

**Step 2: Review of the Internal Events PRA Against the Fire Safe Shutdown Analysis**

<b>TABLE 1: SYSTEMS IN PRA MODEL</b>				
<b>System</b>	<b>Description</b>	<b>Additional Details</b>	<b>Address in Fire PRA Model? (Y or N)</b>	<b>Comments</b>
RCS	Reactor Coolant System	PORV for pressure relief and feed & bleed. Stuck-open PORV causes small LOCA.		
CVCS	Chemical and Volume Control System	Normal charging and letdown functions are not modeled. However, components required to isolate the volume control tank and letdown are modeled for HPI mode.		
HPI	High Pressure Injection System	The charging pumps in the CVCS also function as safety injection pumps.		
RHR	Residual Heat Removal System	Shutdown cooling is not modeled. However, the RHR pump and heat exchanger are required for recirculation.		
AFW	Auxiliary Feedwater System	All three trains are modeled.		

**TABLE 1: SYSTEMS IN PRA MODEL**

<b>System</b>	<b>Description</b>	<b>Additional Details</b>	<b>Address in Fire PRA Model? (Y or N)</b>	<b>Comments</b>
MFW	Main Feed Water	Would take considerable effort to get cables involved and their locations		
MS	Main Steam System	Stuck-open secondary atmospheric dump valve could cause equivalent of main steam line break.		
CS	Containment Spray	Required for recirculation during LOCA		
CF	Containment Fan Coolers	Required for recirculation during LOCA		
CI	Containment Isolation	Modeled in LERF		
ESFAS	Emergency Safeguards Actuation System			
CCW	Component Cooling Water System			

**TABLE 1: SYSTEMS IN PRA MODEL**

<b>System</b>	<b>Description</b>	<b>Additional Details</b>	<b>Address in Fire PRA Model?  (Y or N)</b>	<b>Comments</b>
SW	Service Water System			
AC	AC Power (all voltage levels)	To extent power is needed to support equipment in the PRA.		
DG	Emergency Diesel Generators			
DC	DC Power	To extent power is needed to support equipment in the PRA.		
IA	Instrument Air	Required for PORV and other valves.		
HVAC-HPI	HVAC in HPI Pump Room	HVAC is required during 24-hr PRA mission		
HVAC-RHR	HVAC in RHR Pump Room	HVAC is required during 24-hr PRA mission		

**TABLE 2: SYSTEMS IN APPENDIX R**

<b>System</b>	<b>Description</b>	<b>Additional Details</b>	<b>System function addressed in the Internal Events PRA Model? (Y or N)</b>	<b>Comments</b>
RCS	Reactor Coolant System	PORV to prevent spurious opening and PORV block valve fails to close results in consequential small LOCA.		
CVCS	Chemical Volume and Control System	Normal charging and letdown functions are credited.		
RHR	Residual heat Removal System	Shutdown cooling is credited		
AFW	Auxiliary Feedwater System	Motor-driven and steam -driven AFW pumps are credited.		
MS	Main Steam System	Steam relief for secondary heat removal. Secondary relief valves and MSIVs are also		

**TABLE 2: SYSTEMS IN APPENDIX R**

<b>System</b>	<b>Description</b>	<b>Additional Details</b>	<b>System function addressed in the Internal Events PRA Model? (Y or N)</b>	<b>Comments</b>
		included to prevent spurious opening causing uncontrolled secondary depressurization.		
CCW	Component Cooling Water System			
SW	Service Water System			
AC	AC Power (all voltage levels)	But certain buses not credited (especially non-safety) if loads not otherwise required for safe shutdown		
DG	Emergency Diesel Generators			
DC	DC Power	But certain buses not credited (especially non-safety) if loads		

