

Revised Response to Action Item 19-51 Section 19.1

PRA Issue List Regarding APR-1400, DCD Tier 2, SECTION 19.1

Issue # PRA-51 (AI 19-51)

DCD Page 19.1-149 states, "Several cables have been identified as requiring fire protection features to prevent damage or spurious operation of related components." It is unclear which SSCs are affected by these cables and how the affected SSCs are modeled in the PRA. The staff found the same statement made on DCD Page 19.1-221 for LPSD fire analysis.

Response – (Rev. 1)

In Task 9 of the APR1400 fire PRA (FPRA), due to lack of detailed design information at the time of the analysis, detailed circuit analyses were not performed. Instead, it was conservatively assumed that fire damage to any cable supporting an FPRA credited component results in the worst case failure mode for that component. Tables 1 and 2 in Attachment 1, identify cables in each fire compartment that have been assumed to be either protected, had their circuits re-routed or redesigned to prevent failure, or can be shown through detailed circuit analysis to not result in the modeled failure mode.

In general, cables in a fire compartment were identified as candidates for removal if the impact from their postulated damage resulted in a high core damage frequency (CDF) for the fire compartment with respect to the other fire compartments in the FPRA. Within each analyzed fire compartment, the goal was to identify cables which were driving risk in the room.

Table 1 sorts the list by fire compartment; there are 59 impacted fire compartments. Table 2 sorts the list by supported component failure mode (e.g., basic event); there are 75 impacted component basic events. A fire compartment may contain one or more component basic events, and a component basic event may be removed from more than one fire compartment scenario flag files resulting in a list of 220 "fire compartment – component basic event" combinations.

In addition to the fire compartment and component basic events, Tables 1 and 2 include the cable types, assumed cable function, modeled failure mode (given damage to the cable), and the exclusion criteria. The cable types are identified by code, and are as follows:

- P = power cable
- C = control cable
- I = instrument cable

The assumed cable function is the conservative function chosen in Task 9 of the FPRA for the cable as described above. The modeled failure mode is the PRA impact given fire damage to the cable(s). The exclusion criteria provides the reason for removal of the cables from the scenario flag file.

An exclusion criteria is provided for each cable. In some cases, it simply needs to be determined that fire-induced cable damage will not fail the supported component in a manner

Revised Response to Action Item 19-51 Section 19.1

detrimental to the prevention of core damage (e.g., fiber optic cables are not susceptible to fire-induced hot shorts, so if the failure mode of concern is spurious operation, damage to the cable does not result in spurious operation of the component). This requires detailed circuit analysis for the cable in question. In other cases, the cable is identified as requiring some sort of “cable protection scheme” to prevent damage to the cable for a specific fire scenario.

For the purposes of this analysis, “cable protection scheme” can mean any scheme employed by Fire Protection Engineers to prevent fire damage to the component associated with the cables for a specific fire scenario including, but not limited to, fire wrap, re-routing the cable, circuit modification to prevent spurious operation, placing specific individual control cables (or circuits) in grounded conduit to prevent fire-induced hot shorts, etc.

The information contained in Tables 1 and 2 is already based on the preliminary updated FPRA model. Since the full power internal events FPRA implicitly assumes that these “cable protection schemes” will be implemented, they are applicable to the LPSD FPRA, as well. Tables 1 and 2 will be documented in the FPRA notebooks during the PRA update.

The following COL action item will be added to the APR1400 DCD Section 19.1.9. The COL applicant is to ensure that the fire protection features for cables identified from the fire PRA are reflected in the cable design.

- “The COL applicant ensures that the fire protection features required for preventing fire-induced damage of the PRA-credited components will be properly incorporated in the cable design”

COL list for 19.1 and 19.2 are provided as Attachment 2.

Impact on DCD

DCD Subsection 19.1.9 and 19.2.7 will be revised as indicated in Attachment 2.

Impact on PRA

These changes are already included in the preliminary updated full power FPRA model; hence, there is no impact on this model. The current LPSD FPRA model documented in the DCD includes most of these changes, but the changes added during the preliminary updated full power FPRA are not included. This results in conservative LPSD FPRA results as there are additional protected cables which are not credited (i.e., are assumed to fail) in the LPSD FPRA model. The LPSD FPRA model may need to be updated to reflect these changes.

Impact on Technical Specifications

There is no impact on the Technical Specifications.

Impact on Technical/Topical/Environmental Reports

There is no impact on any Technical, Topical, or Environmental Report.

Revised Response to Action Item 19-51 Section 19.1

Table 1 – Removed Fire PRA Cables (by Fire Compartment)

FC	Component Basic Event	Cable Type	Function	Modeled Failure Mode	Exclusion Criteria
F000-ACVU	F-EF-PA21-FAIL	C, I	Relay and Metering Panel PA-21	Spurious operation failing UATs TR01M & N	Either verify cable failures do not fail UATs, or protect cables in FC
	F-EF-PA22-FAIL	I	Relay and Metering Panel PA-22	Spurious operation failing SATs TR02M & N	Either verify cable failure does not fail SATs, or protect cable in FC
	NPXHY-M-UAT01M	C, I	Support UAT TR01M	Spurious operation failing UATs TR01M & N	Either verify cable failures do not fail UATs, or protect cables in FC
F000-ADGC	F-FW-HV-133-OC	I	SUFW to SG2	Spurious closing of valve FW-0133	Verify cable is fiber optic (i.e., no SO), or protect cable in FC
	FWMVO-N-104	I, I	SUFW to SG2	Surrogate for spurious opening of FW-0123	Ensure SUFW flow to normal FW line is not a flow diversion, or protect cable in FC
	MSAVO-A-109	I	Steam supply to TD AF PP01B	AOV MS-109 fails to open on demand	Verify cables do not fail valve, re-route cable out of this FC, or protect cable in this FC
F000-ADGD	AFMVC1B-046	I, I, I, I	TD AF PP01A Isol Valve	Valve fails to control TD AF flow to SG 2	Verify cables do not fail valve, re-route cable out of this FC, or protect cable in this FC
	AFSV11B-0038	I, I, I, I, I, I	TD AF PP01A Mod Valve	Valve fails to control TD AF flow to SG 2	Verify cables do not fail valve, re-route cable out of this FC, or protect cable in this FC
	F-EF-PA03B-INV	C, C	Failure of PA-03B	Various, but TD AF PP01A Mod Vlv AF-037	Verify cables do not fail AF-037, re-route cable out of this FC, or protect cable in this FC
	F-EF-PA03B-MCC	C, C	Failure of PA-03B	Various, but TD AF PP01A Mod Vlv AF-037	Verify cables do not fail AF-037, re-route cable out of this FC, or protect cable in this FC
F000-AFHU	NGBSY3N-LC19N	P	Support various AAC loads	Failure of LC-19N	Cable does not damage 824-E-LC19N (Need to verify, or protect)
F000-C01	RPIAT-A-PY102A	I, I	Support RC-PT-201A	Failure of input trip signal to LCL processor A (1/4)	Effectively separate cables or protect cables in this FC
	RPIAT-B-PY102B	I,	Support RC-PT-201B	Failure of input trip signal to LCL processor A (1/4)	Effectively separate cables or protect cables in this FC
	RPIAT-C-PY102C	I, I	Support RC-PT-201C	Failure of input trip signal to LCL processor A (1/4)	Effectively separate cables or protect cables in this FC
	RPIAT-D-PY102D	I	Support RC-PT-201D	Failure of input trip signal to LCL processor A (1/4)	Effectively separate cables or protect cables in this FC
F000-TB	NBBSY-S-SW03N	I, I, I, I	Non-1E 4.16KV SWGR 3-SW03N	Fail AAC to SW01A/B/C/D	Either verify cable failures do not fail 3-SW03N, or protect cables in FC
	NGBSY3N-LC19N	P	Support various AAC loads	Failure of LC-19N	Cable does not damage 824-E-LC19N (Need to verify, or protect)

Revised Response to Action Item 19-51 Section 19.1

Table 1 – Removed Fire PRA Cables (by Fire Compartment)

FC	Component Basic Event	Cable Type	Function	Modeled Failure Mode	Exclusion Criteria
	PFHBC2A-SW01C-E2	C, C	4kV SWGR SW01C breaker E2	Prevent SW01C from being powered from AAC	Either verify cable failure does not prevent AAC supply to SW01C, or protect cable in FC
F050-A04A	SXAHR-B-AH01B	C, C	"B" SX Cooling Tower Fan 1B	Fail "B" SX Cooling Tower Fan 1B	Verify cables are not in this FC, cables do not fail SX AH01B, or protect cable in FC
	SXAHR-B-AH02B	C, C	"B" SX Cooling Tower Fan 2B	Fail "B" SX Cooling Tower Fan 2B	Verify cables are not in this FC, cables do not fail SX AH02B, or protect cable in FC
	SXFMY1B-FT01B-MOTOR	C	"B" SX Debris Filter 1B	Fail 2B CC HX given filter plugging	Verify cable is not in this FC, cable does not fail SX FT01B, or protect cable in FC
	SXFMY2B-FT02B-MOTOR	C	"B" SX Debris Filter 2B	Fail 2B CC HX given filter plugging	Verify cable is not in this FC, cable does not fail SX FT02B, or protect cable in FC
	SXFMY3B-FT03B-MOTOR	C	"B" SX Debris Filter 2B	Fail 2B CC HX given filter plugging	Verify cable is not in this FC, cable does not fail SX FT02B, or protect cable in FC
F067-T02	NBBSY-S-SW03N	I, I	Non-1E 4.16KV SWGR 3-SW03N	Fail AAC to SW01A/B/C/D	Either verify cable failures do not fail 3-SW03N, or protect cables in FC
	NGBSY3N-LC19N	P	Support various AAC loads	Failure of LC-19N	Cable does not damage 824-E-LC19N (Need to verify, or protect)
	PFHBC2A-SW01C-E2	C, P	SW01C AAC Supply Breaker	Fail AAC to SW01C	Either verify cable failures do not fail breaker SW01C-E2, or protect cable in FC
F073-T11	NBBSY-S-SW03N	I, I	Non-1E 4.16KV SWGR 3-SW03N	Fail AAC to SW01A/B/C/D	Either verify cable failures do not fail 3-SW03N, or protect cables in FC
	NPXHY-M-SAT02M	C, P	Support SAT TR02M	Fail SAT TR02M	Either verify cable failures do not fail SAT 02M, or protect cable in FC
	NPXHY-N-SAT02N	C, P	Support SAT TR02N	Fail SAT TR02N	Either verify cable failures do not fail SAT 02N, or protect cable in FC
F078-A02C	SXAHR-B-AH01B	C, C	"B" SX Cooling Tower Fan 1B	Fail "B" SX Cooling Tower Fan 1B	Verify cables are not in this FC, cables do not fail SX AH01B, or protect cable in FC
	SXAHR-B-AH02B	C, C	"B" SX Cooling Tower Fan 2B	Fail "B" SX Cooling Tower Fan 2B	Verify cables are not in this FC, cables do not fail SX AH02B, or protect cable in FC
	SXFMY2B-FT02B-MOTOR	C	"B" SX Debris Filter 2B	Fail 2B CC HX given filter plugging	Verify cable is not in this FC, cable does not fail SX FT02B, or protect cable in FC
	SXFMY3B-FT03B-MOTOR	C	"B" SX Debris Filter 2B	Fail 2B CC HX given filter plugging	Verify cable is not in this FC, cable does not fail SX FT02B, or protect cable in FC

Revised Response to Action Item 19-51 Section 19.1

Table 1 – Removed Fire PRA Cables (by Fire Compartment)

