

Table O Hazards & Other Conditions

Category	GENERAL EMERGENCY	SITE AREA EMERGENCY	ALERT	NOTICE OF UNUSUAL EVENT
Security Events	<p>OG1 (Pg 114)</p> <p><b>IC Security Event Resulting in Loss of Physical Control of the Facility.</b></p> <p>Mode: ALL</p> <p><b>EAL Threshold Value</b> (1 or 2)</p> <p>A HOSTILE FORCE has taken control of plant equipment such that plant personnel are unable to operate equipment required to maintain safety functions as indicated by :</p> <p>1. Loss of physical control of a vital area such that operation of equipment required for safe shutdown is lost.</p> <p><b>OR</b></p> <p>2. Loss of physical control of spent fuel pool cooling systems if imminent fuel damage is likely. (e.g., freshly off-loaded reactor core in the pool)</p>	<p>OS1 (Pg 115)</p> <p><b>IC Confirmed Security Event in a plant VITAL AREA.</b></p> <p>Mode: ALL</p> <p><b>EAL Threshold Value</b></p> <p>Any act of SABOTAGE, HOSTAGE OR EXTORTION as confirmed by Security Supervision which results in actual or likely major failures of plant functions needed for protection of the public as judged by the Shift Manager / Emergency Director.</p>	<p>OA1 (Pg 118)</p> <p><b>IC Confirmed Security Event in a PLANT PROTECTED AREA.</b></p> <p>Mode: ALL</p> <p><b>EAL Threshold Value</b></p> <p>Any act of SABOTAGE, HOSTAGE, EXTORTION as confirmed by Security Supervision which results in an actual or potential substantial degradation of the level of safety of the plant as judged by the Shift Manager / Emergency Director.</p>	<p>OU1 (Pg 123)</p> <p><b>IC Confirmed SECURITY CONDITION or threat which Indicates a Potential Degradation in the Level of Safety of the Plant.</b></p> <p>Mode: ALL</p> <p><b>EAL Threshold Value</b> (1 or 2 or 3)</p> <p>1. A SECURITY CONDITION that does NOT involve a HOSTILE ACTION as reported by the SECURITY SUPERVISION.</p> <p><b>OR</b></p> <p>2. A credible site specific security threat notification</p> <p><b>OR</b></p> <p>3. A validated notification from NRC providing information of an aircraft threat.</p>
		<p>OS2 (Pg 116)</p> <p><b>IC Site Site Attack.</b></p> <p>Mode: ALL</p> <p><b>EAL Threshold Value</b></p> <p>A notification from the Site Security Force that an armed attack, explosive attack, airliner impact, or other HOSTILE ACTION is occurring or has occurred within the PROTECTED AREA.</p>	<p>OA2 (Pg 120)</p> <p><b>IC Notification of an Airborne Attack Threat.</b></p> <p>Mode: ALL</p> <p><b>EAL Threshold Value</b></p> <p>A validated notification from NRC of an airliner attack threat less than 30 minutes away.</p>	
			<p>OA3 (Pg 121)</p> <p><b>IC Notification of HOSTILE ACTION within the OWNER CONTROLLED AREA.</b></p> <p>Mode: ALL</p> <p><b>EAL Threshold Value</b></p> <p>A notification from the site Security Force that an armed attack, explosive attack, airliner impact or other HOSTILE ACTION is occurring or has occurred within the OWNER CONTROLLED AREA.</p>	
Control Room Evacuation		<p>OS4 (Pg 126)</p> <p><b>IC Control Room Evacuation has been Initiated and Plant Control Cannot be Established.</b></p> <p>Mode: ALL</p> <p><b>EAL Threshold Value</b> (1 and 2)</p> <p>1. Control room evacuation initiated</p> <p><b>AND</b></p> <p>2. Control of either unit per ON-100(200)-009 at the Remote Shutdown Panels not established within 15 minutes.</p>	<p>OA4 (Pg 127)</p> <p><b>IC Control Room Evacuation has been Initiated.</b></p> <p>Mode: ALL</p> <p><b>EAL Threshold Value</b></p> <p>Control room evacuation initiated per ON-100(200)-009.</p>	

Table O Hazards & Other Conditions

Category	GENERAL EMERGENCY	SITE AREA EMERGENCY	ALERT	NOTICE OF UNUSUAL EVENT
Natural or Man-Made Events			<p><b>OA5 (Pg 128)</b></p> <p><b>IC Natural and Destructive Phenomena Affecting the plant VITAL AREAS.</b></p> <p>Mode: ALL</p> <p><b>EAL Threshold Value</b> (1 or 2 or 3 or 4 or 5 or 6)</p> <ol style="list-style-type: none"> <li>1. Earthquake at greater than Operating Basis Earthquake (OBE) levels based on seismic instrumentation in the Control Room recording level greater than an Operating Basis Earthquake.</li> </ol> <p><b>OR</b></p> <ol style="list-style-type: none"> <li>2. Tornado or SUSTAINED HIGH WINDS of greater than 80 mph within the PROTECTED AREA boundary resulting in VISIBLE DAMAGE to plant VITAL AREA. (Table O-1) OR Control Room indication of degraded performance of the systems within those structures.</li> </ol> <p><b>OR</b></p> <ol style="list-style-type: none"> <li>3. Vehicle crash within PROTECTED AREA boundary resulting in VISIBLE DAMAGE to plant VITAL AREAS. (Table O-1) OR Control Room indication of degraded performance of the systems within those structures.</li> </ol> <p><b>OR</b></p> <ol style="list-style-type: none"> <li>4. Turbine failure-generated missiles resulting in any VISIBLE DAMAGE to or penetration of any plant VITAL AREAS. (Table O-1)</li> </ol> <p><b>OR</b></p> <ol style="list-style-type: none"> <li>5. Uncontrolled flooding in areas of the plant (Table O-1) that results in degraded safety system performance as indicated in the control room or that creates industrial safety hazards (e.g., electric shock) that precludes access necessary to operate or monitor safety equipment.</li> </ol> <p><b>OR</b></p> <ol style="list-style-type: none"> <li>6. Report of any VISIBLE DAMAGE to plant VITAL AREAS (Table O-1) caused by other natural or destructive phenomena.</li> </ol>	<p><b>OU5 (Pg 132)</b></p> <p><b>IC Natural and Destructive Phenomena Affecting the PROTECTED AREA.</b></p> <p>Mode: ALL</p> <p><b>EAL Threshold Value</b> (1 or 2 or 3 or 4 or 5 or 6)</p> <ol style="list-style-type: none"> <li>1. Earthquake detected by seismic instrumentation systems.</li> </ol> <p><b>OR</b></p> <ol style="list-style-type: none"> <li>2. Tornado or SUSTAINED HIGH WINDS greater than 80 mph impact ON SITE within the PROTECTED AREA.</li> </ol> <p><b>OR</b></p> <ol style="list-style-type: none"> <li>3. Vehicle crash causing damage to plant structures or systems within PROTECTED AREA boundary.</li> </ol> <p><b>OR</b></p> <ol style="list-style-type: none"> <li>4. Report by plant personnel of an unanticipated EXPLOSION within the PROTECTED AREA resulting in VISIBLE DAMAGE to permanent structures or equipment.</li> </ol> <p><b>OR</b></p> <ol style="list-style-type: none"> <li>5. Report of turbine failure resulting in casing penetration or damage to turbine or generator seals.</li> </ol> <p><b>OR</b></p> <ol style="list-style-type: none"> <li>6. Uncontrolled flooding in areas of the plant that has the potential to affect safety related equipment needed for the current operating mode (Table O-1).</li> </ol>
FIRE / EXPLOSION			<p><b>OA6 (Pg 137)</b></p> <p><b>IC FIRE or EXPLOSION Affecting the Operability of Plant Safety Systems Required to Establish or Maintain Safe Shutdown.</b></p> <p>Mode: ALL</p> <p><b>EAL Threshold Value</b></p> <p>FIRE or EXPLOSION in any of the following areas (Table O-1)</p> <p><b>AND</b></p> <p>Affected system parameter indications show degraded performance or plant personnel report VISIBLE DAMAGE to permanent structures or equipment within a vital area.</p>	<p><b>OU6 (Pg 139)</b></p> <p><b>IC FIRE within PROTECTED AREA Boundary not Extinguished within 15 Minutes of Detection.</b></p> <p>Mode: ALL</p> <p><b>EAL Threshold Value</b></p> <p>FIRE in buildings or areas contiguous to any of the following areas not extinguished within 15 minutes of control room notification or verification of a control room alarm:</p> <ul style="list-style-type: none"> <li>• Control Structure</li> <li>• Diesel Generator Buildings</li> <li>• ESSW Pump House</li> <li>• Radwaste Building</li> <li>• Reactor Buildings</li> <li>• Turbine Buildings</li> <li>• Interim Spent Fuel Storage Installation (ISFSI)</li> <li>• Security Control Center (SCC)</li> </ul>