**TABLE 2: SYSTEMS IN APPENDIX R**

<b>System</b>	<b>Description</b>	<b>Additional Details</b>	<b>System function addressed in the Internal Events PRA Model? (Y or N)</b>	<b>Comments</b>
		not otherwise required for safe shutdown		
IA	Instrument Air	Required for normal charging and letdown valves.	Y	
RCS Instruments	RCS pressure, temperature, nuclear instrumentation, etc	Required for safe shutdown monitoring.		
Secondary Instruments	Steam Generator level, Streamline pressure, etc.	Required for safe shutdown monitoring.		
HVAC-HPI	HVAC in HPI Pump Room	HVAC is required during 72-hr Appendix R mission		
HVAC-RHR	HVAC in RHR Pump Room	HVAC is required during 72-hr Appendix R mission		

**TABLE 2: SYSTEMS IN APPENDIX R**

<b>System</b>	<b>Description</b>	<b>Additional Details</b>	<b>System function addressed in the Internal Events PRA Model? (Y or N)</b>	<b>Comments</b>
HVAC-AFW	HVAC in AFW Pump Room	HVAC is required during 72-hr Appendix R mission		

<b>TABLE 3: LIST OF BASIC EVENTS IN PRA MODEL</b>	
<b>Basic Event</b>	<b>Description</b>
%I1	Interfacing Systems LOCA at RCS/LPI Interface (1 MOV and 1 check valve in series)
%I2	Interfacing Systems LOCA at RCS/RHR Interface (2 MOVs in series)
%I3	Interfacing Systems LOCA at RCS/CCW interface (Reactor Coolant Pump Cooler rupture)
%T1	REACTOR TRIP
%T15	LOSS OF COMPONENT COOLING WATER (CCW)
%T23	PARTIAL LOAD REJECTION
%T25	REACTOR TRIP WITH PORV OPENING
%T4	LOSS OF MAIN FEEDWATER
%T5C	GRID-CENTERD LOSS OF OFFSITE POWE INITIATING EVENT
%T5D	WEATHER-CENTERD LOSS OF OFFSITE POWE INITIATING EVENT
%T5P	PLANT-CENTERD LOSS OF OFFSITE POWE INITIATING EVENT
%T6	STEAMLIN/FEED LINE BREAK UPSTREAM OF MAIN STEAM ISOLATION VALVE
AFWA-FTR	Motor-driven AFW Pump A fails to run
AFWA-FTS	Motor-driven AFW Pump A fails to start
AFWB-FTR	Steam-drivens AFW-B fails to run
AFWB-FTS	Steam-drivens AFW-B fails to start
AFWC-FTR	Diesel-drivern AFW Pump C fails to run
AFWC-FTS	Diesel-drivern AFW Pump C fails to start
AOV-1_FTC	PORV AOV-1 fails to CLOSE
AOV-1_FTO	PORV AOV-1 fails to open
AOV-3_FTC	AOV-3 FAILS TO CLOSE
CCW_FAILS	FAILURE OF COMPONENT COOLING WATER AFTER TRIP
COMP-1_FTR	AIR COMPRESSOR 1 FAILS TO RUN



<b>TABLE 3: LIST OF BASIC EVENTS IN PRA MODEL</b>	
<b>Basic Event</b>	<b>Description</b>
EPS-120VBUSAF	120V BUS A FAULT
EPS-120VBUSAINVF	FAILURE OF 120V BUS A INVERTER
EPS-120VBUSBF	120V BUS B FAULT
EPS-120VBUSBINVF	FAILURE OF 120V BUS B INVERTER
EPS-125VDCBUSAF	FAULT ON 125V DC BUS A
EPS-125VDCBUSBF	FAULT ON 125V DC BUS B
EPS-125VDCPNLAF	FAULT ON 125V DC PANEL A
EPS-125VDCPNLBF	FAULT ON 125V DC PANEL B
EPS-480VLC1F	480V LOAD CENTER 1 FAULT
EPS-480VLC1XTF	480V LOAD CENTER 1 TRANSFORMER FAILS
EPS-480VLCFAF	480V LOAD CENTER A FAULT
EPS-480VLCAXTF	480V LOAD CENTER A TRANSFORMER FAILS
EPS-480VLCBF	480V LOAD CENTER B FAULT
EPS-480VLCBXTF	480V LOAD CENTER B TRANSFORMER FAILS
EPS-480VMCCA1F	480V MCC A1 FAULT
EPS-480VMCCB1F	480V MCC B1 FAULT
EPS-4VBUS1F	4KV BUS 1 FAULT
EPS-4VBUSAF	4KV BUS A FAULT
EPS-4VBUSBF	4KV BUS B FAULT
EPS-BATA	FAILURE OF BATTERY A
EPS-BATB	FAILURE OF BATTERY B
EPS-BCAF	FAILURE OF BATTERY CHARGER A
EPS-BCBF	FAILURE OF BATTERY CHARGER B
EPS-DGAF	FAILURE OF DIESEL GENERATOR A