FC	Component Basic Event	Cable Type	Function	Modeled Failure Mode	Exclusion Criteria
F078-A02D	PFBSY1B-SW01B	C	Support 1E 4KV SWGR SW01B	Fail SW01B	Verify cable is only for sync circuit breaker, and does not fail SW01B (NOTE: no impact if included)
F078-A03C	PFBSY2A-SW01C	C	Support 1E 4KV SWGR SW01C	Fail SW01C	Verify cable is only for sync circuit breaker, and does not fail SW01C (NOTE: no impact if included)
F078-A03D	PFBSY2B-SW01D	C, C, P, P	Support 1E 4KV SWGR SW01D	Fail SW01D	Verify cables are only for sync circuit breaker, and do not fail SW01D (NOTE: no impact if included)
F078-A04C	PELXY-A-LX09A-P	C	Support primary loop controller LX09A	Fail AOV MS-109 (TDP PP01B Stm Sup)	Verify this "A" cable does not fail AF TPP PP01B steam valve MS-109, or protect cable in this FC
	PFBSY1A-SW01A	C, P	Support 1E 4KV SWGR SW01A	Fail SW01A	Verify cables are only for sync circuit breaker, and do not fail SW01A (NOTE: no impact if included)
F078-A04D	PELXY-B-LX11B-P	C	Support primary loop controller LX11B	Fail AOV MS-110 (TDP PP01A Stm Sup)	Verify this "B" cable does not fail AF TPP PP01A steam valve MS-110 or protect cable in this FC
	PFBSY1B-SW01B	C, P	Support 1E 4KV SWGR SW01B	Fail SW01B	Verify cables are only for sync circuit breaker, and do not fail SW01B (NOTE: no impact if included)
F078-A05C	AFMVT2B-044	P, P, P	Support "B" train AF Valve AF-044	Spurious close, or prevent operation of AF-044	Verify these cables do not fail this "B" AF MOV, or protect these cables in this Div. "A" FC
F078-A05D	AFMVC1A-045	P, P, P	Support "A" train AF Valve AF-045	Spurious close, or prevent operation of AF-045	Verify these cables do not fail this "A" AF MOV, or protect these cables in this Div. "B" FC
	PFBSY2B-SW01D	C, C, P, P	Support 1E 4KV SWGR SW01D	Fail SW01D	Verify cables are only for sync circuit breaker, and do not fail SW01D (NOTE: no impact if included)
F078-A11D	PFBSY2B-SW01D	C, C	Support 1E 4KV SWGR SW01D	Fail SW01D	Verify cable does not fail SW01D, or protect cable in this compartment
F078-A19A	PFBSY1A-SW01A	C, I	Support 1E 4KV SWGR SW01A	Fail SW01A	Verify cables do not fail SW01A, or protect cables in this compartment
	PFBSY2A-SW01C	C, I	Support 1E 4KV SWGR SW01C	Fail SW01C	Verify cables do not fail SW01C, or protect cables in this compartment
F078-A19B	PFBSY1B-SW01B	I	Support 1E 4KV SWGR SW01B	Fail SW01B	Verify cable does not fail SW01B, or protect cable in this compartment
	PFBSY2B-SW01D	I, I	Support 1E 4KV SWGR SW01D	Fail SW01D	Verify cables do not fail SW01D, or protect cables in this compartment
F078-A25A	SXHR-B-AH01B	C, C	"B" SX Cooling Tower Fan 1B	Fail "B" SX Cooling Tower Fan 1B	Verify cables are not in this FC, cables do not fail SX AH01B, or protect cable in FC

Revised Response to Action Item 19-51 Section 19.1

Table 1 – Removed Fire PRA Cables (by Fire Compartment)

FC	Component Basic Event	Cable Type	Function	Modeled Failure Mode	Exclusion Criteria
	SXAHR-B-AH02B	C, C	"B" SX Cooling Tower Fan 2B	Fail "B" SX Cooling Tower Fan 2B	Verify cables are not in this FC, cables do not fail SX AH02B, or protect cable in FC
	SXFMY1B-FT01B-MOTOR	C	"B" SX Debris Filter 1B	Fail 2B CC HX given filter plugging	Verify cable is not in this FC, cable does not fail SX FT01B, or protect cable in FC
	SXFMY2B-FT02B-MOTOR	C	"B" SX Debris Filter 2B	Fail 2B CC HX given filter plugging	Verify cable is not in this FC, cable does not fail SX FT02B, or protect cable in FC
	SXFMY3B-FT03B-MOTOR	C	"B" SX Debris Filter 2B	Fail 2B CC HX given filter plugging	Verify cable is not in this FC, cable does not fail SX FT02B, or protect cable in FC
F078-A47B	NGBSY3N-LC19N	P	Support various AAC loads	Failure of LC-19N	Cable does not damage 824-E-LC19N (Need to verify, or protect)
F078-AEEB	PFBSY2B-SW01D	C, I, C, I	Support 1E 4KV SWGR SW01D	Fail SW01D	Verify cables do not fail SW01D, or protect cables in this compartment
F078-AGAC	ATAVO-C-009	I	Support AOV AT-009	Fail AOV AT-009 (AF TDP PP01A Stm Sup)	Verify cable does not fail AT-009, or protect cable in this compartment
	NPXHY-M-SAT02M	P	Support SAT TR02M	Fail SAT TR02M	Either verify cable failures do not fail SAT 02M, or protect cable in FC
	PELXY-C-LX04C-P	C	Support primary loop controller LX04C	Fail MOV AF-045	Verify cable does not fail AF-045, or protect cable in this compartment
	PFBSY1A-SW01A	C	Support 1E 4KV SWGR SW01A	Fail SW01A	Verify cables do not fail SW01A, re-route, or protect cables in this compartment
	PFBSY2A-SW01C	C, C, I, I, I	Support 1E 4KV SWGR SW01C	Fail SW01C	Verify cables do not fail SW01C, re-route, or protect cables in this compartment
	PGBSY2A-LC01C	C, C	Support 480V LC01C	Fail LC01C	Verify cables do not fail LC01C, re-route, or protect cables in this compartment
	SXAHR-B-AH01B	C, C	"B" SX Cooling Tower Fan 1B	Fail "B" SX Cooling Tower Fan 1B	Verify cables are not in this FC, cables do not fail SX AH01B, or protect cable in FC
	SXAHR-B-AH02B	C, C	"B" SX Cooling Tower Fan 2B	Fail "B" SX Cooling Tower Fan 2B	Verify cables are not in this FC, cables do not fail SX AH02B, or protect cable in FC
	SXFMY1B-FT01B-MOTOR	C	"B" SX Debris Filter 1B	Fail 2B CC HX given filter plugging	Verify cable is not in this FC, cable does not fail SX FT01B, or protect cable in FC
	SXFMY2B-FT02B-MOTOR	C	"B" SX Debris Filter 2B	Fail 2B CC HX given filter plugging	Verify cable is not in this FC, cable does not fail SX FT02B, or protect cable in FC
	SXFMY3B-FT03B-MOTOR	C	"B" SX Debris Filter 2B	Fail 2B CC HX given filter plugging	Verify cable is not in this FC, cable does not fail SX FT02B, or protect cable in FC

Revised Response to Action Item 19-51 Section 19.1

Table 1 – Removed Fire PRA Cables (by Fire Compartment)

FC	Component Basic Event	Cable Type	Function	Modeled Failure Mode	Exclusion Criteria
F078-AGAD	ATAVO-D-010	I	Support AOV AT-010	Fail AOV AT-010 (AF TDP PP01B Stm Sup)	Verify cable does not fail AT-010, or protect cable in this compartment
	NPXHY-N-SAT02N	P	Support SAT TR02N	Fail SAT TR02N	Either verify cable failures do not fail SAT 02N, or protect cable in FC
	PFBSY1B-SW01B	I	Support 1E 4KV SWGR SW01B	Fail SW01B	Verify cables do not fail SW01B, re-route, or protect cables in this compartment
	PFBSY2B-SW01D	C, I, C, I	Support 1E 4KV SWGR SW01D	Fail SW01D	Verify cables do not fail SW01D, re-route, or protect cables in this compartment
	PFHBC2B-SW01D-J2	C	SW01D SAT Supply Breaker	Prevent SW01D SAT breaker from operating	Verify cables do not fail SW01D-J2, or protect cables in this compartment
	PFHBO2B-SW01D-G2	C	SW01D UAT Supply Breaker	Prevent SW01D UAT breaker from operating	Verify cables do not fail SW01D-G2, or protect cables in this compartment
	SXAHR-B-AH01B	P, P	"B" SX Cooling Tower Fan 1B	Fail "B" SX Cooling Tower Fan 1B	Verify cables do not fail SX AH01B, or protect cable in FC
	SXAHR-B-AH02B	P, P	"B" SX Cooling Tower Fan 2B	Fail "B" SX Cooling Tower Fan 2B	Verify cables do not fail SX AH02B, or protect cable in FC
F100-A05D	F-EF-PA22-FAIL	C	Relay and Metering Panel PA-22	Spurious operation failing SATs TR02M & N	Either verify cable failure does not fail SATs, or protect cable in FC
	NGBSY3N-LC19N	P	Support various AAC loads	Failure of LC-19N	Cable does not damage 824-E-LC19N (Need to verify, or protect)
	PFBSY1A-SW01A	C	Support 1E 4KV SWGR SW01A	Fail SW01A	Verify cables are only for fault recorder, and do not fail SW01A, or protect cable in this FC
	PFBSY1B-SW01B	C	Support 1E 4KV SWGR SW01B	Fail SW01B	Verify cables are only for fault recorder, and do not fail SW01B, or protect cable in this FC
	PFBSY2A-SW01C	C	Support 1E 4KV SWGR SW01C	Fail SW01C	Verify cables are only for fault recorder, and do not fail SW01C, or protect cable in this FC
	PFBSY2B-SW01D	C	Support 1E 4KV SWGR SW01D	Fail SW01D	Verify cables are only for fault recorder, and do not fail SW01D, or protect cable in this FC
	PFHBC1B-SW01B-B2	C	SW01B AAC Supply Breaker	Fail SW01B-B2	Verify cables are only for fault recorder, and do not fail SW01B-B2, or protect cable in this FC
	PFHBC2B-SW01D-E2	C	SW01D AAC Supply Breaker	Fail SW01D-E2	Verify cables are only for fault recorder, and do not fail SW01D-E2, or protect cable in this FC
	PFHBO1A-SW01A-H2	C	SW01A UAT Supply Breaker	Fail SW01A-H2	Verify cables are only for fault recorder, and do not fail SW01A-H2, or protect cable in this FC

Revised Response to Action Item 19-51 Section 19.1

Table 1 – Removed Fire PRA Cables (by Fire Compartment)

FC	Component Basic Event	Cable Type	Function	Modeled Failure Mode	Exclusion Criteria
	PFHBO1B-SW01B-H2	C	SW01B UAT Supply Breaker	Fail SW01B-H2	Verify cables are only for fault recorder, and do not fail SW01B-H2, or protect cable in this FC
	PFHBO2A-SW01C-C2	C	SW01C UAT Supply Breaker	Fail SW01C-C2	Verify cables are only for fault recorder, and do not fail SW01C-C2, or protect cable in this FC
	PFHBO2B-SW01D-G2	C	SW01D UAT Supply Breaker	Fail SW01D-G2	Verify cables are only for fault recorder, and do not fail SW01D-G2, or protect cable in this FC
F100-A06D	F-EF-PA22-FAIL	C	Relay and Metering Panel PA-22	Spurious operation failing SATs TR02M & N	Either verify cable failure does not fail SATs, or protect cable in FC
	NGBSY3N-LC19N	P	Support various AAC loads	Failure of LC-19N	Cable does not damage 824-E-LC19N (Need to verify, or protect)
	PFBSY1A-SW01A	C	Support 1E 4KV SWGR SW01A	Fail SW01A	Verify cables are only for fault recorder, and do not fail SW01A, or protect cable in this FC
	PFBSY1B-SW01B	C, I	Support 1E 4KV SWGR SW01B	Fail SW01B	Verify cables are only for fault recorder, and do not fail SW01B, or protect cable in this FC
	PFBSY2A-SW01C	C	Support 1E 4KV SWGR SW01C	Fail SW01C	Verify cables are only for fault recorder, and do not fail SW01C, or protect cable in this FC
	PFBSY2B-SW01D	C, C	Support 1E 4KV SWGR SW01D	Fail SW01D	Verify cables are only for fault recorder, and do not fail SW01D, or protect cable in this FC
	PFHBC1B-SW01B-B2	C	SW01B AAC Supply Breaker	Fail SW01B-B2	Verify cables are only for fault recorder, and do not fail SW01B-B2, or protect cable in this FC
	PFHBC1B-SW01B-D2	C	SW01B EDG Supply Breaker	Fail SW01B-D2	Verify cables are only for fault recorder, and do not fail SW01B-D2, or protect cable in this FC
	PFHBC2B-SW01D-E2	C, C	SW01D AAC Supply Breaker	Fail SW01D-E2	Verify cables are only for fault recorder, and do not fail SW01D-E2, or protect cable in this FC
	PFHBO1A-SW01A-H2	C	SW01A UAT Supply Breaker	Fail SW01A-H2	Verify cables are only for fault recorder, and do not fail SW01A-H2, or protect cable in this FC
	PFHBO1B-SW01B-H2	C	SW01B UAT Supply Breaker	Fail SW01B-H2	Verify cables are only for fault recorder, and do not fail SW01B-H2, or protect cable in this FC
	PFHBO2A-SW01C-C2	C	SW01C UAT Supply Breaker	Fail SW01C-C2	Verify cables are only for fault recorder, and do not fail SW01C-C2, or protect cable in this FC
	PFHBO2B-SW01D-G2	C	SW01D UAT Supply Breaker	Fail SW01D-G2	Verify cables are only for fault recorder, and do not fail SW01D-G2, or protect cable in this FC
F100-A08C	PFBSY1A-SW01A	C	Support 1E 4KV SWGR SW01A	Fail SW01A	Verify cables are only for fault recorder, and do not fail SW01A, or protect cable in this FC

Revised Response to Action Item 19-51 Section 19.1

Table 1 – Removed Fire PRA Cables (by Fire Compartment)