Table O Hazards & Other Conditions

Category	GENERAL EMERGENCY	SITE AREA EMERGENCY	ALERT	NOTICE OF UNUSUAL EVENT
Toxic or Flammable Gases			<p>OA7 (Pg 141)</p> <p>IC Release of Toxic or Flammable Gases within or Contiguous to a plant VITAL AREA which Jeopardizes Operation of Safety Systems Required to Establish or Maintain Safe Shutdown.</p> <p>Mode: ALL</p> <p><u>EAL Threshold Value</u> (1 or 2)</p> <p>1. Report or detection of toxic gases within or contiguous to a plant VITAL AREA in concentrations that may result in an atmosphere IMMEDIATELY DANGEROUS TO LIFE AND HEALTH (IDLH).</p> <p><u>OR</u></p> <p>2. Report or detection of gases in concentrations greater than the LOWER FLAMMABILITY LIMIT within or contiguous to a plant VITAL AREA</p>	<p>OU7 (Pg 145)</p> <p>IC Release of Toxic or Flammable Gases Deemed Detrimental to NORMAL PLANT OPERATIONS.</p> <p>Mode: ALL</p> <p><u>EAL Threshold Value</u> (1 or 2)</p> <p>1. Report or detection of Toxic or Flammable gases that have or could enter the SITE BOUNDARY in amounts that can affect NORMAL PLANT OPERATIONS.</p> <p><u>OR</u></p> <p>2. Report by Local, County or State Officials for evacuation or sheltering of site personnel based on an offsite event.</p>
Discretionary	<p>OG8 (Pg 147)</p> <p>IC Other Conditions Existing which in the Judgement of the Emergency Director / Recovery Manager Warrant Declaration of General Emergency.</p> <p>Mode: ALL</p> <p><u>EAL Threshold Value</u></p> <p>Other conditions exist which in the judgement of the Emergency Director / Recovery Manager indicate that events are in process or have occurred which involve actual or imminent substantial core degradation or melting with potential for loss of containment integrity. Releases can be reasonably expected to exceed EPA Protective Action Guideline exposure levels offsite for more than the immediate site area.</p>	<p>OS8 (Pg 148)</p> <p>IC Other Conditions Existing which in the Judgement of the Emergency Director / Recovery Manager Warrant Declaration of Site Area Emergency.</p> <p>Mode: ALL</p> <p><u>EAL Threshold Value</u></p> <p>Other conditions exist which in the judgement of the Emergency Director / Recovery Manager indicate that events are in process or have occurred which involve actual or likely major failures of plant functions needed for protection of the public. Releases, if any, are not expected to result in exposure levels which exceed EPA Protective Action Guideline exposure levels beyond the SITE BOUNDARY.</p>	<p>OAS (Pg 150)</p> <p>IC Other Conditions Existing which in the Judgement of the Emergency Director / Recovery Manager Warrant Declaration of an Alert.</p> <p>Mode: ALL</p> <p><u>EAL Threshold Value</u></p> <p>Other conditions exist which in the judgement of the Emergency Director / Recovery Manager indicate that events are in process or have occurred which involve actual or likely potential substantial degradation of the level of safety of the plant. Releases, if any, are expected to be limited to small fractions of the EPA Protective Action Guideline exposure levels.</p>	<p>OU8 (Pg 151)</p> <p>IC Other Conditions Existing which in the Judgement of the Emergency Director / Recovery Manager Warrant Declaration of an Unusual Event.</p> <p>Mode: ALL</p> <p><u>EAL Threshold Value</u></p> <p>Other conditions exist which in the judgement of the Emergency Director / Recovery Manager indicate that events are in process or have occurred which indicate a potential degradation of the level of safety of the plant. No releases of radioactive material requiring offsite response or monitoring are expected unless further degradation of safety systems occurs.</p>

Table O-1  
VITAL AREAS

Reactor Buildings  
Control Structure  
Diesel Generator Buildings  
Spray Pond  
ESSW Pump House  
Security Control Center

REPORTING REQUIREMENTS:  
ONE HOUR ENS NOTIFICATIONS

1. Activation of the Emergency Plan
2. Technical Specification Deviations
3. Contaminated/Radioactive Shipments
4. Loss or Theft of Material/Accidental Criticality
5. Exposure to Individuals or Releases
6. Security Threats

ONE HOUR ENS NOTIFICATIONS

Initiating Event	Reference	Additional Reporting Req.
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**2. TECHNICAL SPECIFICATION DEVIATIONS**

Any deviation from the plant's Technical Specifications authorized pursuant to 10CFR50.54(X).	10CFR50.72(a)(1)(ii) <b>10CFR50.72(a)(5)(ii)</b> 10CFR50.72(b)(1) 10CFR50.72(c) NUREG-1022 Rev. 2 p. 37-38 and p. 85-86 Attach. J of this NDAP Attach. N of this NDAP	60 Day Written Report
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**3. CONTAMINATED/RADIOACTIVE SHIPMENTS**

Removable contamination from a received package containing radioactive material in excess of the limits per NDAP-QA-0648.	<b>10CFR20.1906(d)(1,2)</b> Attach. J of this NDAP Attach. N of this NDAP	None
Radiation levels from a received package of radioactive material in excess of the limits per NDAP-QA-0648.		

