 1.000E+00 | 6.231E-03 | JL POS 3A SEQUENCE 04 IDENTIFIER | Sequence identifier - no impact on SAMDA analysis |
| 125 | %F078-A11C | 1.480E-04 | 6.152E-03 | FIRE IN ESSENTIAL CHILLER RM | Fire frequency for compartment - no impact on SAMDA analysis |
| 126 | %F050-A04A | 1.480E-04 | 6.106E-03 | FIRE IN SC PUMP & MINI FLOW HX RM | Fire frequency for compartment - no impact on SAMDA analysis |
| 127 | %F055-A02C | 1.480E-04 | 6.082E-03 | FIRE IN CCW PUMP RM | Fire frequency for compartment - no impact on SAMDA analysis |

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| Item No. | Event Name | Probability | Fussell-Vesely Importance | Description | Disposition |
|----------|------------------|-------------|---------------------------|--|--|
| 128 | %F100-AEEB | 3.210E-04 | 6.070E-03 | FIRE IN 480V CLASS 1E MCC 01B ROOM | Fire frequency for compartment - no impact on SAMDA analysis |
| 129 | %F055-AGAA | 1.200E-04 | 5.982E-03 | FIRE IN GENERAL ACCESS AREA-55' A | Fire frequency for compartment - no impact on SAMDA analysis |
| 130 | %F055-A02A | 1.450E-04 | 5.972E-03 | FIRE IN CCW PUMP RM | Fire frequency for compartment - no impact on SAMDA analysis |
| 131 | HR-SG-LPP03A | 1.150E-03 | 5.956E-03 | OPERATOR FAILS TO OPERATE SHR WITH AFW AT LP POS03A | Procedural changes are not in the scope of this SAMDA analysis |
| 132 | SEQ-JL-P04B-03 | 1.000E+00 | 5.674E-03 | JL POS 4B SEQUENCE 03 IDENTIFIER | Sequence identifier - no impact on SAMDA analysis |
| 133 | %F120-A09C | 2.460E-04 | 5.614E-03 | FIRE IN ELECTRICAL PENETRATION ROOM (C) | Fire frequency for compartment - no impact on SAMDA analysis |
| 134 | HR-FB-LPP03A-01 | 3.479E-03 | 5.601E-03 | OPERATOR FAILS TO OPERATE F&B AT LP POS03A 01 | Procedural changes are not in the scope of this SAMDA analysis |
| 135 | %F157-AMAX | 1.090E-04 | 5.562E-03 | FIRE IN MEETING ROOM | Fire frequency for compartment - no impact on SAMDA analysis |
| 136 | HR-FB-JLP04B-01 | 1.603E-03 | 5.521E-03 | OPERATOR FAILS TO OPERATE F&B AT JL POS04B 01 | Procedural changes are not in the scope of this SAMDA analysis |
| 137 | %F078-A04D | 5.470E-04 | 5.304E-03 | FIRE IN MISC. ELECTRICAL EQUIP RM | Fire frequency for compartment - no impact on SAMDA analysis |
| 138 | COMBINATION_125 | 1.920E+03 | 5.254E-03 | HEP DEPENDENCY FACTOR FOR HR-RS-LPP03A, HR-SG-LPP03A AND HR-FB-LPP03A-01 | Procedural changes are not in the scope of this SAMDA analysis |
| 139 | %F000-AC | 7.780E-03 | 5.151E-03 | FIRE IN ACCESS AREA | Fire frequency for compartment - no impact on SAMDA analysis |
| 140 | PFHBC1A-SW01A-E2 | 6.660E-03 | 5.073E-03 | FAILS TO CLOSE OF FEEDER BRK SW01A-E2 TO EDG A | The component associated with this basic event is evaluated in Section 7.11.10. A design change would be expected to cost more than the total maximum cost reduction and, as a result, not provide a positive benefit. |