FC	Component Basic Event	Cable Type	Function	Modeled Failure Mode	Exclusion Criteria
	PFBSY2A-SW01C	C	Support 1E 4KV SWGR SW01C	Fail SW01C	Verify cables are only for fault recorder, and do not fail SW01C, or protect cable in this FC
	PFHBC1A-SW01A-G2	C	SW01A AAC Supply Breaker	Fail SW01A-G2	Verify cables are only for fault recorder, and do not fail SW01A-G2, or protect cable in this FC
	PFHBC2A-SW01C-E2	C	SW01C AAC Supply Breaker	Fail SW01C-E2	Verify cables are only for fault recorder, and do not fail SW01C-E2, or protect cable in this FC
	PFHBO1A-SW01A-H2	C	SW01A UAT Supply Breaker	Fail SW01A-H2	Verify cables are only for fault recorder, and do not fail SW01A-H2, or protect cable in this FC
	PFHBO2A-SW01C-C2	C	SW01C UAT Supply Breaker	Fail SW01C-C2	Verify cables are only for fault recorder, and do not fail SW01C-C2, or protect cable in this FC
F100-A08D	ATAVO-D-010	I	Support AOV AT-010	Fail AOV AT-010 (AF TDP PP01B Stm Sup)	Verify cable does not fail AT-010, or protect cable in this compartment
	F-EF-PA21-FAIL	C	Relay and Metering Panel PA-21	Spurious operation failing UATs TR01M & N	Either verify cable failures do not fail UATs, or protect cables in FC
	F-EF-PA22-FAIL	C	Relay and Metering Panel PA-22	Spurious operation failing SATs TR02M & N	Either verify cable failure does not fail SATs, or protect cable in FC
	PFBSY1B-SW01B	C	Support 1E 4KV SWGR SW01B	Fail SW01B	Verify cables are only for fault recorder, and do not fail SW01B, or protect cable in this FC
	PFBSY2B-SW01D	C, C	Support 1E 4KV SWGR SW01D	Fail SW01D	Verify cables are only for fault recorder, and do not fail SW01D, or protect cable in this FC
F100-A10B	NGBSY3N-LC19N	P	Support various AAC loads	Failure of LC-19N	Cable does not damage 824-E-LC19N (Need to verify, or protect)
F100-A37B	NGBSY3N-LC19N	P	Support various AAC loads	Failure of LC-19N	Cable does not damage 824-E-LC19N (Need to verify, or protect)
F120-A01C	F-EF-PA22-FAIL	C	Relay and Metering Panel PA-22	Spurious operation failing SATs TR02M & N	Either verify cable failure does not fail SATs, or protect cable in FC
F120-A01D	PFBSY1B-SW01B	C	Support 1E 4KV SWGR SW01B	Fail SW01B	Verify cables are only for sync circuit breaker, and do not fail SW01B (NOTE: no impact if included)
	PFBSY2B-SW01D	C	Support 1E 4KV SWGR SW01D	Fail SW01D	Verify cables are only for sync circuit breaker, and do not fail SW01D (NOTE: no impact if included)
F120-A05C	F-EF-PA22-FAIL	C, I	Relay and Metering Panel PA-22	Spurious operation failing SATs TR02M & N	Either verify cable failure does not fail SATs, or protect cable in FC

Revised Response to Action Item 19-51 Section 19.1

Table 1 – Removed Fire PRA Cables (by Fire Compartment)

FC	Component Basic Event	Cable Type	Function	Modeled Failure Mode	Exclusion Criteria
F120-A05D	F-EF-PA22-FAIL	C, I	Relay and Metering Panel PA-22	Spurious operation failing SATs TR02M & N	Either verify cable failure does not fail SATs, or protect cable in FC
	NPXHY-M-SAT02M	C	Support SAT TR02M	Fail SAT TR02M	Verify existing cable protection (conduit) prevents spurious failure of SAT-02M, or protect cable in this FC
	NPXHY-M-UAT01M	C, I	Support UAT TR01M	Spurious operation failing UATs TR01M & N	Verify existing cable protection (conduit) prevents spurious failure of UAT-01M, or protect cable in this FC
	NPXHY-N-SAT02N	C	Support SAT TR02N	Fail SAT TR02N	Verify existing cable protection (conduit) prevents spurious failure of SAT-02N, or protect cable in this FC
	NPXHY-N-UAT01N	C, I	Support UAT TR01N	Spurious operation failing UATs TR01M & N	Verify existing cable protection (conduit) prevents spurious failure of UAT-01N, or protect cable in this FC
	PFBSY1A-SW01A	C	Support 1E 4KV SWGR SW01A	Fail SW01A	Verify cables are only for fault recorder, and do not fail SW01A, or protect cable in this FC
	PFBSY1B-SW01B	C	Support 1E 4KV SWGR SW01B	Fail SW01B	Verify cables are only for fault recorder, and do not fail SW01B, or protect cable in this FC
	PFBSY2A-SW01C	C	Support 1E 4KV SWGR SW01C	Fail SW01C	Verify cables are only for fault recorder, and do not fail SW01C, or protect cable in this FC
	PFBSY2B-SW01D	C, C	Support 1E 4KV SWGR SW01D	Fail SW01D	Verify cables are only for fault recorder, and do not fail SW01D, or protect cable in this FC
	PFHBO1A-SW01A-H2	C	SW01A UAT Supply Breaker	Fail SW01A-H2	Verify cables are only for fault recorder, and do not fail SW01A-H2, or protect cable in this FC
	PFHBO1B-SW01B-H2	C	SW01B UAT Supply Breaker	Fail SW01B-H2	Verify cables are only for fault recorder, and do not fail SW01B-H2, or protect cable in this FC
	PFHBO2A-SW01C-C2	C	SW01C UAT Supply Breaker	Fail SW01C-C2	Verify cables are only for fault recorder, and do not fail SW01C-C2, or protect cable in this FC
	PFHBO2B-SW01D-G2	C	SW01D UAT Supply Breaker	Fail SW01D-G2	Verify cables are only for fault recorder, and do not fail SW01D-G2, or protect cable in this FC
	F120-A08C	F-EF-PA22-FAIL	I	Relay and Metering Panel PA-22	Spurious operation failing SATs TR02M & N
F120-A09C	ATAVO-C-009	I	Support AOV AT-009	Fail AOV AT-009 (AF TDP PP01A Stm Sup)	Verify cable does not fail AT-009, or protect cable in this compartment

Revised Response to Action Item 19-51 Section 19.1

Table 1 – Removed Fire PRA Cables (by Fire Compartment)

FC	Component Basic Event	Cable Type	Function	Modeled Failure Mode	Exclusion Criteria
	F-EF-PA22-FAIL	I	Relay and Metering Panel PA-22	Spurious operation failing SATs TR02M & N	Either verify cable failure does not fail SATs, or protect cable in FC
F120-A09D	AFMVC1A-045	C, C, C	Support "A" train AF Valve AF-045	Spurious close, or prevent operation of AF-045	Verify these cables do not fail this "A" AF MOV, or protect these cables in this Div. "B" FC
	ATAVO-D-010	I	Support AOV AT-010	Fail AOV AT-010 (AF TDP PP01B Stm Sup)	Verify cable does not fail AT-010, or protect cable in this compartment
F120-A11B	MSAVO-B-110	C	Steam supply to TD AF PP01A	AOV MS-110 fails to open on demand	Verify cable does not fail valve, re-route cable out of this FC, or protect cable in this FC
F120-A14A	MSAVO-A-109	C, I	Steam supply to TD AF PP01B	AOV MS-109 fails to open on demand	Verify cables do not fail valve, re-route cable out of this FC, or protect cable in this FC
	PELXY-A-LX09A-P	C, C	Support primary loop controller LX09A	Fail AOV MS-109 (TDP PP01B Stm Sup)	Verify this "A" cable does not fail AF TPP PP01B steam valve MS-109, or protect cable in this FC
F120-A15B	MSAVO-B-110	C	Steam supply to TD AF PP01A	AOV MS-110 fails to open on demand	Verify cables do not fail valve, re-route cable out of this FC, or protect cable in this FC
	PELXY-B-LX11B-P	C, C	Support primary loop controller LX11B	Fail AOV MS-110 (TDP PP01A Stm Sup)	Verify these "B" cables do not fail AF TPP PP01A steam valve MS-110 or protect cables in this FC
F120-AGAA	F-EF-PA21-FAIL	C, I	Relay and Metering Panel PA-21	Spurious operation failing UATs TR01M & N	Either verify cable failures do not fail UATs, or protect cables in FC
	F-EF-PA22-FAIL	I	Relay and Metering Panel PA-22	Spurious operation failing SATs TR02M & N	Either verify cable failure does not fail SATs, or protect cable in FC
	MSAVO-A-109	C, C, I, I	Steam supply to TD AF PP01B	AOV MS-109 fails to open on demand	Verify cables do not fail valve, re-route cable out of this FC, or protect cable in this FC
	NPXHY-M-UAT01M	C, I	UAT TR01M	Spurious operation failing UATs TR01M & N	Either verify cable failures do not fail UATs, or protect cables in FC
	PELXY-A-LX09A-P	C, C, C, C	Support primary loop controller LX09A	Fail AOV MS-109 (TDP PP01B Stm Sup)	Verify this "A" cable does not fail AF TPP PP01B steam valve MS-109, or protect cable in this FC
F120-AGAC	AFSVI1A-0037	I, I	TD AF PP01A Mod Valve AF-037	Fails flow from TD AF PP01A to SG 1	Either verify cables do not fail AF-037, or protect in this FC
	F-CC-MV-021-OC	I	CC HX HE01A Disch MOV	Spurious close fails CC HX HE01A	Verify cable is fiber optic (i.e., no SO), or protect cable in FC
	F-CC-MV-023-OC	I	CC HX HE02A Disch MOV	Spurious close fails CC HX HE02A	Verify cable is fiber optic (i.e., no SO), or protect cable in FC

Revised Response to Action Item 19-51 Section 19.1

Table 1 – Removed Fire PRA Cables (by Fire Compartment)

FC	Component Basic Event	Cable Type	Function	Modeled Failure Mode	Exclusion Criteria
	F-CC-MV-027-CO	I	"A" CC HX Bypass MOV	Spurious open bypasses all "A" CC HXs	Verify cable is fiber optic (i.e., no SO), or protect cable in FC
	F-EF-PA21-FAIL	C, C, C, I, I, I	Relay and Metering Panel PA-21	Spurious operation failing UATs TR01M & N	Either verify cable failures do not fail UATs, or protect cables in FC
	F-EF-PA22-FAIL	I, I, I	Relay and Metering Panel PA-22	Spurious operation failing SATs TR02M & N	Either verify cable failure does not fail SATs, or protect cable in FC
	F-FW-HV-131-OC	I	SG 1 Downcomer Line FWIV	Fail SUFW to SG 1	Verify cable is fiber optic (i.e., no SO), or protect cable in FC
	F-FW-HV-133-OC	I	SG 2 Downcomer Line FWIV	Fail SUFW to SG 2	Verify cable is fiber optic (i.e., no SO), or protect cable in FC
	MSAVO-A-109	I	Steam supply to TD AF PP01B	AOV MS-109 fails to open on demand	Verify cable does not fail valve, re-route cable out of this FC, or protect cable in this FC
	MSAVO-B-110	I	Steam supply to TD AF PP01A	AOV MS-110 fails to open on demand	Verify cable does not fail valve, re-route cable out of this FC, or protect cable in this FC
	MSMVT-B-105	I	SG 1 MS ADV Block Valve MS-105	Spurious close blocks ADV MS-101 flow path	Verify cable is fiber optic (i.e., no SO), or protect cable in FC
	MSMVT-D-108	I	SG 2 MS ADV Block Valve MS-108	Spurious close blocks ADV MS-104 flow path	Verify cable is fiber optic (i.e., no SO), or protect cable in FC
	NPXHY-M-UAT01M	C, C, C, I, I, I	UAT TR01M	Spurious operation failing UATs TR01M & N	Either verify cable failures do not fail UATs, or protect cables in FC
	PELXY-A-LX09A-P	C	Support primary loop controller LX09A	Fail AOV MS-109 (TDP PP01B Stm Sup)	Verify this "A" cable does not fail AF TPP PP01B steam valve MS-109, or protect cable in this FC
	PFBSY1A-SW01A	C, I	Support 1E 4KV SWGR SW01A	Fail SW01A	Verify cables do not fail SW01A, or protect cables in this compartment
	PFBSY2A-SW01C	C, I	Support 1E 4KV SWGR SW01C	Fail SW01C	Verify cables do not fail SW01C, or protect cables in this compartment
	PGBSY2A-LC01C	I, I	Support 480V LC01C	Fail LC01C	Verify cables do not fail LC01C, or protect cables in this compartment
F120-AGAD	AFMVC1B-046	I, I, I	TD AF PP01A Isol Valve	Valve fails to control TD AF flow to SG 2	Verify cables do not fail valve, re-route cable out of this FC, or protect cable in this FC
	AFSVI1B-0038	I, I	TD AF PP01A Mod Valve	Valve fails to control TD AF flow to SG 2	Verify cables do not fail valve, re-route cable out of this FC, or protect cable in this FC
	DCBSY-M-MC01M	I	Support non-1E 125VDC Bus MC01M	Fail non-1E 125VDC Bus MC01M	Verify cable is fiber optic (i.e., no SO), or protect cable in FC

Revised Response to Action Item 19-51 Section 19.1

Table 1 – Removed Fire PRA Cables (by Fire Compartment)