ONE HOUR ENS NOTIFICATIONS

Initiating Event	Reference	Additional Reporting Req.
<b>4. LOSS OR THEFT OF MATERIAL/ACCIDENTAL CRITICALITY</b>		
Any lost, stolen or missing licensed material in an aggregate quantity equal to or greater than 1000 times the quantity specified in Appendix C (to 10CFR20) and under such circumstances that it appears to the licensee that an exposure could result to persons in unrestricted areas.	<b>10CFR20.2201(a)(i)</b> <b>10CFR20.2201(b)</b> NUREG-1736 Attach. J of this NDAP Attach. N of this NDAP	30 Day Written Report
A theft or unlawful diversion of Special Nuclear Material.	<b>10CFR73.71(a);</b> <b>10CFR73 Appendix G</b> Attach. J of this NDAP Attach. N of this NDAP	60 Day Written Report
Any case of accidental criticality and any loss, other than normal operating loss, of special nuclear material. Any case of actual or attempted theft or unlawful diversion of special nuclear material.	<b>10CFR70.52(a)*</b> <b>10CFR70.52(b)*</b> <b>10CFR72.74(a)*</b> Attach. J of this NDAP Attach. N of this NDAP	
Accidental criticality or loss of special nuclear material associated with Dry Fuel Storage	<b>10CFR72.74(a)*</b> Attach. J of this NDAP Attach. N of this NDAP	
<b>*Not required if reported under 10CFR73.71</b>		

## ONE HOUR ENS NOTIFICATIONS

Initiating Event	Reference	Additional Reporting Req.
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### 5. EXPOSURE TO INDIVIDUALS OR RELEASES

- |   |  |                              |
|---|--|------------------------------|
| <p>(<sup>1</sup>) Any events involving byproduct source or special nuclear material possessed by the licensee that may have caused or threatens to cause:</p> | <p><b>10CFR20.2202(a)</b><br/>NUREG-1736<br/>Attach. J of this NDAP<br/>Attach. N of this NDAP</p> | <p>30 Day Written Report</p> |
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a.

or

- b. The release of radioactive material inside or outside of a restricted area, so that, had an individual been present for 24 hours, the individual could have received an intake of 5 times the occupational annual limit on intake (the provisions of this paragraph do not apply to locations where personnel are not normally stationed during routine operations, such as hot cells or process enclosures)

### 6. SECURITY THREATS

- |  |   |                              |
|--|---|------------------------------|
| <p>Any event in which there is reason to believe that a person has committed or caused, or attempted to commit or cause, or has made a credible threat to commit or cause:</p> | <p><b>10CFR73; Appendix G</b><br/>Reg Guide 5.62<br/>NUREG-1304<br/>Generic Letter 91-03<br/>Information Notice 96-71<br/>Region I Instruction<br/>#0960.2/0<br/>Nuclear Security<br/>Instruction SI-SO-016<br/>Attach. J of this NDAP<br/>Attach. N of this NDAP</p> | <p>60 Day Report Written</p> |
|--|---|------------------------------|
- a. A theft or unlawful diversion of special nuclear material; or

ONE HOUR ENS NOTIFICATIONS

Initiating Event	Reference	Additional Reporting Req.
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**6. SECURITY THREATS (Cont'd)**

- b. Significant physical damage to a power reactor or any facility possessing strategic special nuclear material (20% U-235, U-233 or plutonium) or its equipment or carrier equipment transporting nuclear fuel or spent nuclear fuel, or to the nuclear fuel or spent nuclear fuel a facility or carrier possesses; or

**NOTE: Reporting under the following criteria includes cyber attacks or evidence of cyber intrusions. Any cyber security event in which there is reason to believe that an adversary has committed or caused, or attempted to commit or cause, or has made a credible threat to commit or cause malicious exploitation of a critical digital asset should be reported.**

- c. Interruption of normal operation of a licensed nuclear power reactor through the unauthorized use of or tampering with its machinery, components, or controls including the security system.

**NOTE: A tailgating event is not reportable under the below criteria if a person tailgates into a protected or vital area for which he/she is authorized, or unauthorized and the tailgating was inadvertent or was without malevolent intent.**

An actual entry of an unauthorized person into a protected area, material access area, controlled access area, vital area, or transport.

Any failure, degradation, or the discovered vulnerability in a safeguard system that could allow unauthorized or undetected access to a protected area, material access area, controlled access area, vital area, or transport for which compensatory measures have not been employed.



ONE HOUR ENS NOTIFICATIONS

Initiating Event	Reference	Additional Reporting Req.
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**6. SECURITY THREATS (Cont'd)**

**NOTE: Compensatory measures must be employed within 10 minutes or within the time prescribed in NRC-approved plans such as Susquehanna's Security Plan. The 1-hour reporting clock does not start until the time allotted for establishing compensatory measures has expired.**

The actual or attempted introduction of contraband into a protected area, material access area, vital area, or transport; that is a significant threat (e.g., a few bullets is not considered a significant threat).