<b>TABLE 3: LIST OF BASIC EVENTS IN PRA MODEL</b>	
<b>Basic Event</b>	<b>Description</b>
EPS-DGBF	FAILURE OF DIESEL GENERATOR B
HPIA_FTR	HPIA fails to run
HPIA_FTS	HPIA fails to start
HPIA_HVAC	LOSS OF HVAC COOLING TO HPI PUMP A ROOM
HPIB_FTR	HPIB fails to run
HPIB_FTS	HPIB fails to start
HPIB_HVAC	LOSS OF HVAC COOLING TO HPI PUMP B ROOM
MFWFFAIL	MAIN FEEDWATER SYSTEM FAILURE AFTER REACTOR TRIP
MOV-10_FTO	MOV-10 fails to open
MOV-11_FTO	MOV-11 fails to open
MOV-14_FTO	MOV-14 FAILS TO OPEN
MOV-15_FTO	MOV-15 FAILS TO OPEN
MOV-18_FTO	MOV-18 fails to open
MOV-1_FTO	MOV-1 FAILS TO OPEN
MOV-2_FTC	MOV-2 fails to close
MOV-3_FTO	MOV-3 fails to open
MOV-4_FTO	MOV-4 fails to open
MOV-5_FTC	MOV-5 fails to close
MOV-5_FTO	MOV-5 fails to open
MOV-6_FTC	MOV-6 fails to close
MOV-6_FTO	MOV-6 fails to open
MOV-9_FTO	MOV-9 FAILS TO OPEN
OPER-1	Operator fails to switch over to recirculation
OPER-4	Operator fails to establish feed an bleed cooling

<b>TABLE 3: LIST OF BASIC EVENTS IN PRA MODEL</b>	
<b>Basic Event</b>	<b>Description</b>
OPER-7	OPERATOR FAILS TO TRIP REACTOR COOLANT PUMP
PT-1_FL	PRESSURE TRANSMITTER PT-1 FAILS LOW
RCPSEAL	RCP SEAL LOCA GIVEN LOSS OF CCW AND SUCCESSFUL RCP TRIP
RHRB-FTR	RHR PUMP B FAILS TO RUN
RHRB-FTS	RHR PUMP B FAILS TO START
RHRB-HVAC	LOSS OF RHR PUMP B ROOM HVAC COOLING
SUTF	FAILURE OF START-UP TRANSFORMER (SUT)
UATF	FAILURE OF UNIT AUXILIARY TRANSFORMER (UAT)

**Continuation of Step2 and Including Steps 4 thru 6:**

**TABLE 4: DISPOSTION OF COMPONENTS IN PRA AND APPENDIX R (USE TABLES 1-3 AND FIGURES 1-3)**

<b>Equipment ID</b>	<b>Equipment Description</b>	<b>Power Supply</b>	<b>In PRA Model? (Y or N)</b>	<b>In Appendix R? (Y or N)</b>	<b>Add to Fire PRA Equipment List? (Y or N)</b>	<b>Comments</b>
HPI-A	High pressure safety injection pump A	4.16kV Bus A		Y		
HPI-B	High pressure safety injection pump B	4.16kV Bus B		Y		
RHR-B	RHR pump	4.16kV Bus B		Y		
COMP-1	Instrument air compressor	480 V LC 1		Y		
AFW-A	Motor-driven AFW pump A	4.16kV Bus A		Y		
AFW-B	Steam-driven AFW Pump B	N/A		Y		
AFW-C	Diesel-driven AFW Pump C	NA		N		