FC	Component Basic Event	Cable Type	Function	Modeled Failure Mode	Exclusion Criteria
	F-EF-PA21-FAIL	C, C, C	Relay and Metering Panel PA-21	Spurious operation failing UATs TR01M & N	Either verify cable failures do not fail UATs, or protect cables in FC
	F-EF-PA22-FAIL	I	Relay and Metering Panel PA-22	Spurious operation failing SATs TR02M & N	Either verify cable failure does not fail SATs, or protect cable in FC
	MSAVO-B-110	C	Steam supply to TD AF PP01A	AOV MS-110 fails to open on demand	Verify cable does not fail valve, re-route cable out of this FC, or protect cable in this FC
	NPXHY-M-UAT01M	I	Support UAT TR01M	Spurious operation failing UATs TR01M & N	Verify cable is fiber optic (i.e., no SO), or protect cable in FC
	NPXHY-N-SAT02N	C, C, C	Support SAT TR02N	Fail SAT TR02N	Verify cables in individual conduit precluding SO failures of SAT 02N, or protect cables in FC
	NPXHY-N-UAT01N	C, C, C, I, I, I	Support UAT TR01N	Spurious operation failing UATs TR01M & N	Verify "C" cables in conduit & "I" cables are FO both precluding SO failures, or protect cables in FC
	PELXY-B-LX06B-P	C	Support primary loop controller LX06B	Fail control of breaker SW01D-J2	Verify cables do not fail SW01D-J2, or protect cables in this compartment
	PELXY-B-LX11B-P	C	Support primary loop controller LX11B	Fail AOV MS-110 (TDP PP01A Stm Sup)	Verify this "B" cable does not fail AF TPP PP01A steam valve MS-110 or protect cable in this FC
	PFBSY1B-SW01B	C, I	Support 1E 4KV SWGR SW01B	Fail SW01B	Either verify cable failures do not fail SW01B, or protect cables in FC
	PFBSY2B-SW01D	C, C, I, I	Support 1E 4KV SWGR SW01D	Fail SW01D	Either verify cable failures do not fail SW01D, or protect cables in FC
	PFHBC1B-SW01B-A2	I, I	SW01B SAT Supply Breaker	Prevent SW01B SAT breaker from operating	Verify cables do not fail SW01B-J2, or protect cables in this compartment
	PFHBC2B-SW01D-J2	I, I	SW01D SAT Supply Breaker	Prevent SW01D SAT breaker from operating	Verify cables do not fail SW01D-J2, or protect cables in this compartment
	PFHBO1B-SW01B-H2	I	SW01B UAT Supply Breaker	Prevent SW01B UAT breaker from operating	Verify cables do not fail SW01B-H2, or protect cables in this compartment
	PFHBO2B-SW01D-G2	I	SW01D UAT Supply Breaker	Prevent SW01D UAT breaker from operating	Verify cables do not fail SW01D-G2, or protect cables in this compartment
	PGBSY1B-LC01B	C, C, I, I	Support 1E 480V LC LC01B	Fail LC01B	Either verify cable failures do not fail LC01B, or protect cables in FC
	PGBSY2B-LC01D	I, I	Support 1E 480V LC LC01D	Fail LC01D	Either verify cable failures do not fail LC01D, or protect cables in FC
F120-AMPB	MSAVO-A-109	C	Steam supply to TD AF PP01B	AOV MS-109 fails to open on demand	Verify cable does not fail valve, re-route cable out of this FC, or protect cable in this FC

Revised Response to Action Item 19-51 Section 19.1

Table 1 – Removed Fire PRA Cables (by Fire Compartment)

FC	Component Basic Event	Cable Type	Function	Modeled Failure Mode	Exclusion Criteria
	MSAVO-B-110	C	Steam supply to TD AF PP01A	AOV MS-110 fails to open on demand	Verify cable does not fail valve, re-route cable out of this FC, or protect cable in this FC
	PELXY-B-LX11B-P	C	Support primary loop controller LX11B	Fail AOV MS-110 (TDP PP01A Stm Sup)	Verify this "B" cable does not fail AF TPP PP01A steam valve MS-110 or protect cable in this FC
F137-A01C	MSAVO-A-109	I	Steam supply to TD AF PP01B	AOV MS-109 fails to open on demand	Verify cable does not fail valve, re-route cable out of this FC, or protect cable in this FC
F137-A05D	NBBSY-S-SW03N	I, I	Non-1E 4.16KV SWGR 3-SW03N	Fail AAC to SW01A/B/C/D	Either verify cable failures do not fail 3-SW03N, or protect cables in FC
F137-A11C	AFMVT2B-044	C, C, C, I, I, I	Support "B" train AF Valve AF-044	Spurious close, or prevent operation of AF-044	Verify these cables do not fail this "B" AF MOV, or protect these cables in this Div. "A" FC
F137-A11D	AFMVC1A-045	C, C, C, I, I, I	Support "A" train AF Valve AF-045	Spurious close, or prevent operation of AF-045	Verify these cables do not fail this "A" AF MOV, or protect these cables in this Div. "B" FC
	F-EF-PA21-FAIL	C	Relay and Metering Panel PA-21	Spurious operation failing UATs TR01M & N	Either verify cable failure does not fail UATs, or protect cable in FC
	NPXHY-N-SAT02N	C	Support SAT TR02N	Fail SAT TR02N	Verify cable in individual conduit precluding SO failure of SAT 02N, or protect cable in FC
	NPXHY-N-UAT01N	C	Support UAT TR01N	Spurious operation failing UATs TR01M & N	Verify cable in individual conduit precluding SO failure of UAT 01N, or protect cable in FC
F157-A01D	MSAVO-B-110	I	Steam supply to TD AF PP01A	AOV MS-110 fails to open on demand	Verify cable does not fail valve, re-route cable out of this FC, or protect cable in this FC
F157-A16C	AFMVT2B-044	I, I, I	Support "B" train AF Valve AF-044	Spurious close, or prevent operation of AF-044	Verify these cables do not fail this "B" AF MOV, or protect these cables in this Div. "A" FC
F157-A17C	AFMVT2B-044	I, I, I	Support "B" train AF Valve AF-044	Spurious close, or prevent operation of AF-044	Verify these cables do not fail this "B" AF MOV, or protect these cables in this Div. "A" FC
	ATAVO-D-010	I	Support AOV AT-010	Fail AOV AT-010 (AF TDP PP01B Stm Sup)	Verify cable does not fail AT-010, or protect cable in this Div. "A" FC
	DCBCY-D-BC01D	I	Support 1E 125VDC Batt. Chgr. BC01D	Fail 1E 125VDC Batt. Chgr. BC01D	Verify cable does not fail BC01D, or protect in this Div. "A" FC
F157-A19C	AFMVT2B-044	I, I, I	Support "B" train AF Valve AF-044	Spurious close, or prevent operation of AF-044	Verify these cables do not fail this "B" AF MOV, or protect these cables in this Div. "A" FC
F157-A19D	AFMVC1A-045	I, I, I	Support "A" train AF Valve AF-045	Spurious close, or prevent operation of AF-045	Verify these cables do not fail this "A" AF MOV, or protect these cables in this Div. "B" FC

Revised Response to Action Item 19-51 Section 19.1

Table 1 – Removed Fire PRA Cables (by Fire Compartment)

FC	Component Basic Event	Cable Type	Function	Modeled Failure Mode	Exclusion Criteria
F157-A25C	AFMVT2B-044	I, I, I	Support "B" train AF Valve AF-044	Spurious close, or prevent operation of AF-044	Verify these cables do not fail this "B" AF MOV, or protect these cables in this Div. "A" FC
	ATAVO-C-009	I	Support AOV AT-009	Fail AOV AT-009 (AF TDP PP01A Stm Sup)	Verify cable does not fail AT-009, or protect cable in this compartment
	MSAVO-A-109	I	Steam supply to TD AF PP01B	AOV MS-109 fails to open on demand	Verify cables do not fail valve, re-route cable out of this FC, or protect cable in this FC
	MSMVT-D-108	I	SG 2 MS ADV Block Valve MS-108	Spurious close blocks ADV MS-104 flow path	Verify cable is fiber optic (i.e., no SO), or protect cable in FC
	RCMVO-A-130	I	Support RC-200 Pilot Valve RC-130	Fail POSRV RC-200	Verify cable does not fail RC-130, or protect cable in this compartment
	RCMVO-A-132	I	Support RC-201 Pilot Valve RC-132	Fail POSRV RC-201	Verify cable does not fail RC-132, or protect cable in this compartment
	RCMVO-C-131	I	Support RC-200 Pilot Valve RC-131	Fail POSRV RC-200	Verify cable does not fail RC-131, or protect cable in this compartment
	RCMVO-C-133	I	Support RC-201 Pilot Valve RC-133	Fail POSRV RC-201	Verify cable does not fail RC-133, or protect cable in this compartment
	RCPVO-A-200	I	Support POSRV RC-200	Fail POSRV RC-200	Verify cable does not fail RC-200, or protect cable in this compartment
F157-ACPX	MSAVO-B-110	I, I	Steam supply to TD AF PP01A	AOV MS-110 fails to open on demand	Verify cable does not fail valve, re-route cable out of this FC, or protect cable in this FC
	NBBSY-S-SW03N	I, I	Non-1E 4.16KV SWGR 3-SW03N	Fail AAC to SW01A/B/C/D	Either verify cable failures do not fail 3-SW03N, or protect cables in FC
F157-AMAX	MSAVO-A-109	I, I	Steam supply to TD AF PP01B	AOV MS-109 fails to open on demand	Verify cables do not fail valve, re-route cable out of this FC, or protect cable in this FC
F157-ATOC	MSAVO-A-109	I	Steam supply to TD AF PP01B	AOV MS-109 fails to open on demand	Verify cables do not fail valve, re-route cable out of this FC, or protect cable in this FC
FK-K01	CCMVT3B-026	C	Support CC HX HE03B Disch Vlv CC-026	Fail to open CC-026 fails CC HX HE03B	Moved these Div. B cables to Div. B ESW Pump Rm FK-K02
	F-CC-MV-022-OC	C	Support CC HX HE01B Disch Vlv CC-022	Spurious close CC-022 fails CC HX HE01B	Moved these Div. B cables to Div. B ESW Pump Rm FK-K02
	F-CC-MV-024-OC	C	Support CC HX HE02B Disch Vlv CC-024	Spurious close CC-024 fails CC HX HE02B	Moved these Div. B cables to Div. B ESW Pump Rm FK-K02
	F-CC-MV-028-CO	C, P	Support B CC HX Bypass Vlv CC-028	Spurious open CC-028 fails all B CC HXs	Moved these Div. B cables to Div. B ESW Pump Rm FK-K02

Revised Response to Action Item 19-51 Section 19.1

Table 1 – Removed Fire PRA Cables (by Fire Compartment)

FC	Component Basic Event	Cable Type	Function	Modeled Failure Mode	Exclusion Criteria
	PHBSY1B-MC02B	P	Support 480VAC MCC MC02B	Fail B SX Pump Rm Cooling Fan AH01B	Moved these Div. B cables to Div. B ESW Pump Rm FK-K02
	SXMVR-B-MV073	C	Support SXCT Fan Sup Valve SX-073	Spurious close fails flow to Div. B SXCT Fans	Moved these Div. B cables to Div. B ESW Pump Rm FK-K02
	SXMVR-B-MV074	C	Support SXCT Fan Byp Valve SX-073	Spurious open diverts flow from Div. B SXCT Fans	Moved these Div. B cables to Div. B ESW Pump Rm FK-K02
	SXMVT2B-048	C, P	Support SX Pp 2B disch MOV SX-048	Spurious close of SX-048 fails SX Pp 2B	Moved these Div. B cables to Div. B ESW Pump Rm FK-K02
	VGAHR1B-AH01B	C, C, C, P, P, P	Support ESW Pump Rm Sup Fan AH01B	Fail ESW Pump Rm Sup Fan AH01B	Moved these Div. B cables to Div. B ESW Pump Rm FK-K02
	VGAHR2B-AH02B	C, C, P, P	Support ESW Pump Rm Sup Fan AH02B	Fail ESW Pump Rm Sup Fan AH02B	Moved these Div. B cables to Div. B ESW Pump Rm FK-K02

Revised Response to Action Item 19-51 Section 19.1

Table 2 – Removed Fire PRA Cables (by Component Basic Event)