**NOTE: The Pennsylvania Emergency Management Agency (PEMA) must be notified of those events described in Attachment V, Events of Potential Public Interest (EPPI). While a particular event may be reportable to PEMA, the event may not require ENS reporting under the Security Threat criterion established above. However, notification to PEMA may be reportable to the NRC under 10CFR50.72(b)(2)(xi) (See Attachment F, Item #4 for more details).**

REPORTING REQUIREMENTS:  
FOUR HOUR ENS NOTIFICATIONS

1. Shutdown Required by the Technical Specifications
2. ECCS Injection/Failure to Inject
3. Unplanned RPS Actuation while Reactor is Critical
4. Offsite Notification Has or Will Be Made
5. Certificate of Compliance Deviations (Dry Fuel Storage)

# FOUR HOUR ENS NOTIFICATIONS

Initiating Event	Reference	Additional Reporting Req.
<b>1. SHUTDOWN REQUIRED BY THE TECHNICAL SPECIFICATIONS</b>		
The initiation of any nuclear plant shutdown required by the plant's Technical Specifications. (Call to be made upon physical commencement of power reduction.)	10CFR50.72(a)(1)(ii) 10CFR50.72(a)(5)(ii) <b>10CFR50.72(b)(2)(i)</b> 10CFR50.72(c) 10CFR50.36(c)(1) NUREG-1022 Rev. 2 p. 29-32 and p. 85-86 Attach. J of this NDAP Attach. N of this NDAP	60 Day Written Report (Only if plant shutdown is completed).
<b>2. ECCS INJECTION/FAILURE TO INJECT</b>		
Any event that results or should have resulted in Emergency Core Cooling System (ECCS) discharge into the reactor coolant system as a result of a valid signal except when the actuation results from and is part of a pre-planned sequence during testing or reactor operation.	10CFR50.72(a)(1)(ii) 10CFR50.72(a)(5)(ii) <b>10CFR50.72(b)(2)(iv)(A)</b> 10CFR50.72(c) 10CFR50.73(a)(2)(iv) NUREG-1022 Rev. 2 p. 45-52 and p. 85-86 Attach. J of this NDAP Attach. N of this NDAP Attach. K of this NDAP (Item 4, 5)	8 Hour ENS 60 Day Written Report
<b>NOTE:</b>	<b>RCIC is not an ECCS. Reference Attachment G, Initiating Event #5 for unplanned RCIC actuations.</b>	

FOUR HOUR ENS NOTIFICATIONS

Initiating Event	Reference	Additional Reporting Req.
<b>3. UNPLANNED RPS ACTUATION WHILE REACTOR IS CRITICAL</b>		
Any event or condition that results in actuation of the Reactor Protection System (RPS) when the reactor is critical except when the actuation results from and is part of a pre-planned sequence during testing or reactor operation.	10CFR50.72(a)(1)(ii) 10CFR50.72(a)(5)(ii) <b>10CFR50.72(b)(2)(iv)(B)</b> 10CFR50.72(c) NUREG-1022 Rev. 2 p. 45-52 and p. 85-86 Attach. J of this NDAP Attach. N of this NDAP Attach. K of this NDAP (Item 4)	8 Hour ENS 60 Day Written Report
<b>NOTE:</b>	<b>Actuation of RPS is defined as actuation of enough channels to complete a full scram.</b>	

#### FOUR HOUR ENS NOTIFICATIONS

Initiating Event	Reference	Additional Reporting Req.
<b>4. OFFSITE NOTIFICATION HAS OR WILL BE MADE</b>		
Any event or situation related to the health and safety of the public or onsite personnel, or protection of the environment, for which a news release is planned or notification to other government agencies has been or will be made. Such an event may include an onsite fatality or inadvertent release of radioactive contaminated materials.	10CFR50.72(a)(1)(ii) 10CFR50.72(a)(5)(ii) <b>10CFR50.72(b)(2)(xi)</b> 10CFR50.72(c) 10CFR72.75(b)(2) NUREG-1022 Rev. 2 p. 72-75 and p. 85-86 Attach. J of this NDAP Attach. N of this NDAP Attach. M of this NDAP	None
<b>NOTE (1):</b>	The purpose of the criterion stated above is to ensure the NRC is made aware of any onsite fatality or issues related to the <u>radiological</u> health and safety of the public or onsite personnel, or protection of the environment that will cause heightened public or government concern.	
<b>NOTE (2):</b>	An event requiring notification to other government agencies (such as the Pennsylvania Emergency Management Agency (PEMA) as described in Attachment V, Events of Potential Public Interest (EPPI)), that does not meet the ENS reporting guidelines described in NOTE (1), will require voluntary reporting unless Security has already reported the event to the NRC Ops Center. See Attachment U, Voluntary Reports and Phone Calls, for guidance.	
Spills of hazardous substances or petroleum products which are reportable to offsite agencies. Refer to Attachment Q for guidance on determining the reportability of spills.	<b>Attachment Q, Determining the Reportability of a Spill to a State or Local Agency</b>	
<b>NOTE:</b>	If an event or situation related to the health and safety of the public or onsite personnel, or protection of the environment receives media attention, despite the absence of a press release, the event is reportable under this criterion.	

FOUR HOUR ENS NOTIFICATIONS

Initiating Event	Reference	Additional Reporting Req.
<b>5. CERTIFICATE OF COMPLIANCE DEVIATIONS</b>		
Any action taken in an emergency that departs from a condition contained in Certificate of Compliance for Dry Spent Fuel Storage Casks #1004 to protect public health and safety when no action consistent with Certificate of Compliance for Dry Spent Fuel Storage Casks #1004 can provide adequate or equivalent protection is immediately apparent.	<b>10CFR72.32(d)</b> <b>10CFR72.75(b)(1)</b> Attach. J of this NDAP Attach. N of this NDAP	60 Day Written Report

REPORTING REQUIREMENTS:  
EIGHT HOUR ENS NOTIFICATIONS

1. Serious Degradation of the Plant
2. Loss of Emergency Response Capability
3. Transport of Contaminated Individuals
4. Loss of Entire Safety Function
5. Unplanned Actuations of Systems that Mitigate Consequences of Significant Events
6. Defect in Spent Fuel Storage Cask Structure
7. Reduction in Effectiveness of a Spent Fuel Confinement System

EIGHT HOUR ENS NOTIFICATIONS

Initiating Event	Reference	Additional Reporting Req.
<b>1. SERIOUS DEGRADATION OF THE PLANT</b>		
Any event or condition that results in:	10CFR50.72(a)(1)(ii) 10CFR50.72(a)(5)(ii)	60 Day Written Report
( <sup>42</sup> ) a. The condition of the nuclear power plant, including its principal safety barriers, being seriously degraded; or	<b>10CFR50.72(b)(3)(ii)</b> 10CFR50.72(c) NUREG-1022 Rev. 2 p. 38-42 and p. 85-86	
b. The nuclear power plant being in an unanalyzed condition that significantly degrades plant safety.	Attach. J of this NDAP Attach. N of this NDAP Attach. R of this NDAP (Containment Leakage Reportability Guidance)	
<b>NOTE: This report is required for conditions discovered while the reactor is shut down also.</b>		
<b>NOTE: Characterization of events as “serious” or “significant” can create undue public response. When reporting under this criteria, the following statement should be used: This event is being reported as a degraded or unanalyzed condition pursuant to 10CRF50.72(b)(3)(ii).</b>		