**TABLE 4: DISPOSITION OF COMPONENTS IN PRA AND APPENDIX R (USE TABLES 1-3 AND FIGURES 1-3)**

<b>Equipment ID</b>	<b>Equipment Description</b>	<b>Power Supply</b>	<b>In PRA Model? (Y or N)</b>	<b>In Appendix R? (Y or N)</b>	<b>Add to Fire PRA Equipment List? (Y or N)</b>	<b>Comments</b>
AOV-1 (SOV-1)	Pressure operated relief valve	120VAC Bus A		Y (only to ensure remains closed)		
AOV-2 (SOV-2)	Letdown isolation valve	125 VDC Bus B		Y (for normal letdown)		
AOV-3 (SOV-3)	Charging pump injection valve	125 VDC Bus B		Y (for normal charging)		
AOV-4	Atmospheric dump valve	DC-Bus-1		Y		
MOV-1	HPI-A discharge valve	480V MCC A1		N		
MOV-2	VCT isolation valve	480V MCC B1		Y (for normal suction to charging)		
MOV-3	Cont. sump recirc valve	480V MCC A1		N		
MOV-4	Cont. sump recirc valve	480V MCC B1		N		
MOV-5	RWST isolation valve	480V MCC A1		N		

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<b>Equipment ID</b>	<b>Equipment Description</b>	<b>Power Supply</b>	<b>In PRA Model? (Y or N)</b>	<b>In Appendix R? (Y or N)</b>	<b>Add to Fire PRA Equipment List? (Y or N)</b>	<b>Comments</b>
MOV-6	RWST isolation valve	480V MCC B1		N		
MOV-7	RHR inboard suction valve	480V MCC A1		Y (for shutdown cooling)		
MOV-8	RHR outboard suction valve	480V MCC B1		Y (for shutdown cooling)		
MOV-9	HPI-B discharge valve	480V MCC B1		N		
MOV-10	AFW-A discharge valve	480V MCC A1		Y		
MOV-11	AFW-B discharge valve	125 VDC Bus B		Y		
MOV-13	PORV block valve	480V MCC A1		Y		
MOV-14	AFW-B turbine steam line isolation valve	125 VDC Bus B		Y		
MOV-15	AFW-B steam inlet throttle valve	125 VDC Bus B		Y		

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<b>Equipment ID</b>	<b>Equipment Description</b>	<b>Power Supply</b>	<b>In PRA Model? (Y or N)</b>	<b>In Appendix R? (Y or N)</b>	<b>Add to Fire PRA Equipment List? (Y or N)</b>	<b>Comments</b>
MOV-16	AFW-A test line isolation valve	480V MCC A1		N		
MOV-17	AFW-B test line isolation valve	480V MCC B1		N		
MOV-18	AFW-C discharge valve	480 V MCC-B1		N		
MOV-19	AFW-C test line isolation valve	480 V MCC-B1		N		
MOV-20	Shutdown cooling discharge valve	480 V MCC-B1		Y		
LI-1	RWST level	120VAC Bus A		Y		
LI-2	RWST level	120VAC Bus B		Y		
LI-3	Containment sump level	120VAC Bus A		N		

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LI-4	Containment sump level	120VAC Bus B		N		
LI-5	SG secondary level	120VAC Bus A		Y		
LI-6	SG secondary level	120VAC Bus B		Y		
TI-1	Letdown heat exchanger outlet temperature	120VAC Bus A		N		
PT-1	RCS pressure	120VAC Bus B		Y		
A-1	AFW-B motor high temp	120VAC Bus A		N		
SWGR-A	Train A 4160 V Bus	SUT-1 EDG-A		Y		
SWGR-B	Train B 4160 V Bus	SUT-1		Y		