Component Basic Event	FC	Cable Type	Function	Potential Failure Mode	Exclusion Criteria
AFMVC1A-045	F078-A05D	P, P, P	Support "A" train AF Valve AF-045	Prevent operation of AF-045	Verify these cables do not fail this "A" AF MOV, or protect these cables in this Div. "B" FC
	F120-A09D	C, C, C	Support "A" train AF Valve AF-045	Spurious close, or prevent operation of AF-045	Verify these cables do not fail this "A" AF MOV, or protect these cables in this Div. "B" FC
	F137-A11D	C, C, C, I, I, I	Support "A" train AF Valve AF-045	Spurious close, or prevent operation of AF-045	Verify these cables do not fail this "A" AF MOV, or protect these cables in this Div. "B" FC
	F157-A19D	I, I, I	Support "A" train AF Valve AF-045	Spurious close, or prevent operation of AF-045	Verify these cables do not fail this "A" AF MOV, or protect these cables in this Div. "B" FC
AFMVC1B-046	F000-ADGD	I, I, I, I	TD AF PP01B Isol Valve	Valve fails to control TD AF flow to SG 2	Verify cables do not fail valve, re-route cable out of this FC, or protect cable in this FC
	F120-AGAD	I, I, I	TD AF PP01B Isol Valve	Valve fails to control TD AF flow to SG 2	Verify cables do not fail valve, re-route cable out of this FC, or protect cable in this FC
AFMVT2B-044	F078-A05C	P, P, P	Support "B" train AF Valve AF-044	Prevent operation of AF-044	Verify these cables do not fail this "B" AF MOV, or protect these cables in this Div. "A" FC
	F137-A11C	C, C, C, I, I, I	Support "B" train AF Valve AF-044	Spurious close, or prevent operation of AF-044	Verify these cables do not fail this "B" AF MOV, or protect these cables in this Div. "A" FC
	F157-A16C	I, I, I	Support "B" train AF Valve AF-044	Spurious close, or prevent operation of AF-044	Verify these cables do not fail this "B" AF MOV, or protect these cables in this Div. "A" FC
	F157-A17C	I, I, I	Support "B" train AF Valve AF-044	Spurious close, or prevent operation of AF-044	Verify these cables do not fail this "B" AF MOV, or protect these cables in this Div. "A" FC
	F157-A19C	I, I, I	Support "B" train AF Valve AF-044	Spurious close, or prevent operation of AF-044	Verify these cables do not fail this "B" AF MOV, or protect these cables in this Div. "A" FC
	F157-A25C	I, I, I	Support "B" train AF Valve AF-044	Spurious close, or prevent operation of AF-044	Verify these cables do not fail this "B" AF MOV, or protect these cables in this Div. "A" FC
AFSVI1A-0037	F120-AGAC	I, I	TD AF PP01A Mod Valve AF-037	Fails flow from TD AF PP01A to SG 1	Either verify cables do not fail AF-037, or protect in this FC
AFSVI1B-0038	F000-ADGD	I, I, I, I, I, I	TD AF PP01B Mod Valve AF-038	Valve fails to control TD AF flow to SG 2	Verify cables do not fail valve, re-route cable out of this FC, or protect cable in this FC
	F120-AGAD	I, I	TD AF PP01B Mod Valve AF-038	Valve fails to control TD AF flow to SG 2	Verify cables do not fail valve, re-route cable out of this FC, or protect cable in this FC
ATAVO-C-009	F078-AGAC	I	Support AOV AT-009	Fail AOV AT-009 (AF TDP PP01A Stm Sup)	Verify cable does not fail AT-009, or protect cable in this compartment
	F120-A09C	I	Support AOV AT-009	Fail AOV AT-009 (AF TDP PP01A Stm Sup)	Verify cable does not fail AT-009, or protect cable in this compartment

Revised Response to Action Item 19-51 Section 19.1

Table 2 – Removed Fire PRA Cables (by Component Basic Event)

Component Basic Event	FC	Cable Type	Function	Potential Failure Mode	Exclusion Criteria
	F157-A25C	I	Support AOV AT-009	Fail AOV AT-009 (AF TDP PP01A Stm Sup)	Verify cable does not fail AT-009, or protect cable in this compartment
ATAVO-D-010	F078-AGAD	I	Support AOV AT-010	Fail AOV AT-010 (AF TDP PP01B Stm Sup)	Verify cable does not fail AT-010, or protect cable in this compartment
	F100-A08D	I	Support AOV AT-010	Fail AOV AT-010 (AF TDP PP01B Stm Sup)	Verify cable does not fail AT-010, or protect cable in this compartment
	F120-A09D	I	Support AOV AT-010	Fail AOV AT-010 (AF TDP PP01B Stm Sup)	Verify cable does not fail AT-010, or protect cable in this compartment
	F157-A17C	I	Support AOV AT-010	Fail AOV AT-010 (AF TDP PP01B Stm Sup)	Verify cable does not fail AT-010, or protect cable in this Div. "A" FC
CCMVT3B-026	FK-K01	C	Support CC HX HE03B Disch Vlv CC-026	Fail to open CC-026 fails CC HX HE03B	Moved these Div. B cables to Div. B ESW Pump Rm FK-K02
DCBCY-D-BC01D	F157-A17C	I	Support 1E 125VDC Batt. Chgr. BC01D	Fail 1E 125VDC Batt. Chgr. BC01D	Verify cable does not fail BC01D, or protect in this Div. "A" FC
DCBSY-M-MC01M	F120-AGAD	I	Support non-1E 125VDC Bus MC01M	Fail non-1E 125VDC Bus MC01M	Verify cable is fiber optic (i.e., no SO), or protect cable in FC
F-CC-MV-021-OC	F120-AGAC	I	CC HX HE01A Disch MOV	Spurious close fails CC HX HE01A	Verify cable is fiber optic (i.e., no SO), or protect cable in FC
F-CC-MV-022-OC	FK-K01	C	Support CC HX HE01B Disch Vlv CC-022	Spurious close CC-022 fails CC HX HE01B	Moved these Div. B cables to Div. B ESW Pump Rm FK-K02
F-CC-MV-023-OC	F120-AGAC	I	CC HX HE02A Disch MOV	Spurious close fails CC HX HE02A	Verify cable is fiber optic (i.e., no SO), or protect cable in FC
F-CC-MV-024-OC	FK-K01	C	Support CC HX HE02B Disch Vlv CC-024	Spurious close CC-024 fails CC HX HE02B	Moved these Div. B cables to Div. B ESW Pump Rm FK-K02
F-CC-MV-027-CO	F120-AGAC	I	"A" CC HX Bypass MOV	Spurious open bypasses all "A" CC HXs	Verify cable is fiber optic (i.e., no SO), or protect cable in FC
F-CC-MV-028-CO	FK-K01	C, P	Support B CC HX Bypass Vlv CC-028	Spurious open CC-028 fails all B CC HXs	Moved these Div. B cables to Div. B ESW Pump Rm FK-K02
F-EF-PA03B-INV	F000-ADGD	C, C	Failure of PA-03B	Various, but TD AF PP01A Mod Vlv AF-037	Verify cables do not fail AF-037, re-route cable out of this FC, or protect cable in this FC
F-EF-PA03B-MCC	F000-ADGD	C, C	Failure of PA-03B	Various, but TD AF PP01A Mod Vlv AF-037	Verify cables do not fail AF-037, re-route cable out of this FC, or protect cable in this FC

Revised Response to Action Item 19-51 Section 19.1

Table 2 – Removed Fire PRA Cables (by Component Basic Event)

Component Basic Event	FC	Cable Type	Function	Potential Failure Mode	Exclusion Criteria
F-EF-PA21-FAIL	F000-ACVU	C, I	Relay and Metering Panel PA-21	Spurious operation failing UATs TR01M & N	Either verify cable failures do not fail UATs, or protect cables in FC
	F100-A08D	C	Relay and Metering Panel PA-21	Spurious operation failing UATs TR01M & N	Either verify cable failures do not fail UATs, or protect cables in FC
	F120-AGAA	C, I	Relay and Metering Panel PA-21	Spurious operation failing UATs TR01M & N	Either verify cable failures do not fail UATs, or protect cables in FC
	F120-AGAC	C, C, C, I, I, I	Relay and Metering Panel PA-21	Spurious operation failing UATs TR01M & N	Either verify cable failures do not fail UATs, or protect cables in FC
	F120-AGAD	C, C, C	Relay and Metering Panel PA-21	Spurious operation failing UATs TR01M & N	Either verify cable failures do not fail UATs, or protect cables in FC
	F137-A11D	C	Relay and Metering Panel PA-21	Spurious operation failing UATs TR01M & N	Either verify cable failure does not fail UATs, or protect cable in FC
F-EF-PA22-FAIL	F000-ACVU	I	Relay and Metering Panel PA-22	Spurious operation failing SATs TR02M & N	Either verify cable failure does not fail SATs, or protect cable in FC
	F100-A05D	C	Relay and Metering Panel PA-22	Spurious operation failing SATs TR02M & N	Either verify cable failure does not fail SATs, or protect cable in FC
	F100-A06D	C	Relay and Metering Panel PA-22	Spurious operation failing SATs TR02M & N	Either verify cable failure does not fail SATs, or protect cable in FC
	F100-A08D	C	Relay and Metering Panel PA-22	Spurious operation failing SATs TR02M & N	Either verify cable failure does not fail SATs, or protect cable in FC
	F120-A01C	C	Relay and Metering Panel PA-22	Spurious operation failing SATs TR02M & N	Either verify cable failure does not fail SATs, or protect cable in FC
	F120-A05C	C, I	Relay and Metering Panel PA-22	Spurious operation failing SATs TR02M & N	Either verify cable failure does not fail SATs, or protect cable in FC
	F120-A05D	C, I	Relay and Metering Panel PA-22	Spurious operation failing SATs TR02M & N	Either verify cable failure does not fail SATs, or protect cable in FC
	F120-A08C	I	Relay and Metering Panel PA-22	Spurious operation failing SATs TR02M & N	Either verify cable failure does not fail SATs, or protect cable in FC
	F120-A09C	I	Relay and Metering Panel PA-22	Spurious operation failing SATs TR02M & N	Either verify cable failure does not fail SATs, or protect cable in FC
	F120-AGAA	I	Relay and Metering Panel PA-22	Spurious operation failing SATs TR02M & N	Either verify cable failure does not fail SATs, or protect cable in FC
	F120-AGAC	I, I, I	Relay and Metering Panel PA-22	Spurious operation failing SATs TR02M & N	Either verify cable failure does not fail SATs, or protect cable in FC

Revised Response to Action Item 19-51 Section 19.1

Table 2 – Removed Fire PRA Cables (by Component Basic Event)

Component Basic Event	FC	Cable Type	Function	Potential Failure Mode	Exclusion Criteria
	F120-AGAD	I	Relay and Metering Panel PA-22	Spurious operation failing SATs TR02M & N	Either verify cable failure does not fail SATs, or protect cable in FC
F-FW-HV-131-OC	F120-AGAC	I	SG 1 Downcomer Line FWIV	Fail SUFW to SG 1	Verify cable is fiber optic (i.e., no SO), or protect cable in FC
F-FW-HV-133-OC	F000-ADGC	I	SUFW to SG2	Spurious closing of valve FW-0133	Verify cable is fiber optic (i.e., no SO), or protect cable in FC
	F120-AGAC	I	SG 2 Downcomer Line FWIV	Fail SUFW to SG 2	Verify cable is fiber optic (i.e., no SO), or protect cable in FC
FWMVO-N-104	F000-ADGC	I, I	SUFW to SG2	Surrogate for spurious opening of FW-0123	Ensure SUFW flow to normal FW line is not a flow diversion, or protect cable in FC
MSAVO-A-109	F000-ADGC	I	Steam supply to TD AF PP01B	AOV MS-109 fails to open on demand	Verify cables do not fail valve, re-route cable out of this FC, or protect cable in this FC
	F120-A14A	C, I	Steam supply to TD AF PP01B	AOV MS-109 fails to open on demand	Verify cables do not fail valve, re-route cable out of this FC, or protect cable in this FC
	F120-AGAA	C, C, I, I	Steam supply to TD AF PP01B	AOV MS-109 fails to open on demand	Verify cables do not fail valve, re-route cable out of this FC, or protect cable in this FC
	F120-AGAC	I	Steam supply to TD AF PP01B	AOV MS-109 fails to open on demand	Verify cable does not fail valve, re-route cable out of this FC, or protect cable in this FC
	F120-AMPB	C	Steam supply to TD AF PP01B	AOV MS-109 fails to open on demand	Verify cable does not fail valve, re-route cable out of this FC, or protect cable in this FC
	F137-A01C	I	Steam supply to TD AF PP01B	AOV MS-109 fails to open on demand	Verify cable does not fail valve, re-route cable out of this FC, or protect cable in this FC
	F157-A25C	I	Steam supply to TD AF PP01B	AOV MS-109 fails to open on demand	Verify cables do not fail valve, re-route cable out of this FC, or protect cable in this FC
	F157-AMAX	I, I	Steam supply to TD AF PP01B	AOV MS-109 fails to open on demand	Verify cables do not fail valve, re-route cable out of this FC, or protect cable in this FC
	F157-ATOC	I	Steam supply to TD AF PP01B	AOV MS-109 fails to open on demand	Verify cables do not fail valve, re-route cable out of this FC, or protect cable in this FC
MSAVO-B-110	F120-A11B	C	Steam supply to TD AF PP01A	AOV MS-110 fails to open on demand	Verify cable does not fail valve, re-route cable out of this FC, or protect cable in this FC
	F120-A15B	C	Steam supply to TD AF PP01A	AOV MS-110 fails to open on demand	Verify cables do not fail valve, re-route cable out of this FC, or protect cable in this FC
	F120-AGAC	I	Steam supply to TD AF PP01A	AOV MS-110 fails to open on demand	Verify cable does not fail valve, re-route cable out of this FC, or protect cable in this FC

Revised Response to Action Item 19-51 Section 19.1

Table 2 – Removed Fire PRA Cables (by Component Basic Event)