## EIGHT HOUR ENS NOTIFICATIONS

Initiating Event	Reference	Additional Reporting Req.
<b>2. LOSS OF EMERGENCY RESPONSE CAPABILITY</b>		
Any event that results in a major loss of emergency assessment capability <sup>(1)</sup> , offsite response capability, or offsite communications capability (e.g. significant portion of control room indication, Emergency Notification System, or offsite notification system) <sup>(2)</sup>	10CFR50.72(a)(1)(ii) 10CFR50.72(a)(5)(ii) <b>10CFR50.72(b)(3)(xiii)</b> 10CFR50.72(c) NUREG-1022 Rev. 2 p. 75-79 and p. 85-86 Attach. J of this NDAP Attach. N of this NDAP Attach. K of this NDAP (Item 2) <b>Attachment S of this NDAP for guidance regarding loss of phone circuits and/or computer systems that send information to offsite agencies (e.g. Emergency Notification System, Health Physics Networks, etc.)</b>	None
<sup>(1)</sup> Inoperability of CR/TSC SPINGs are not reportable as a loss of all vent stack monitoring capability if alternate methods are available (ref. AR 1107333).		
<sup>(2)</sup> Major loss of the offsite notification system is defined in EP-AD-011 as the inoperability of 50% or more of the public Notification System sirens or > 50% of the public inside the EPZ cannot be notified due to siren failure.		

## **3. TRANSPORT OF CONTAMINATED INDIVIDUALS**

Any event requiring the transport of a radioactively contaminated person to an offsite medical facility for treatment.	10CFR50.72(a)(1)(ii) 10CFR50.72(a)(5)(ii) <b>10CFR50.72(b)(3)(xii)</b> 10CFR50.72(c) 10CFR72.75(c)(3) NUREG-1022 Rev. 2 p. 71-72 and p. 85-86 Attach. J of this NDAP Attach. N of this NDAP
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**NOTE:** The Pennsylvania Emergency Management Agency (PEMA) must be notified of those events described in Attachment V, Events of Potential Public Interest (EPPI).

### EIGHT HOUR ENS NOTIFICATIONS

Initiating Event	Reference	Additional Reporting Req.
<b>4. LOSS OF ENTIRE SAFETY FUNCTION</b>		
Any event or condition that <u>at the time of discovery</u> could have prevented the fulfillment of the safety function of structures or systems that are needed to:	10CFR50.72(a)(1)(ii) 10CFR50.72(a)(5)(ii) <b>10CFR50.72(b)(3)(v)</b> <b>10CFR50.72(b)(3)(vi)</b> 10CFR50.72(c)	60 Day Written Report
a. Shut down the reactor and maintain it in a safe shutdown condition, or	NUREG-1022 Rev. 2 p. 52-64 and p. 85-86	
b. Remove residual heat,	Attach. J of this NDAP	
c. Control the release of radioactive material*, or	Attach. N of this NDAP Attach. K of this NDAP	
d. Mitigate the consequences of an accident.	(Items 1,5)	

These events may include one or more procedural errors, equipment failures, and/or discovery of design analysis, fabrication, construction, and/or procedural inadequacies.

EIGHT HOUR ENS NOTIFICATIONS

Initiating Event	Reference	Additional Reporting Req.
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**4. LOSS OF ENTIRE SAFETY FUNCTION  
(Cont'd)**

However, individual component failures need not be reported per this requirement if redundant equipment in the same system was operable and available to perform the required safety function.

**NOTE:** Attachment P provides guidance for identifying safety functions.

**NOTE:** ENS notification per this criteria is necessary only if the event or condition could have prevented fulfillment of the safety function at the time the event or condition was discovered.

**NOTE:** Equipment can be considered INOPERABLE per Technical Specifications yet maintain the capability for performing its intended safety function. Circumstances associated with each situation must be assessed to determine system capabilities and reporting needs.

\* Secondary containment in-leakage that does not exceed 4000 scfm is not reportable as a Loss of Safety Function. Reference CRA 460976.

# EIGHT HOUR ENS NOTIFICATIONS

Initiating Event	Reference	Additional Reporting Req.
<b>5. UNPLANNED ACTUATIONS OF SYSTEMS THAT MITIGATE THE CONSEQUENCES OF SIGNIFICANT EVENTS</b>		
Any event or condition that results in valid actuation of any of the systems listed below, except when the actuation results from and is part of a pre-planned sequence during testing or reactor operation.	10CFR50.72(a)(1)(ii) 10CFR50.72(a)(5)(ii) <b>10CFR50.72(b)(3)(iv)(A)</b> <b>10CFR50.72(b)(3)(iv)(B)</b> 10CFR50.72(c) NUREG-1022 Rev. 2 p. 45-52 and p. 85-86 Attach. J of this NDAP Attach. N of this NDAP Attach. K of this NDAP (Item 4, 5, appendix A,B &C)	60 Day Written Report
a. Reactor Protection System (RPS) including: Reactor scram and reactor trip.		Four Hour ENS (if actuation of RPS occurred when the reactor was critical)
b. General primary containment isolation signals affecting primary containment isolation valves in more than one system or multiple main steam isolation valves (MSIVs).		
c. ECCS for boiling water reactors (BWRs) including: core spray system; high-pressure coolant injection system; low pressure injection function of the residual heat removal system.		Four Hour ENS (if valid actuation resulted in or should have resulted in discharge into the reactor coolant system)
d. BWR reactor core isolation cooling system (RCIC)		
e. Primary containment heat removal and depressurization systems, including containment spray and fan cooler systems.		

EIGHT HOUR ENS NOTIFICATIONS

Initiating Event	Reference	Additional Reporting Req.
<b>5. UNPLANNED ACTUATIONS OF SYSTEMS THAT MITIGATE THE CONSEQUENCES OF SIGNIFICANT EVENTS (Cont'd)</b>		
f. Emergency AC electrical power systems, including Emergency Diesel Generators (EDGs)		
<b>6. DEFECT IN SPENT FUEL STORAGE CASK STRUCTURE</b>		
A defect in any spent fuel storage structure, system, or component which is important to safety.	<b>10CFR72.75(c)(1)</b>	60 Day Written Report
<b>7. REDUCTION IN EFFECTIVENESS OF A SPENT FUEL CONFINEMENT SYSTEM</b>		
A significant reduction in the effectiveness of any spent fuel storage cask confinement system during use.	<b>10CFR72.75(c)(2)</b> Attach. J of this NDAP Attach. N of this NDAP	60 Day Written Report

# PROCEDURE COVER SHEET

PPL SUSQUEHANNA, LLC PROCEDURE	
RESPONSE TO FIRE	03/08/2013 ON-013-001 Revision 35 Page 1 of 65
ADHERENCE LEVEL: CONTINUOUS USE	
<u>QUALITY CLASSIFICATION:</u> ( X ) QA Program    (   ) Non-QA Program	<u>APPROVAL CLASSIFICATION:</u> ( X ) Plant                 (   ) Non-Plant (   ) Instruction
EFFECTIVE DATE: _____  PERIODIC REVIEW FREQUENCY: <u>2 YEARS</u>  PERIODIC REVIEW DUE DATE: _____	
<u>RECOMMENDED REVIEWS:</u>	
Procedure Owner: <u>A Shift</u>	
Responsible Supervisor: <u>Shift Manager-A Shift</u>	
Responsible FUM: <u>Manager-Nuclear Operations</u>	
Responsible Approver: <u>Manager-Nuclear Operations</u>	