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<b>Equipment ID</b>	<b>Equipment Description</b>	<b>Power Supply</b>	<b>In PRA Model? (Y or N)</b>	<b>In Appendix R? (Y or N)</b>	<b>Add to Fire PRA Equipment List? (Y or N)</b>	<b>Comments</b>
		EDG-B				
SWGR-1	Non-Safety 4160 V Bus	UAT-1 SUT-1		Y		
SWGR-2	Non-Safety 4160 V Bus	UAT-1 SUT-1		N		
SUT-1	Startup Transformer	OSP		Y		
UAT-1	Auxiliary Transformer	Main generator		N		
EDG-A	Train A Emergency Diesel Generator	PNL-A		Y		
EDG-B	Train B Emergency Diesel Generator	PNL-B		Y		
LC-1	Non-Safety 480 V Load Center	SST-1		Y		

**TABLE 4: DISPOSITION OF COMPONENTS IN PRA AND APPENDIX R (USE TABLES 1-3 AND FIGURES 1-3)**

<b>Equipment ID</b>	<b>Equipment Description</b>	<b>Power Supply</b>	<b>In PRA Model? (Y or N)</b>	<b>In Appendix R? (Y or N)</b>	<b>Add to Fire PRA Equipment List? (Y or N)</b>	<b>Comments</b>
LC-2	Non-Safety 480 V Load Center	SST-2		N		
LC-A	Train A 480 V Load Center	SST-A		Y		
LC-B	Train B 480 V Load Center	SST-B		Y		
SST-1	Non-Safety Station Service Transformer	SWGR-1		Y		
SST-2	Non-Safety Station Service Transformer	SWGR-2		N		
SST-A	Train A Station Service Transformer	SWGR-A		Y		
SST-B	Train B Station Service Transformer	SWGR-B		Y		
MCC-1	Non-Safety 480 V Motor	LC-1		Y		

**TABLE 4: DISPOSITION OF COMPONENTS IN PRA AND APPENDIX R (USE TABLES 1-3 AND FIGURES 1-3)**

<b>Equipment ID</b>	<b>Equipment Description</b>	<b>Power Supply</b>	<b>In PRA Model? (Y or N)</b>	<b>In Appendix R? (Y or N)</b>	<b>Add to Fire PRA Equipment List? (Y or N)</b>	<b>Comments</b>
	Control Center					
MCC-2	Non-Safety 480 V Motor Control Center	LC-2		N		
MCC-A1	Train A 480 V Motor Control Center	LC-A		Y		
MCC-B1	Train B 480 V Motor Control Center	LC-B		Y		
BC-1	Non-Safety Swing Battery Charger	MCC-1 MCC-2		Y		
BC-A	Train A Battery Charger	MCC-A1		Y		
BC-B	Train B Battery Charger	MCC-B1		Y		
BAT-1	Non-Safety Battery	N/A		Y		
BAT-A	Train A Battery	N/A		Y		
BAT-B	Train B Battery	N/A		Y		
DC BUS-1	Non-Safety 125 VDC Bus	BC-1		Y		

**TABLE 4: DISPOSITION OF COMPONENTS IN PRA AND APPENDIX R (USE TABLES 1-3 AND FIGURES 1-3)**

<b>Equipment ID</b>	<b>Equipment Description</b>	<b>Power Supply</b>	<b>In PRA Model? (Y or N)</b>	<b>In Appendix R? (Y or N)</b>	<b>Add to Fire PRA Equipment List? (Y or N)</b>	<b>Comments</b>
		BAT-1				
DC BUS-A	Train A 125 VDC Bus	BC-A BAT-A		Y		
DC BUS-B	Train B 125 VDC Bus	BC-B BAT-B		Y		
INV-A	Train A Inverter	DC BUS-A		Y		
INV-B	Train B Inverter	DC BUS-B		Y		
VITAL-A	Train A 120 VAC Vital Bus	INV-A		Y		
VITAL-B	Train B 120 VAC Vital Bus	INV-B		Y		
PNL-A	Train A 125 VDC Panel	DC BUS-A		Y		
PNL-B	Train B 125 VDC Panel	DC BUS-B		Y		

### **Step 3: Identify Fire-Induced Initiating Events Based on Equipment Affected**

Will need to examine each fire compartment / analysis unit and determine based on the equipment and cables located there, which of the initiators (from Step 1 of Task 2) can be caused by a fire in that compartment / analysis unit. If any new initiators are identified, include in the Fire PRA. The Fire PRA will then include fires mapped to initiating events in the model. Each compartment / analysis unit should have a disposition with regard to the initiating event(s) that occur as a result of a fire in each location (even if “none”).