Component Basic Event	FC	Cable Type	Function	Potential Failure Mode	Exclusion Criteria
	F120-AGAD	C	Steam supply to TD AF PP01A	AOV MS-110 fails to open on demand	Verify cable does not fail valve, re-route cable out of this FC, or protect cable in this FC
	F120-AMPB	C	Steam supply to TD AF PP01A	AOV MS-110 fails to open on demand	Verify cable does not fail valve, re-route cable out of this FC, or protect cable in this FC
	F157-A01D	I	Steam supply to TD AF PP01A	AOV MS-110 fails to open on demand	Verify cable does not fail valve, re-route cable out of this FC, or protect cable in this FC
	F157-ACPX	I, I	Steam supply to TD AF PP01A	AOV MS-110 fails to open on demand	Verify cable does not fail valve, re-route cable out of this FC, or protect cable in this FC
MSMVT-B-105	F120-AGAC	I	SG 1 MS ADV Block Valve MS-105	Spurious close blocks ADV MS-101 flow path	Verify cable is fiber optic (i.e., no SO), or protect cable in FC
MSMVT-D-108	F120-AGAC	I	SG 2 MS ADV Block Valve MS-108	Spurious close blocks ADV MS-104 flow path	Verify cable is fiber optic (i.e., no SO), or protect cable in FC
	F157-A25C	I	SG 2 MS ADV Block Valve MS-108	Spurious close blocks ADV MS-104 flow path	Verify cable is fiber optic (i.e., no SO), or protect cable in FC
NBBSY-S-SW03N	F000-TB	I, I, I, I	Non-1E 4.16KV SWGR 3-SW03N	Fail AAC to SW01A/B/C/D	Either verify cable failures do not fail 3-SW03N, or protect cables in FC
	F067-T02	I, I	Non-1E 4.16KV SWGR 3-SW03N	Fail AAC to SW01A/B/C/D	Either verify cable failures do not fail 3-SW03N, or protect cables in FC
	F073-T11	I, I	Non-1E 4.16KV SWGR 3-SW03N	Fail AAC to SW01A/B/C/D	Either verify cable failures do not fail 3-SW03N, or protect cables in FC
	F137-A05D	I, I	Non-1E 4.16KV SWGR 3-SW03N	Fail AAC to SW01A/B/C/D	Either verify cable failures do not fail 3-SW03N, or protect cables in FC
	F157-ACPX	I, I	Non-1E 4.16KV SWGR 3-SW03N	Fail AAC to SW01A/B/C/D	Either verify cable failures do not fail 3-SW03N, or protect cables in FC
NGBSY3N-LC19N	F000-AFHU	P	Support various AAC loads	Failure of LC-19N	Cable does not damage 824-E-LC19N (Need to verify, or protect)
	F000-TB	P	Support various AAC loads	Failure of LC-19N	Cable does not damage 824-E-LC19N (Need to verify, or protect)
	F067-T02	P	Support various AAC loads	Failure of LC-19N	Cable does not damage 824-E-LC19N (Need to verify, or protect)
	F078-A47B	P	Support various AAC loads	Failure of LC-19N	Cable does not damage 824-E-LC19N (Need to verify, or protect)
	F100-A05D	P	Support various AAC loads	Failure of LC-19N	Cable does not damage 824-E-LC19N (Need to verify, or protect)

Revised Response to Action Item 19-51 Section 19.1

Table 2 – Removed Fire PRA Cables (by Component Basic Event)

Component Basic Event	FC	Cable Type	Function	Potential Failure Mode	Exclusion Criteria
	F100-A06D	P	Support various AAC loads	Failure of LC-19N	Cable does not damage 824-E-LC19N (Need to verify, or protect)
	F100-A10B	P	Support various AAC loads	Failure of LC-19N	Cable does not damage 824-E-LC19N (Need to verify, or protect)
	F100-A37B	P	Support various AAC loads	Failure of LC-19N	Cable does not damage 824-E-LC19N (Need to verify, or protect)
NPXHY-M-SAT02M	F073-T11	C, P	Support SAT TR02M	Fail SAT TR02M	Either verify cable failures do not fail SAT 02M, or protect cable in FC
	F078-AGAC	P	Support SAT TR02M	Fail SAT TR02M	Either verify cable failures do not fail SAT 02M, or protect cable in FC
	F120-A05D	C	Support SAT TR02M	Fail SAT TR02M	Verify existing cable protection (conduit) prevents spurious failure of SAT-02M, or protect cable in this FC
NPXHY-M-UAT01M	F000-ACVU	C, I	Support UAT TR01M	Spurious operation failing UATs TR01M & N	Either verify cable failures do not fail UATs, or protect cables in FC
	F120-A05D	C, I	Support UAT TR01M	Spurious operation failing UATs TR01M & N	Verify existing cable protection (conduit) prevents spurious failure of UAT-01M, or protect cable in this FC
	F120-AGAA	C, I	UAT TR01M	Spurious operation failing UATs TR01M & N	Either verify cable failures do not fail UATs, or protect cables in FC
	F120-AGAC	C, C, C, I, I, I	UAT TR01M	Spurious operation failing UATs TR01M & N	Either verify cable failures do not fail UATs, or protect cables in FC
	F120-AGAD	I	Support UAT TR01M	Spurious operation failing UATs TR01M & N	Verify cable is fiber optic (i.e., no SO), or protect cable in FC
NPXHY-N-SAT02N	F073-T11	C, P	Support SAT TR02N	Fail SAT TR02N	Either verify cable failures do not fail SAT 02N, or protect cable in FC
	F078-AGAD	P	Support SAT TR02N	Fail SAT TR02N	Either verify cable failures do not fail SAT 02N, or protect cable in FC
	F120-A05D	C	Support SAT TR02N	Fail SAT TR02N	Verify existing cable protection (conduit) prevents spurious failure of SAT-02N, or protect cable in this FC
	F120-AGAD	C, C, C	Support SAT TR02N	Fail SAT TR02N	Verify cables in individual conduit precluding SO failures of SAT 02N, or protect cables in FC

Revised Response to Action Item 19-51 Section 19.1

Table 2 – Removed Fire PRA Cables (by Component Basic Event)

Component Basic Event	FC	Cable Type	Function	Potential Failure Mode	Exclusion Criteria
	F137-A11D	C	Support SAT TR02N	Fail SAT TR02N	Verify cable in individual conduit precluding SO failure of SAT 02N, or protect cable in FC
NPXHY-N-UAT01N	F120-A05D	C, I	Support UAT TR01N	Spurious operation failing UATs TR01M & N	Verify existing cable protection (conduit) prevents spurious failure of UAT-01N, or protect cable in this FC
	F120-AGAD	C, C, C, I, I, I	Support UAT TR01N	Spurious operation failing UATs TR01M & N	Verify "C" cables in conduit & "I" cables are FO both precluding SO failures, or protect cables in FC
	F137-A11D	C	Support UAT TR01N	Spurious operation failing UATs TR01M & N	Verify cable in individual conduit precluding SO failure of UAT 01N, or protect cable in FC
PELXY-A-LX09A-P	F078-A04C	C	Support primary loop controller LX09A	Fail AOV MS-109 (TDP PP01B Stm Sup)	Verify this "A" cable does not fail AF TPP PP01B steam valve MS-109, or protect cable in this FC
	F120-A14A	C, C	Support primary loop controller LX09A	Fail AOV MS-109 (TDP PP01B Stm Sup)	Verify this "A" cable does not fail AF TPP PP01B steam valve MS-109, or protect cable in this FC
	F120-AGAA	C, C, C, C	Support primary loop controller LX09A	Fail AOV MS-109 (TDP PP01B Stm Sup)	Verify this "A" cable does not fail AF TPP PP01B steam valve MS-109, or protect cable in this FC
	F120-AGAC	C	Support primary loop controller LX09A	Fail AOV MS-109 (TDP PP01B Stm Sup)	Verify this "A" cable does not fail AF TPP PP01B steam valve MS-109, or protect cable in this FC
PELXY-B-LX06B-P	F120-AGAD	C	Support primary loop controller LX06B	Fail control of breaker SW01D-J2	Verify cables do not fail SW01D-J2, or protect cables in this compartment
PELXY-B-LX11B-P	F078-A04D	C	Support primary loop controller LX11B	Fail AOV MS-110 (TDP PP01A Stm Sup)	Verify this "B" cable does not fail AF TPP PP01A steam valve MS-110 or protect cable in this FC
	F120-A15B	C, C	Support primary loop controller LX11B	Fail AOV MS-110 (TDP PP01A Stm Sup)	Verify these "B" cables do not fail AF TPP PP01A steam valve MS-110 or protect cables in this FC
	F120-AGAD	C	Support primary loop controller LX11B	Fail AOV MS-110 (TDP PP01A Stm Sup)	Verify this "B" cable does not fail AF TPP PP01A steam valve MS-110 or protect cable in this FC
	F120-AMPB	C	Support primary loop controller LX11B	Fail AOV MS-110 (TDP PP01A Stm Sup)	Verify this "B" cable does not fail AF TPP PP01A steam valve MS-110 or protect cable in this FC
PELXY-C-LX04C-P	F078-AGAC	C	Support primary loop controller LX04C	Fail MOV AF-045	Verify cable does not fail AF-045, or protect cable in this compartment
PFBSY1A-SW01A	F078-A04C	C, P	Support 1E 4KV SWGR SW01A	Fail SW01A	Verify cables are only for sync circuit breaker, and do not fail SW01A (NOTE: no impact if included)
	F078-A19A	C, I	Support 1E 4KV SWGR SW01A	Fail SW01A	Verify cables do not fail SW01A, or protect cables in this compartment

Revised Response to Action Item 19-51 Section 19.1

Table 2 – Removed Fire PRA Cables (by Component Basic Event)

Component Basic Event	FC	Cable Type	Function	Potential Failure Mode	Exclusion Criteria
	F078-AGAC	C	Support 1E 4KV SWGR SW01A	Fail SW01A	Verify cables do not fail SW01A, re-route, or protect cables in this compartment
	F100-A05D	C	Support 1E 4KV SWGR SW01A	Fail SW01A	Verify cables are only for fault recorder, and do not fail SW01A, or protect cable in this FC
	F100-A06D	C	Support 1E 4KV SWGR SW01A	Fail SW01A	Verify cables are only for fault recorder, and do not fail SW01A, or protect cable in this FC
	F100-A08C	C	Support 1E 4KV SWGR SW01A	Fail SW01A	Verify cables are only for fault recorder, and do not fail SW01A, or protect cable in this FC
	F120-A05D	C	Support 1E 4KV SWGR SW01A	Fail SW01A	Verify cables are only for fault recorder, and do not fail SW01A, or protect cable in this FC
	F120-AGAC	C, I	Support 1E 4KV SWGR SW01A	Fail SW01A	Verify cables do not fail SW01A, or protect cables in this compartment
PFBSY1B-SW01B	F078-A02D	C	Support 1E 4KV SWGR SW01B	Fail SW01B	Verify cable is only for sync circuit breaker, and does not fail SW01B (NOTE: no impact if included)
	F078-A04D	C, P	Support 1E 4KV SWGR SW01B	Fail SW01B	Verify cables are only for sync circuit breaker, and do not fail SW01B (NOTE: no impact if included)
	F078-A19B	I	Support 1E 4KV SWGR SW01B	Fail SW01B	Verify cable does not fail SW01B, or protect cable in this compartment
	F078-AGAD	I	Support 1E 4KV SWGR SW01B	Fail SW01B	Verify cables do not fail SW01B, re-route, or protect cables in this compartment
	F100-A05D	C	Support 1E 4KV SWGR SW01B	Fail SW01B	Verify cables are only for fault recorder, and do not fail SW01B, or protect cable in this FC
	F100-A06D	C, I	Support 1E 4KV SWGR SW01B	Fail SW01B	Verify cables are only for fault recorder, and do not fail SW01B, or protect cable in this FC
	F100-A08D	C	Support 1E 4KV SWGR SW01B	Fail SW01B	Verify cables are only for fault recorder, and do not fail SW01B, or protect cable in this FC
	F120-A01D	C	Support 1E 4KV SWGR SW01B	Fail SW01B	Verify cables are only for sync circuit breaker, and do not fail SW01B (NOTE: no impact if included)
	F120-A05D	C	Support 1E 4KV SWGR SW01B	Fail SW01B	Verify cables are only for fault recorder, and do not fail SW01B, or protect cable in this FC
	F120-AGAD	C, I	Support 1E 4KV SWGR SW01B	Fail SW01B	Either verify cable failures do not fail SW01B, or protect cables in FC
PFBSY2A-SW01C	F078-A03C	C	Support 1E 4KV SWGR SW01C	Fail SW01C	Verify cable is only for sync circuit breaker, and does not fail SW01C (NOTE: no impact if included)

Revised Response to Action Item 19-51 Section 19.1

Table 2 – Removed Fire PRA Cables (by Component Basic Event)