1. SYMPTOMS AND OBSERVATIONS

- 1.1 Confirmation of fire within the protected area.
- 1.2 FIRE DET 106\_Z4 alarm actuates at Simplex Panel (Control Structure Outside Air Intake)
- 1.3 Smoke detected in Control Room
- 1.4 When directed from a Pre-Fire Plan

2. AUTOMATIC ACTIONS

None

3. OPERATOR ACTIONS



**NOTE:** Subsections within Section 3 may be performed in any order as determined by Shift Supervision based on the nature of the event and the priority of required operator actions. Steps within each subsection must be performed in the order written.

- ☐ 3.1 **Activate** Fire Brigade, if not already activated, in accordance with Attachment L. (HC)
- ☐ 3.2 **Implement** appropriate Pre-Fire Plan, as required, if not already being implemented.
- 3.3 **Enter** appropriate procedures within 15 minutes:
  - ☐ 3.3.1 EP-PS-100 Emergency Director, Control Room
  - ☐ 3.3.2 EP-TP-001 Emergency Classification Level Manual
  - ☐ 3.3.3 GO-100(200)-004, Plant Shutdown to Minimum Power
  - ☐ 3.3.4 GO-100(200)-005, Plant Shutdown to Cold Shutdown
  - ☐ 3.3.5 ON-100(200)-101, SCRAM, SCRAM IMMINENT
- ☐ 3.4 **Continue** with this ON and other emergency operating, off normal or operating procedure(s) as appropriate.

- 3.5 If ON-100(200)-009, Control Room Evacuation, is implemented:
- ☐ 3.5.1 **Operate** the plant in accordance with ON-100-(200)-009.
  - ☐ 3.5.2 **Continue** fire fighting activities as appropriate.
  - ☐ 3.5.3 Direction provided in this procedure is no longer applicable; **Enter** appropriate EOP to control the plant. Exit this procedure.
- 3.6 **Ensure** the following Control Structure HVAC Systems are operating: <sup>(7)</sup>
- ☐ 3.6.1 Computer Room Floor Cooling System
  - ☐ 3.6.2 Control Room Floor Cooling System
  - ☐ 3.6.3 Control Structure H&V System
  - ☐ 3.6.4 Battery Room Exhaust System
- ☐ 3.7 **IF** one or more of the preceding systems are found inoperable, **Enter** ON-030-002, Loss of Control Structure HVAC within 3 hours. <sup>(2[901,902,903])(7)</sup>
- 3.8 **Refer** to Attachments A, B, and K, as described below, for safe shutdown information specific to mitigating the possible effects of a fire in each fire zone. <sup>(6)</sup>
- ☐ 3.8.1 **Refer** to Table 1-1 in Attachment K for information on the specific safe shutdown path protected in each plant fire zone and the potential operator actions required to mitigate the effects of a fire on the protected safe shutdown path in that fire zone. Section 3.9 provides a reference to attachments that provide a description of the operator action designators provided in Table 1-1.
- ☐ **NOTE:** The operator actions listed in Table 1-1 may or may not need to be performed depending on the extent of fire damage. Even in the event of a worst case fire, however, the safe shutdown path, when accompanied by the operator actions listed, for each fire zone will ensure the ability to achieve and maintain safe shutdown to cold shutdown.
- ☐ 3.8.2 **Refer** to Table 1-2, 1-3a, and 1-3b in Attachment K for a description of the systems and equipment associated with each safe shutdown path.
  - ☐ 3.8.3 **Refer** to Attachment A for a list of the instrumentation protected on each safe shutdown path.



- ☐ 3.8.4 **Refer** to Attachment B for potential operator actions which may be needed to mitigate the effects of a fire in any fire zone. The number in brackets listed with Reference 2 in this Attachment is the specific operator action number from drawing E-690.

3.9 **Refer** to appropriate attachments for a description of the operator actions listed in Table 1-1. The number in brackets listed with Reference 2 in this Attachment is the specific operator action number from drawing E-690.

- |                          |  |
|--------------------------|--|
| <input type="checkbox"/> | <b>NOTE:</b> Bases for each action are given in Section 5.0. |
|--------------------------|--|

- ☐ 3.9.1 Unit 1 Reactor Bldg Fire - Attachment C
- ☐ 3.9.2 Unit 2 Reactor Bldg Fire - Attachment D
- ☐ 3.9.3 Control Structure (excluding Control Room) Fire Effects on Unit 1 Equipment - Attachment E
- ☐ 3.9.4 Control Structure (excluding Control Room) Fire Effects on Unit 2 Equipment - Attachment F
- ☐ 3.9.5 Unit 1 Turbine Bldg Fire or Main Transformer Fire - Attachment G
- ☐ 3.9.6 Unit 2 Turbine Bldg Fire or Main Transformer Fire - Attachment H
- ☐ 3.9.7 Diesel Generator Bldg Fire - Attachment I

- ☐ 3.10 **Refer** to Attachment J for Sound Powered Phone locations, if needed for communication. <sup>(6)</sup>

- ☐ 3.11 **IF** fire was in Control Structure, Unit 1 or Unit 2 Reactor Building, within 8 hours **Implement** DC-OP-001, Post Fire Recovery Actions. <sup>(2)</sup>

- ☐ 3.12 **Notify** SE-HVAC that fire has occurred and determination must be made if in place penetration and bypass leakage testing for HVAC filters is required. <sup>(1)</sup>

3.13 **Exit** this procedure, **WHEN**:

- ☐ 3.13.1 Fire extinguished.

**AND**

- ☐ 3.13.2 Determined that Reactor can be maintained in a safe condition without use of this procedure.

- ☐ 3.13.3 Fire Protection Engineer contacted.

- ☐ 3.13.4 AR written to document the event.