<b>INITIATING EVENTS IN INTERNAL EVENTS PRA</b>	
<b>Initiating Event</b>	<b>Description</b>
%I1	Interfacing Systems LOCA at RCS/LPI Interface (1 MOV and 1 check valve in series)
%I2	Interfacing Systems LOCA at RCS/RHR Interface (2 MOVs in series)
%I3	Interfacing Systems LOCA at RCS/CCW interface (Reactor Coolant Pump Cooler rupture)
%T1	REACTOR TRIP
%T15	LOSS OF COMPONENT COOLING WATER (CCW)
%T23	PARTIAL LOAD REJECTION
%T25	REACTOR TRIP WITH PORV OPENING
%T4	LOSS OF MAIN FEEDWATER
%T5C	GRID-CENTERD LOSS OF OFFSITE POWE INITIATING EVENT
%T5D	WEATHER-CENTERD LOSS OF OFFSITE POWE INITIATING EVENT
%T5P	PLANT-CENTERD LOSS OF OFFSITE POWE INITIATING EVENT
%T6	STEAMLINE/FEED LINE BREAK UPSTREAM OF MAIN STEAM ISOLATION VALVE

**MAPPING OF INTERNAL EVENTS INITIATING EVENTS TO FIRE COMPARTMENT**

<b>Compartment</b>	<b>Equipment Impacted by Fire</b>	<b>Equipment Description</b>	<b>Internal Events Initiating Event (s)</b>
1	AFW-A AFW-B AFW-C A-1 AOV-1 AOV-2 AOV-3 AOV-4 LC-1 LC-2 LC-A LC-B SWGR-1 SWGR-2 SWGR-A SWGR-B EDG-A EDG-B HPI-A HPI-B LI-1 LI-2 LI-3 LI-4 LI-5 LI-6 MFW MOV-1	Motor-driven AFW pump A Steam-driven AFW pump B Diesel-driven AFW pump C AFW motor high temperature Power operated relief valve Letdown isolation valve Charging pump injection valve Atmospheric dump valve Non-safety 480 V load center 1 Non-safety 480 V load center 2 Train A 480 V load center Train B 480 V load center Non-safety 4160 V switchgear 1 Non-safety 4160 V switchgear 2 Train A 4160 V switchgear Train B 4160 V switchgear Train A emergency diesel generator Train B emergency diesel generator High pressure safety injection pump A High pressure safety injection pump B RWST level instrument RWST level instrument Containment sump level instrument Containment sump level instrument SG secondary level instrument SG secondary level instrument Main feedwater HPI discharge valve	

**MAPPING OF INTERNAL EVENTS INITIATING EVENTS TO FIRE COMPARTMENT**

Compartment	Equipment Impacted by Fire	Equipment Description	Internal Events Initiating Event (s)
	MOV-10 MOV-11 MOV-13 MOV-14 MOV-15 MOV-18 MOV-2 MOV-3 MOV-4 MOV-5 MOV-6 MOV-9 PT-1 RCP-1 SUT-1 TI-1	AFW pump A discharge valve AFW pump B discharge valve PORV block valve AFW pump B steam line isolation valve AFW pump B steam inlet throttle valve AFW pump C discharge valve VCT isolation valve Cont. sump recirc. valve Cont. sump recirc. valve RWST isolation valve RWST isolation valve HPI discharge valve RCS pressure instrument Reactor coolant pump 1 Startup transformer Letdown heat exchanger outlet temperature	
2	A-1 AOV-2 AOV-3 HPI-A HPI-B MFW MOV-1 MOV-2 MOV-3 MOV-4 MOV-5 MOV-6	AFW motor high temperature Letdown isolation valve Charging pump injection valve High pressure safety injection pump A High pressure safety injection pump B Main feedwater HPI discharge valve VCT isolation valve Cont. sump recirc. valve Cont. sump recirc. valve RWST isolation valve RWST isolation valve	