Component Basic Event	FC	Cable Type	Function	Potential Failure Mode	Exclusion Criteria
	F078-A19A	C, I	Support 1E 4KV SWGR SW01C	Fail SW01C	Verify cables do not fail SW01C, or protect cables in this compartment
	F078-AGAC	C, C, I, I, I	Support 1E 4KV SWGR SW01C	Fail SW01C	Verify cables do not fail SW01C, re-route, or protect cables in this compartment
	F100-A05D	C	Support 1E 4KV SWGR SW01C	Fail SW01C	Verify cables are only for fault recorder, and do not fail SW01C, or protect cable in this FC
	F100-A06D	C	Support 1E 4KV SWGR SW01C	Fail SW01C	Verify cables are only for fault recorder, and do not fail SW01C, or protect cable in this FC
	F100-A08C	C	Support 1E 4KV SWGR SW01C	Fail SW01C	Verify cables are only for fault recorder, and do not fail SW01C, or protect cable in this FC
	F120-A05D	C	Support 1E 4KV SWGR SW01C	Fail SW01C	Verify cables are only for fault recorder, and do not fail SW01C, or protect cable in this FC
	F120-AGAC	C, I	Support 1E 4KV SWGR SW01C	Fail SW01C	Verify cables do not fail SW01C, or protect cables in this compartment
PFBSY2B-SW01D	F078-A03D	C, C, P, P	Support 1E 4KV SWGR SW01D	Fail SW01D	Verify cables are only for sync circuit breaker, and do not fail SW01D (NOTE: no impact if included)
	F078-A05D	C, C, P, P	Support 1E 4KV SWGR SW01D	Fail SW01D	Verify cables are only for sync circuit breaker, and do not fail SW01D (NOTE: no impact if included)
	F078-A11D	C, C	Support 1E 4KV SWGR SW01D	Fail SW01D	Verify cable does not fail SW01D, or protect cable in this compartment
	F078-A19B	I, I	Support 1E 4KV SWGR SW01D	Fail SW01D	Verify cables do not fail SW01D, or protect cables in this compartment
	F078-AEEB	C, I, C, I	Support 1E 4KV SWGR SW01D	Fail SW01D	Verify cables do not fail SW01D, or protect cables in this compartment
	F078-AGAD	C, I, C, I	Support 1E 4KV SWGR SW01D	Fail SW01D	Verify cables do not fail SW01D, re-route, or protect cables in this compartment
	F100-A05D	C	Support 1E 4KV SWGR SW01D	Fail SW01D	Verify cables are only for fault recorder, and do not fail SW01D, or protect cable in this FC
	F100-A06D	C, C	Support 1E 4KV SWGR SW01D	Fail SW01D	Verify cables are only for fault recorder, and do not fail SW01D, or protect cable in this FC
	F100-A08D	C, C	Support 1E 4KV SWGR SW01D	Fail SW01D	Verify cables are only for fault recorder, and do not fail SW01D, or protect cable in this FC
	F120-A01D	C	Support 1E 4KV SWGR SW01D	Fail SW01D	Verify cables are only for sync circuit breaker, and do not fail SW01D (NOTE: no impact if included)

Revised Response to Action Item 19-51 Section 19.1

Table 2 – Removed Fire PRA Cables (by Component Basic Event)

Component Basic Event	FC	Cable Type	Function	Potential Failure Mode	Exclusion Criteria
	F120-A05D	C, C	Support 1E 4KV SWGR SW01D	Fail SW01D	Verify cables are only for fault recorder, and do not fail SW01D, or protect cable in this FC
	F120-AGAD	C, C, I, I	Support 1E 4KV SWGR SW01D	Fail SW01D	Either verify cable failures do not fail SW01D, or protect cables in FC
PFHBC1A-SW01A-G2	F100-A08C	C	SW01A AAC Supply Breaker	Fail SW01A-G2	Verify cables are only for fault recorder, and do not fail SW01A-G2, or protect cable in this FC
PFHBC1B-SW01B-A2	F120-AGAD	I, I	SW01B SAT Supply Breaker	Prevent SW01B SAT breaker from operating	Verify cables do not fail SW01B-J2, or protect cables in this compartment
PFHBC1B-SW01B-B2	F100-A05D	C	SW01B AAC Supply Breaker	Fail SW01B-B2	Verify cables are only for fault recorder, and do not fail SW01B-B2, or protect cable in this FC
	F100-A06D	C	SW01B AAC Supply Breaker	Fail SW01B-B2	Verify cables are only for fault recorder, and do not fail SW01B-B2, or protect cable in this FC
PFHBC1B-SW01B-D2	F100-A06D	C	SW01B EDG Supply Breaker	Fail SW01B-D2	Verify cables are only for fault recorder, and do not fail SW01B-D2, or protect cable in this FC
PFHBC2A-SW01C-E2	F000-TB	C, C	4kV SWGR SW01C breaker E2	Prevent SW01C from being powered from AAC	Either verify cable failure does not prevent AAC supply to SW01C, or protect cable in FC
	F067-T02	C, P	SW01C AAC Supply Breaker	Fail AAC to SW01C	Either verify cable failures do not fail breaker SW01C-E2, or protect cable in FC
	F100-A08C	C	SW01C AAC Supply Breaker	Fail SW01C-E2	Verify cables are only for fault recorder, and do not fail SW01C-E2, or protect cable in this FC
	F100-A05D	C	SW01D AAC Supply Breaker	Fail SW01D-E2	Verify cables are only for fault recorder, and do not fail SW01D-E2, or protect cable in this FC
	F100-A06D	C, C	SW01D AAC Supply Breaker	Fail SW01D-E2	Verify cables are only for fault recorder, and do not fail SW01D-E2, or protect cable in this FC
PFHBC2B-SW01D-J2	F078-AGAD	C	SW01D SAT Supply Breaker	Prevent SW01D SAT breaker from operating	Verify cables do not fail SW01D-J2, or protect cables in this compartment
	F120-AGAD	I, I	SW01D SAT Supply Breaker	Prevent SW01D SAT breaker from operating	Verify cables do not fail SW01D-J2, or protect cables in this compartment
PFHBO1A-SW01A-H2	F100-A05D	C	SW01A UAT Supply Breaker	Fail SW01A-H2	Verify cables are only for fault recorder, and do not fail SW01A-H2, or protect cable in this FC
	F100-A06D	C	SW01A UAT Supply Breaker	Fail SW01A-H2	Verify cables are only for fault recorder, and do not fail SW01A-H2, or protect cable in this FC

Revised Response to Action Item 19-51 Section 19.1

Table 2 – Removed Fire PRA Cables (by Component Basic Event)

Component Basic Event	FC	Cable Type	Function	Potential Failure Mode	Exclusion Criteria
	F100-A08C	C	SW01A UAT Supply Breaker	Fail SW01A-H2	Verify cables are only for fault recorder, and do not fail SW01A-H2, or protect cable in this FC
	F120-A05D	C	SW01A UAT Supply Breaker	Fail SW01A-H2	Verify cables are only for fault recorder, and do not fail SW01A-H2, or protect cable in this FC
PFHBO1B-SW01B-H2	F100-A05D	C	SW01B UAT Supply Breaker	Fail SW01B-H2	Verify cables are only for fault recorder, and do not fail SW01B-H2, or protect cable in this FC
	F100-A06D	C	SW01B UAT Supply Breaker	Fail SW01B-H2	Verify cables are only for fault recorder, and do not fail SW01B-H2, or protect cable in this FC
	F120-A05D	C	SW01B UAT Supply Breaker	Fail SW01B-H2	Verify cables are only for fault recorder, and do not fail SW01B-H2, or protect cable in this FC
	F120-AGAD	I	SW01B UAT Supply Breaker	Prevent SW01B UAT breaker from operating	Verify cables do not fail SW01B-H2, or protect cables in this compartment
PFHBO2A-SW01C-C2	F100-A05D	C	SW01C UAT Supply Breaker	Fail SW01C-C2	Verify cables are only for fault recorder, and do not fail SW01C-C2, or protect cable in this FC
	F100-A06D	C	SW01C UAT Supply Breaker	Fail SW01C-C2	Verify cables are only for fault recorder, and do not fail SW01C-C2, or protect cable in this FC
	F100-A08C	C	SW01C UAT Supply Breaker	Fail SW01C-C2	Verify cables are only for fault recorder, and do not fail SW01C-C2, or protect cable in this FC
	F120-A05D	C	SW01C UAT Supply Breaker	Fail SW01C-C2	Verify cables are only for fault recorder, and do not fail SW01C-C2, or protect cable in this FC
PFHBO2B-SW01D-G2	F078-AGAD	C	SW01D UAT Supply Breaker	Prevent SW01D UAT breaker from operating	Verify cables do not fail SW01D-G2, or protect cables in this compartment
	F100-A05D	C	SW01D UAT Supply Breaker	Fail SW01D-G2	Verify cables are only for fault recorder, and do not fail SW01D-G2, or protect cable in this FC
	F100-A06D	C	SW01D UAT Supply Breaker	Fail SW01D-G2	Verify cables are only for fault recorder, and do not fail SW01D-G2, or protect cable in this FC
	F120-A05D	C	SW01D UAT Supply Breaker	Fail SW01D-G2	Verify cables are only for fault recorder, and do not fail SW01D-G2, or protect cable in this FC
	F120-AGAD	I	SW01D UAT Supply Breaker	Prevent SW01D UAT breaker from operating	Verify cables do not fail SW01D-G2, or protect cables in this compartment
PGBSY1B-LC01B	F120-AGAD	C, C, I, I	Support 1E 480V LC LC01B	Fail LC01B	Either verify cable failures do not fail LC01B, or protect cables in FC
PGBSY2A-LC01C	F078-AGAC	C, C	Support 480V LC01C	Fail LC01C	Verify cables do not fail LC01C, re-route, or protect cables in this compartment

Revised Response to Action Item 19-51 Section 19.1

Table 2 – Removed Fire PRA Cables (by Component Basic Event)

Component Basic Event	FC	Cable Type	Function	Potential Failure Mode	Exclusion Criteria
	F120-AGAC	I, I	Support 480V LC01C	Fail LC01C	Verify cables do not fail LC01C, or protect cables in this compartment
PGBSY2B-LC01D	F120-AGAD	I, I	Support 1E 480V LC LC01D	Fail LC01D	Either verify cable failures do not fail LC01D, or protect cables in FC
PHBSY1B-MC02B	FK-K01	P	Support 480VAC MCC MC02B	Fail B SX Pump Rm Cooling Fan AH01B	Moved these Div. B cables to Div. B ESW Pump Rm FK-K02
RCMVO-A-130	F157-A25C	I	Support RC-200 Pilot Valve RC-130	Fail POSRV RC-200	Verify cable does not fail RC-130, or protect cable in this compartment
RCMVO-A-132	F157-A25C	I	Support RC-201 Pilot Valve RC-132	Fail POSRV RC-201	Verify cable does not fail RC-132, or protect cable in this compartment
RCMVO-C-131	F157-A25C	I	Support RC-200 Pilot Valve RC-131	Fail POSRV RC-200	Verify cable does not fail RC-131, or protect cable in this compartment
RCMVO-C-133	F157-A25C	I	Support RC-201 Pilot Valve RC-133	Fail POSRV RC-201	Verify cable does not fail RC-133, or protect cable in this compartment
RCPVO-A-200	F157-A25C	I	Support POSRV RC-200	Fail POSRV RC-200	Verify cable does not fail RC-200, or protect cable in this compartment
RPIAT-A-PY102A	F000-C01	I, I	Support RC-PT-201A	Failure of input trip signal to LCL processor A (1/4)	Effectively separate cables or protect cables in this FC
RPIAT-B-PY102B	F000-C01	I	Support RC-PT-201B	Failure of input trip signal to LCL processor A (1/4)	Effectively separate cables or protect cables in this FC
RPIAT-C-PY102C	F000-C01	I, I	Support RC-PT-201C	Failure of input trip signal to LCL processor A (1/4)	Effectively separate cables or protect cables in this FC
RPIAT-D-PY102D	F000-C01	I	Support RC-PT-201D	Failure of input trip signal to LCL processor A (1/4)	Effectively separate cables or protect cables in this FC
SXAHR-B-AH01B	F050-A04A	C, C	"B" SX Cooling Tower Fan 1B	Fail "B" SX Cooling Tower Fan 1B	Verify cables are not in this FC, cables do not fail SX AH01B, or protect cable in FC
	F078-A02C	C, C	"B" SX Cooling Tower Fan 1B	Fail "B" SX Cooling Tower Fan 1B	Verify cables are not in this FC, cables do not fail SX AH01B, or protect cable in FC
	F078-A25A	C, C	"B" SX Cooling Tower Fan 1B	Fail "B" SX Cooling Tower Fan 1B	Verify cables are not in this FC, cables do not fail SX AH01B, or protect cable in FC
	F078-AGAC	C, C	"B" SX Cooling Tower Fan 1B	Fail "B" SX Cooling Tower Fan 1B	Verify cables are not in this FC, cables do not fail SX AH01B, or protect cable in FC

Revised Response to Action Item 19-51 Section 19.1

Table 2 – Removed Fire PRA Cables (by Component Basic Event)