3.14 **Forward** completed copy of this procedure to following for review:

3.14.1	Unit Supervisor	_____	/	_____
		Signature		Date
3.14.2	Shift Manager	_____	/	_____
		Signature		Date
3.14.3	Assistant Operations Manager - Shift Operations			

3.15 **Forward** copy of this reviewed procedure to:

3.15.1 None

4. REFERENCES

- (<sup>1</sup>) 4.1 TS 5.5.7
- 4.2 Fire Protection Review Report
- 4.3 NRC Generic Letter 86-10 Implementation of Fire Protection Requirements
- (<sup>2</sup>) 4.4 E-690 Appendix R Safe Shutdown Manual Actions List
- 4.5 M-1002 Appendix R Safe Shutdown Component List
- 4.6 PLA-4505 Appendix R Spurious Operations Criteria
- 4.7 EC-013-0788, Inadvertent Reactor Vessel Injection Resulting from Spurious Operation of the HPCI or RCIC Systems
- 4.8 EC-013-1048, Impact of Inadvertent RPV Overfill on SRV Discharge Piping
- (<sup>6</sup>) 4.9 EC-013-0843, SSES 10CFR50 Appendix R Compliance Manual
- (<sup>7</sup>) 4.10 EC-013-0561, Appendix R - HVAC Study
- 4.11 EC 738965 Unit 1 Appendix R Residual Heat Removal Logic Change
- 4.12 EC 739001 Unit 2 Appendix R Residual Heat Removal Logic Change
- 4.13 EC 739040 UHS Large Spray Array Nozzle Reduction

- (<sup>8</sup>) 4.14 EC-013-0858 Appendix R Required Cables For MSIVs
- (<sup>9</sup>) 4.15 EC-013-1887, Multiple Spurious Operations Development of Plant Specific MSO List, including the Expert Panel Review Process

5. DISCUSSION

5.1

5.1.2

5.1.3

5.1.4

5.1.5

- 5.2 The Appendix R Safe Shutdown Paths and associated Operator Actions for fire zones outside the Control Room are described in Tables 1-1, 1-2, 1-3a and 1-3b of Attachment K.

5.3

- 5.4 This ON is used as guidance, providing information of what equipment may be affected and what is available, if a fire occurs in a particular plant location.

5.5

5.6 Bases for the manual actions are as follows:

Attachment A - Protected Safe Shutdown Path Instrumentation

Attachment B - General Requirements for All Plant Areas

B.1

B.2

B.3

B.4

B.5

B.6(B.7)

B.8

B.9

B.10

B.11

Attachment C and D - Unit 1(2) Reactor Bldg. Fire

C.1(D.1)

C.2(D.2)

C.3(D.3)

C.4(D.4)

C.5(D.5)

C.6(D.6)

C.7(D.7)

C.8(D.8)

Attachments E and F - Control Structure (Excluding Control Room Fire Effects on Unit 1(2) Equipment)

E.1(F.1)

E.2(F.2)

E.3(F.3)

E.4(F.4)

E.5(F.5)

E.6(F.6)

E.7(F.7)

Attachment G and H - Unit 1(2) Turbine Bldg. on Main Transformer Fire

G.1(H.1)

G.2(H.2)

G.3(H.3)



Attachment I - Diesel Generator Building Fire

I.1

Attachment J - Sound Powered Phone Locations

Attachment K

Table 1-1	Appendix R Safe Shutdown Paths and Operator Actions
Table 1-2	Appendix R Safe Shutdown Paths
Table 1-3a	Shutdown Paths and Methodology by Fire Location, Fire Outside Control Room (except Fire Zones 1-5B and 2-5B.)
Table 1-3b	Shutdown Paths and Methodology by Fire Location, Fire Zones 1-5B and 2-5B.

PROTECTED SAFE SHUTDOWN PATH INSTRUMENTATION

	<u>PARAMETER</u>	<u>PATH 1 (DIV I)</u>	<u>PATH 3 (DIV II)</u>
<u>1C601</u>			
1.	RPV LEVEL DIV 1(2)	LI-14201A	LI-14201B
2.	RPV PRESS DIV 1(2)	PI-14202A	PI-14202B
3.	SUPPRESSION POOL LEVEL	UR-15776A	UR-15776B
4.	SUPPRESSION POOL TEMPERATURE	SPOTMOS DIV 1 (TIAH-15751)	SPOTMOS DIV 2 (TIAH-15752)
5.	CORE SPRAY DSCH FLOW	FI-E21-1R601A	FI-E21-1R601B
6.	RHR A/C (B/D) FLOW	FI-E11-1R603A	FI-E11-1R603B
7.	RHR HX A(B) OUTLET TEMP	TI-15127A	TI-15127B
8.	RHR SW HX A(B) INLET FLOW	FI-E11-1R602A	FI-E11-1R602B
<u>2C601</u>			
1.	RPV LEVEL DIV 1(2)	LI-24201A	LI-24201B
2.	RPV PRESS DIV 1(2)	PI-24202A	PI-24202B
3.	SUPPRESSION POOL LEVEL	UR-25776A	UR-25776B
4.	SUPPRESSION POOL TEMPERATURE	SPOTMOS DIV 1 (TIAH-25751)	SPOTMOS DIV 2 (TIAH-25752)
5.	CORE SPRAY DSCH FLOW	FI-E21-2R601A	FI-E21-2R601B
6.	RHR A/C (B/D) FLOW	FI-E11-2R603A	FI-E11-2R603B
7.	RHR HX A(B) OUTLET TEMP	TI-25127A	TI-25127B
8.	RHR SW HX A(B) INLET FLOW	FI-E11-2R602A	FI-E11-2R602B

GENERAL REQUIREMENTS FOR ALL PLANT AREAS

<input type="checkbox"/>	<p><b>NOTE:</b> Step numbers in this attachment are repeated in Attachment K, Table 1-1. Do not make any changes in these step numbers without changing this attachment and Table 1-1.</p>
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B.1 To prevent smoke intrusion into Control Room: <sup>(2[900])</sup>

☐ a. **IF** Alarm FIRE DET 106\_Z4 ALM (Control Structure Outside Air Intake) actuates at Simplex Panel.

**OR**

☐ b. Fire outside the Control Structure occurs

**AND**

☐ c. Smoke detected in Control Room.

☐ d. **Place** CREOASS in Recirculation mode per OP-030-002.

☐ B.2 To prevent smoke and combustible gas intrusion into Iso-Phase bus ducts during Main Transformer Fire, Iso-Phase Bus Duct Cooling System should be shutdown via OP-187-001 for Unit 1 transformer or OP-287-001 for Unit 2 transformer.

B.3 **IF** Core Spray required to inject into Unit 1(2) vessel and CORE SPRAY LOOP A(B) IB INJ SHUTOFF HV-1(2)52-F005A(B) will not open, then **Bypass** low pressure interlock by **Performing** following at 1(2)C601: <sup>(2[904])</sup>

☐ a. **Remove** protective cover from respective LO RX PRESS PERM switch HS1(2)5249A(B).

☐ b. **Place** respective LO RX PRESS PERM switch to BYPASS.