**MAPPING OF INTERNAL EVENTS INITIATING EVENTS TO FIRE COMPARTMENT**

Compartment	Equipment Impacted by Fire	Equipment Description	Internal Events Initiating Event (s)
	MOV-9 RCP-1 TI-1	HPI discharge valve Reactor coolant pump 1 Letdown heat exchanger outlet temperature	
3	AFW-A AFW-B AFW-C A-1 AOV-1 AOV-2 AOV-3 AOV-4 INV-A INV-B LC-1 LC-2 LC-A LC-B SWGR-1 SWGR-2 SWGR-A SWGR-B EDG-A EDG-B HPI-A HPI-B LI-1 LI-2 LI-3	Motor-driven AFW pump A Steam-driven AFW pump B Diesel-driven AFW pump C AFW motor high temperature Power operated relief valve Letdown isolation valve Charging pump injection valve Atmospheric dump valve Train A inverter Train B inverter Non-safety 480 V load center 1 Non-safety 480 V load center 2 Train A 480 V load center Train B 480 V load center Non-safety 4160 V switchgear 1 Non-safety 4160 V switchgear 2 Train A 4160 V switchgear Train B 4160 V switchgear Train A emergency diesel generator Train B emergency diesel generator High pressure safety injection pump A High pressure safety injection pump B RWST level instrument RWST level instrument Containment sump level instrument	



**MAPPING OF INTERNAL EVENTS INITIATING EVENTS TO FIRE COMPARTMENT**

Compartment	Equipment Impacted by Fire	Equipment Description	Internal Events Initiating Event (s)
	LI-4 LI-5 LI-6 MFW MOV-1 MOV-10 MOV-11 MOV-13 MOV-14 MOV-15 MOV-18 MOV-2 MOV-3 MOV-4 MOV-5 MOV-6 MOV-9 PT-1 RCP-1 TI-1	Containment sump level instrument SG secondary level instrument SG secondary level instrument Main feedwater HPI discharge valve AFW pump A discharge valve AFW pump B discharge valve PORV block valve AFW pump B steam line isolation valve AFW pump B steam inlet throttle valve AFW pump C discharge valve VCT isolation valve Cont. sump recirc. valve Cont. sump recirc. valve RWST isolation valve RWST isolation valve HPI discharge valve RCS pressure instrument Reactor coolant pump 1 Letdown heat exchanger outlet temperature	
9	AFW-A AFW-B A-1 AOV-1 AOV-2 AOV-3 AOV-4 VITAL-A	Motor-driven AFW pump A Steam-driven AFW pump B AFW motor high temperature Power operated relief valve Letdown isolation valve Charging pump injection valve Atmospheric dump valve Train A 120 VAC vital bus	

**MAPPING OF INTERNAL EVENTS INITIATING EVENTS TO FIRE COMPARTMENT**

Compartment	Equipment Impacted by Fire	Equipment Description	Internal Events Initiating Event (s)
	INV-A VITAL-B INV-B MCC-A1 MCC-B1 SWGR-B BC-A BC-B MFW MOV-1 MOV-10 MOV-11 MOV-13 MOV-2 MOV-3 MOV-4 MOV-7 MOV-8 MOV-9 TI-1	Train A inverter Train B 120 VAC vital bus Train B inverter Train A 480 V motor control center Train B 480 V motor control center Train B 4160 V switchgear Train A battery charger Train B battery charger Main feedwater HPI discharge valve AFW pump A discharge valve AFW pump B discharge valve PORV block valve VCT isolation valve Cont. sump recirc. valve Cont. sump recirc. Valve RHR inboard suction valve RHR outboard suction valve HPI discharge valve Letdown heat exchanger outlet temperature	
10	AFW-A AOV-1 VITAL-A INV-A DC BUS-A PNL-A LC-A SST-A	Motor-driven AFW pump A Power operated relief valve Train A 120 VAC vital bus Train A inverter Train A 125 VDC bus Train A 125 VDC panel Train A 480 V load center Train A station service transformer	