Component Basic Event	FC	Cable Type	Function	Potential Failure Mode	Exclusion Criteria
	F078-AGAD	P, P	"B" SX Cooling Tower Fan 1B	Fail "B" SX Cooling Tower Fan 1B	Verify cables do not fail SX AH01B, or protect cable in FC
SXAHR-B-AH02B	F050-A04A	C, C	"B" SX Cooling Tower Fan 2B	Fail "B" SX Cooling Tower Fan 2B	Verify cables are not in this FC, cables do not fail SX AH02B, or protect cable in FC
	F078-A02C	C, C	"B" SX Cooling Tower Fan 2B	Fail "B" SX Cooling Tower Fan 2B	Verify cables are not in this FC, cables do not fail SX AH02B, or protect cable in FC
	F078-A25A	C, C	"B" SX Cooling Tower Fan 2B	Fail "B" SX Cooling Tower Fan 2B	Verify cables are not in this FC, cables do not fail SX AH02B, or protect cable in FC
	F078-AGAC	C, C	"B" SX Cooling Tower Fan 2B	Fail "B" SX Cooling Tower Fan 2B	Verify cables are not in this FC, cables do not fail SX AH02B, or protect cable in FC
	F078-AGAD	P, P	"B" SX Cooling Tower Fan 2B	Fail "B" SX Cooling Tower Fan 2B	Verify cables do not fail SX AH02B, or protect cable in FC
SXFMY1B-FT01B-MOTOR	F050-A04A	C	"B" SX Debris Filter 1B	Fail 2B CC HX given filter plugging	Verify cable is not in this FC, cable does not fail SX FT01B, or protect cable in FC
	F078-A25A	C	"B" SX Debris Filter 1B	Fail 2B CC HX given filter plugging	Verify cable is not in this FC, cable does not fail SX FT01B, or protect cable in FC
	F078-AGAC	C	"B" SX Debris Filter 1B	Fail 2B CC HX given filter plugging	Verify cable is not in this FC, cable does not fail SX FT01B, or protect cable in FC
SXFMY2B-FT02B-MOTOR	F050-A04A	C	"B" SX Debris Filter 2B	Fail 2B CC HX given filter plugging	Verify cable is not in this FC, cable does not fail SX FT02B, or protect cable in FC
	F078-A02C	C	"B" SX Debris Filter 2B	Fail 2B CC HX given filter plugging	Verify cable is not in this FC, cable does not fail SX FT02B, or protect cable in FC
	F078-A25A	C	"B" SX Debris Filter 2B	Fail 2B CC HX given filter plugging	Verify cable is not in this FC, cable does not fail SX FT02B, or protect cable in FC
	F078-AGAC	C	"B" SX Debris Filter 2B	Fail 2B CC HX given filter plugging	Verify cable is not in this FC, cable does not fail SX FT02B, or protect cable in FC
SXFMY3B-FT03B-MOTOR	F050-A04A	C	"B" SX Debris Filter 2B	Fail 2B CC HX given filter plugging	Verify cable is not in this FC, cable does not fail SX FT02B, or protect cable in FC
	F078-A02C	C	"B" SX Debris Filter 2B	Fail 2B CC HX given filter plugging	Verify cable is not in this FC, cable does not fail SX FT02B, or protect cable in FC
	F078-A25A	C	"B" SX Debris Filter 2B	Fail 2B CC HX given filter plugging	Verify cable is not in this FC, cable does not fail SX FT02B, or protect cable in FC
	F078-AGAC	C	"B" SX Debris Filter 2B	Fail 2B CC HX given filter plugging	Verify cable is not in this FC, cable does not fail SX FT02B, or protect cable in FC

Revised Response to Action Item 19-51 Section 19.1

Table 2 – Removed Fire PRA Cables (by Component Basic Event)

Component Basic Event	FC	Cable Type	Function	Potential Failure Mode	Exclusion Criteria
SXMVR-B-MV073	FK-K01	C	Support SXCT Fan Sup Valve SX-073	Spurious close fails flow to Div. B SXCT Fans	Moved these Div. B cables to Div. B ESW Pump Rm FK-K02
SXMVR-B-MV074	FK-K01	C	Support SXCT Fan Byp Valve SX-073	Spurious open diverts flow from Div. B SXCT Fans	Moved these Div. B cables to Div. B ESW Pump Rm FK-K02
SXMVT2B-048	FK-K01	C, P	Support SX Pp 2B disch MOV SX-048	Spurious close of SX-048 fails SX Pp 2B	Moved these Div. B cables to Div. B ESW Pump Rm FK-K02
VGAHR1B-AH01B	FK-K01	C, C, C, P, P, P	Support ESW Pump Rm Sup Fan AH01B	Fail ESW Pump Rm Sup Fan AH01B	Moved these Div. B cables to Div. B ESW Pump Rm FK-K02
VGAHR2B-AH02B	FK-K01	C, C, P, P	Support ESW Pump Rm Sup Fan AH02B	Fail ESW Pump Rm Sup Fan AH02B	Moved these Div. B cables to Div. B ESW Pump Rm FK-K02

19.1.9 Combined License Information

- COL 19.1(1) The COL applicant is to describe the uses of PRA in support of licensee programs, and to identify and describe risk-informed applications being implemented during the combined license application phase. See Subsection 19.1.1.2.
- COL 19.1(2) The COL applicant is to describe the uses of PRA in support of licensee programs, and identify and describe risk-informed applications being implemented during the construction phase. See Subsection 19.1.1.3.
- COL 19.1(3) The COL applicant is to describe the uses of PRA in support of licensee programs, and identify and describe risk-informed applications being implemented during the operational phase. See Subsection 19.1.1.4.
- COL 19.1(4) The COL ~~applicant~~ ^{holder} is to review as-designed and as-built information and conduct walkdowns as necessary to confirm that the assumptions used in the PRA (including PRA inputs to RAP and SAMDA) remain valid with respect to internal events, internal flood and fire events (~~fire barrier and fire barrier~~ ^{R_418-8348(46)} penetrations, routings and locations of pipe, cable, and conduit), and HRA analyses (development of operating procedures, emergency operating procedures, and severe accident management guidelines and training), external events including PRA-based seismic margins and HCLPF fragilities, and LPSD procedures. See Subsection 19.1.2.2.
- COL 19.1(5) The COL applicant ^{and/or holder} is to conduct a peer review of the PRA relative to the industry PRA Standard prior to use of the PRA to support risk-informed applications, as applicable. See Subsection 19.1.2.3.
- COL 19.1(6) The COL applicant is to describe the PRA maintenance and upgrade program. See Subsection 19.1.2.4.
- COL 19.1(7) The COL applicant is to confirm that the PRA-based seismic margin assessment is bounding for the selected site, and to update the assessment to include site-specific SSC and soil effects (including sliding ^{holder} liquefaction, and slope failure). The COL ~~applicant~~ ^{does} is to confirm that the as-built plant has adequate seismic margin ^{item} and ~~do not exceed the CDF and~~ ^{A_19-19} LERF design targets specified in Subsection 19.1.1.1 e. See Subsection 19.1.5.1.2.

LRF

does

item

The COL applicant is to demonstrate that HCLPF capacity is equal to or ~~R_433-8363(73R)~~ exceed 1.67 times the GMRS for site-specific structures (ESWIS and CCW Hx Building).

The COL applicant is to demonstrate that HCLPF capacity is equal to or exceed 1.67 times the CSDRS for BOP components. and is to complete the SEL.

holder

The COL ~~applicant~~ is to demonstrate that the seismic capacity for equipment qualified by testing should remain functionally operational within 1.67 times the required response spectra (CSDRS-based RRS) in the procurement specification.

LRF

COL 19.1(8)

The COL applicant needs to ensure that screened events do not have a ~~LRF~~ sitespecific susceptibility and do not exceed the CDF and ~~LRF~~ design targets specified in Subsection 1.2.1.1.1 e. The COL applicant is to address ~~the~~ the following issues with a site-specific risk assessment, as applicable:

A_19-19

A_19-137

item

• Dam failure

A_19-137

← Tsunami

- Dam failure
- External flooding
- Extreme winds and tornadoes
- Industrial or military facility
- Pipeline accident
- Release of chemicals from onsite storage
- River diversion
- Sandstorm
- Toxic gas
- Transportation accidents
- Aircraft crash event

A_19-159
A_19-137

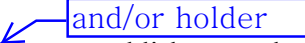
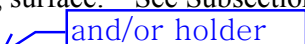
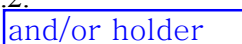


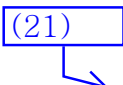
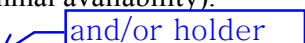

In addition, the COL applicant is to ensure the site specific susceptibility is not an outlier for the following issues, as applicable:

- Avalanche
- Biological events
- Coastal erosion
- ~~Dam failure~~
- Drought
- Forest fire
- High summer temperature
- Landslide
- Low lake/river water level
- Low winter temperature
- Volcanic activity

A_19-159
A_19-137

See Subsection 19.1.5.4.

- COL 19.1(9) The COL applicant is to describe the uses of PRA in support of licensee programs such as Maintenance Rule implementation during the operational phase. See Subsection 19.1.7.2.
- COL 19.1(10) The COL applicant is to describe the uses of PRA in support of licensee programs such as the reactor oversight process during the operational phase. See Subsection 19.1.7.3.
- COL 19.1(11) The COL applicant is to develop the fire barrier management procedures that direct the appropriate use of a fire watch and use of the isolation devices with a quick-disconnect mechanism for hose and cables that breach a fire barrier. See Subsection 19.1.6.3.
- COL 19.1(12) The COL applicant is to develop procedures and operator training for reliance (during fire response) on undamaged instrumentation (when the location of the fire is known). See Subsection 19.1.6.3.
- COL 19.1(13) The COL applicant is to develop procedures specifying that a fire watch be present when hot work is being performed. See Subsection 19.1.6.3.

- COL 19.1(14) The COL applicant  is to establish procedures for closing the containment hatch (after being opened during LPSD operations) to promptly re-establish the containment as a barrier to fission product release. This guidance must include steps that allow for sealing of the hatch with four bolts (versus the 40 bolts used to secure the hatch during at-power operation); four bolts are sufficient to secure the hatch so that no visible gap can be seen between the seals and the sealing surface. See Subsection 19.1.6.2.
- COL 19.1(15) The COL applicant  is to develop a configuration control program requiring that, during Modes 4, 5, and 6, the watertight flood doors and fire doors be maintained closed in at least one quadrant. Furthermore, the COL applicant  is to incorporate, as part of the aforementioned configuration control program, a provision that if the flood or fire doors to this designated quadrant must be opened for reasons other than normal ingress/egress, a flood or fire watch must be established for the affected doors.
- COL 19.1(156) The COL applicant  is to develop outage management procedures that limit ^{A_19-123} planned maintenance that can potentially impair one or both SC trains during the shutdown modes.
- COL 19.1(167) The COL applicant  is to develop procedures and a configuration ^{A_19-123} management strategy to address the period of time when one SC train is unexpectedly unavailable (including the termination of any testing or maintenance that can affect the remaining train and restoration of all equipment to its nominal availability).
-  COL 19.1(17) The COL applicant  is to ensure that asymmetric conditions due to modeling ^{R_5-7842(1)} simplicity will be addressed or properly accounted for when the PRA is used for decision making.
- COL 19.1(18) The COL applicant  is to develop outage procedures to ensure that in fire ^{A_19-123} compartments containing post-seismic or post-fire safe shutdown equipment that: 1) the seismic ruggedness of temporary ignition sources is adequate, or that the duration that these temporary ignition sources are in these areas is minimized, 2) the seismic ruggedness of temporary equipment such as scaffolding in fire compartments containing potential seismic-fire ignition sources, or near fire protection equipment is adequate, and 3) either the duration of activities which could impact manual firefighting is minimized, or alternative firefighting equipment (e.g., pre-stage portable smoke removal equipment, prestage additional firefighting equipment, etc.) is supplied.

COL 19.1(19) When develop[and/or holder] safe shutdown procedures, the COL A_19-123 applicant should consider the potential for multiple spurious alarms from photoelectric detectors following a seismic event.

~~COL 19.1(17) The COL applicant is to demonstrate that the ESWIS, CCW Hx building and BOP components of the SEL have HCLPF capacities equal to or exceed 1.67 times CSDRS and is to complete the SEL.~~ R_433-8363(73) R_433-8363(73R)

(22)

and/or holder

~~COL 19.1(18)~~ The COL applicant is to demonstrate that failure of buildings that are not seismic Category I (e.g., turbine building and compound building) does not impact SSCs designed to be seismic Category I.

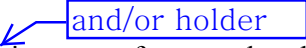
and/or holder

COL 19.1 (20) The COL applicant is to develop management procedures for charging pump operation, following recovery from a loss of offsite power (LOOP), to ensure that deboration is not resumed until after at least one Reactor Coolant Pump (RCP) has been restarted. R_409-8325(20)

COL 19.1(23) The COL holder will demonstrate that maintenance-induced floods are negligible contributors to flood risk when the plant specific data are available.


COL 19.1(24) The COL applicant and/or holder ensures that the fire protection features required for preventing fire-induced damage of the PRA-credited components will be properly incorporated in the cable design

19.2.7 Combined License Information

COL 19.2(1) The COL applicant  is to perform and submit site-specific equipment survivability assessment in accordance with 10 CFR 50.34(f) and 10 CFR 50.44.

~~COL 19.2(2) The COL applicant is to develop and submit an accident management plan.~~

COL 19.2(3) The COL applicant will demonstrate that the covers for the large penetrations ^{R_433-8363(84)} such as equipment hatch and personnel airlocks meet the Service Level C requirements in Subsection NE-3220 of the ASME code and explain how the ^{R_433-8363(84)} consideration of containment leakage is accounted for when modeling local regions of containment.

COL 19.2(2) The COL applicant  and/or holder is to develop and submit an accident management plan including the evaluation of the effect of higher water level in the cavity on steam explosion loading when using In-Vessel Retention and External Reactor Vessel Cooling for accident management.