**MAPPING OF INTERNAL EVENTS INITIATING EVENTS TO FIRE COMPARTMENT**

<b>Compartment</b>	<b>Equipment Impacted by Fire</b>	<b>Equipment Description</b>	<b>Internal Events Initiating Event (s)</b>
	MCC-A1 SWGR-A BAT-A BC-A EDG-A EDG-B HPI-A MFW MOV-1 MOV-3	Train A 480 V motor control center Train A 4160 V switchgear Train A battery Train A battery charger Train A emergency diesel generator Train B emergency diesel generator High pressure safety injection pump A Main feedwater HPI discharge valve Cont. sump recirc. valve	
11	AFW-B AOV-4 VITAL-B INV-B DC BUS-B PNL-B LC-B SST-B MCC-B1 SWGR-B BAT-B BC-B HPI-B MFW MOV-11 MOV-2 MOV-4	Motor-driven AFW pump B Atmospheric dump valve Train B 120 VAC vital bus Train B inverter Train B 125 VDC bus Train B 125 VDC panel Train B 480 V load center Train B station service transformer Train B 480 V motor control center Train B 4160 V switchgear Train B battery Train A battery charger High pressure safety injection pump B Main feedwater AFW pump B discharge valve VCT isolation valve Cont. sump recirc. valve	

**MAPPING OF INTERNAL EVENTS INITIATING EVENTS TO FIRE COMPARTMENT**

<b>Compartment</b>	<b>Equipment Impacted by Fire</b>	<b>Equipment Description</b>	<b>Internal Events Initiating Event (s)</b>
12	AFW-C AOV-4 COMP1 DC BUS-1 LC-1 SST-1 LC-2 SST-2 MCC-1 MCC-2 SWGR-1 SWGR-2 SWGR-A SWGR-B EPS-ATS1 EPS-BC1 EDG-A EDG-B LI-1 LI-2 LI-3 LI-4 MFW MOV-10 MOV-11 MOV-14 MOV-15 MOV-18	Diesel-driven AFW pump C Atmospheric dump valve Instrument air compressor Non-safety 250 VDC bus Non-safety 480 V load center 1 Non-safety station service transformer 1 Non-safety 480 V load center 2 Non-safety station service transformer 2 Non-safety 480 V motor control center 1 Non-safety 480 V motor control center 2 Non-safety 4160 V switchgear 1 Non-safety 4160 V switchgear 2 Train A 4160 V switchgear Train B 4160 V switchgear Non-safety DC bus transfer switch Non-safety DC bus battery charger Train A emergency diesel generator Train B emergency diesel generator RWST level instrument RWST level instrument Containment sump level instrument Containment sump level instrument Main feedwater AFW pump A discharge valve AFW pump B discharge valve AFW pump B steam line isolation valve AFW pump B steam inlet throttle valve AFW pump C discharge valve	

**MAPPING OF INTERNAL EVENTS INITIATING EVENTS TO FIRE COMPARTMENT**

<b>Compartment</b>	<b>Equipment Impacted by Fire</b>	<b>Equipment Description</b>	<b>Internal Events Initiating Event (s)</b>
	MOV-5 MOV-6 MOV-7 MOV-8 RCP-1 SUT-1	RWST isolation valve RWST isolation valve RHR inboard suction valve RHR outboard suction valve Reactor coolant pump 1 Startup transformer	
13	SWGR-1 SWGR-2 SWGR-A SWGR-B LI-1 LI-2 MFW SUT-1	Non-safety 4160 V switchgear 1 Non-safety 4160 V switchgear 2 Train A 4160 V switchgear Train B 4160 V switchgear RWST level instrument RWST level instrument Main feedwater Startup transformer	
15	BAT-1 MFW	Non-safety battery Main feedwater	