☐ B.4 A fire in one unit can result in loss of individual SRV depressurization capability from the Control Room for Safe Shutdown Path 3 in the other unit. **IF** SRV depressurization capability is lost, **Manually Depressurize** the reactor by individually opening ADS/SRVs using the key lock SRV control switches in the Lower Relay Room, depending on the fire location, to depressurize the RPV. The timing of this action should be as required by the Emergency Operating Procedures. <sup>(2[912])</sup>

☐ **IF** the fire affects a Fire Zone whose protected path in Attachment K Table 1-1 is Path 3, individually **Operate** SRV's G, J, K, L, M, or N (ADS valves) to depressurize the non-fire unit from the Lower Relay Room Panel 1C631 for Unit 1 and 2C631 for Unit 2 using key lock switches.

GENERAL REQUIREMENTS FOR ALL PLANT AREAS

B.5 **IF** RCIC initiates and cannot be overridden in accordance with OP-150(250)-001, **Perform** the following:

- ☐ a. **Close** RCIC STM SUPPLY OB ISO HV-149(249)-F008.
- ☐ b. **Close** RCIC STM SUPPLY IB ISO HV-149(249)-F007.
- ☐ c. **IF** RCIC cannot be isolated by any means, then promptly **Depressurize** the RPV to 0 psig using available SRV's prior level reaching the MSL (118").

☐ NOTE:

☐ B.6 **IF** RHR PUMP 1(2)P202A(C) required to be started and will not start **OR** starts spuriously, **THEN** at 1(2)C601 **Place** HSS-1(2)5193A(C), RHR Pp A(C) App R Fire Logic Byps switch in **BYPASS**.

- ☐ a. **Confirm** the white light at HSS-1(2)5192A(C) RHR Pp A(C) App R Fire Logic Byps switch is **ON**.
- ☐ b. **Start/Stop** RHR Pump as required.

☐ NOTE:

☐ B.7 **IF** RHR PUMP 1(2)P202B(D) required to be started and will not start **OR** starts spuriously, **THEN** at 1(2)C601 **Place** HSS-1(2)5193B(D), RHR Pp B(D) App R Fire Logic Byps switch in **BYPASS**.

- ☐ a. **Confirm** the white light at HSS-1(2)5192B(D) RHR Pp B(D) App R Fire Logic Byps switch is **ON**.
- ☐ b. **Start/Stop** RHR Pump IAW OP-149 (249) -001 **OR** OP-149 (249) -005 as required.

GENERAL REQUIREMENTS FOR ALL PLANT AREAS

- ☐ B.8 **IF** fire has caused damage to HV-01222A(B), ESW Pond Spr Bpv A(B), HV-01224A1(B1), ESW Pond Spr In A1(B1), or HV-01224A2(B2), ESW Pond Spr In A2(B2), that impacts the ability to properly align the ESW Spray Pond Return Valves for optimal cooling,
- ☐ **THEN Evaluate** the need for Spray Pond Spray Arrays and if needed within **12 hours**, on the fire effected loop, using OP-116-001, Operation Using Spray Pond Network **OR** OP-216-001, Operation Using Spray Pond Network:
  - ☐ a. **Establish** a flow path through a large spray array ESW Pond Spr In A1(B1).
  - ☐ b. **Close** HV-01222A ESW Pond Spr Bpv A.
  - ☐ c. **Close** HV-01222B ESW Pond Spr Bpv B.
- B.9 **IF** FEEDWATER starts **AND** cannot be shutdown **OR** isolated, **Perform** the following:<sup>(8)</sup>
  - ☐ a. **Close** MAIN Steam Line A - D IB ISO HV 141(241) F022A - D.
  - ☒ b. **Close** Main Steam Line A - D OB ISO HV 141(241) F028A - D.
- ☐ B.10 Fire involving Turbine-Generator Lube Oil can cause significant damage to the Turbine due to loss of lube oil to the Turbine-Generator bearings. To lessen this damage, Condenser Vacuum can be broken immediately under this emergency condition in accordance with OP-1(2)43-001.
- ☐ B.11 **If** fire-induced multiple spurious operations result in a spurious ADS, **Operate** Core Spray manually in accordance with OP-151(251)-001 to provide makeup if adequate makeup is not available.<sup>(9)</sup>

UNIT 1 REACTOR BLDG FIRE

Attachment C  
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- ☐ NOTE (1): Time referenced is from time fire started.

☐ NOTE (2): Step numbers in this attachment are repeated in Attachment K, Table 1-1. Do not make any changes in these step numbers without changing this attachment and Table 1-1.

C.1 **IF** Reactor Recirc Pump 1P401A(B) must be tripped, **Manually Trip** Recirc by **Either** a, b, c, d **OR** e:

- ☐ a. **Stop** Reactor Recirculation Pump 1P401A(B) by depressing MG SET A DRV MTR BKR HS-14001A(B) **STOP** pushbutton. <sup>(2[141,142])</sup>
- ☐ b. At M.G. Set A(B) Drive Motor 1S134A(B) Cubicle 1A10110(1A10210): <sup>(2[118])</sup>
- ☐ (1) **Push Up** on plunger marked "Lift Plunger to Open."
- ☐ (2) **IF** concern regarding pump automatically restarting due to fire, Control and Trip DC Power Knife switch can be opened.
- ☐ c. **IF** accessible, at Reactor Recirc Pump 1A 1P401A (RPT) Bkr 1A20501(1A20502):
- ☐ (1) **Depress AND Release** red pushbutton
- ☐ (2) **IF** concern regarding pump automatically restarting, Control and Trip DC Power knife switch can be opened.
- ☐ d. **IF** accessible, at Reactor Recirc Pump 1B 1P401B (RPT) Bkr 1A20601(1A20602):
- ☐ (1) **Depress AND Release** red pushbutton
- ☐ (2) **IF** concern regarding pump automatically restarting, Control and Trip DC Power knife switch can be opened.
- ☐ e. At Reactor Recirc Pp MG Set A(B) Exciter & Local Bkr Cubicle 1C062A(B):

☐ NOTE:

- ☐ (1) **Open** MG Set A(B) Gen Local Ckt Bkr (Field Breaker) by **Depressing** Trip pushbutton.
- ☐ (2) **Observe** MG Set A(B) Gen Fld Current **DECREASES**.

UNIT 1 REACTOR BLDG FIRE

Attachment C  
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- (3) **IF** desired, M.G. Set A(B) Drive Motor 1S134A(B) Cubicle 1A10110 (1A10210) can be opened (with no load on pump) by:

- ☐ (a) **Push Up** on plunger marked "Lift Plunger to **OPEN**."
- ☐ (b) **IF** desired, **Open** Control and Trip DC Power knife switch.

C.2 **IF** RHRSW Pump 1P506B spuriously trips: <sup>(2[128])</sup>

- ☐ a. **Place** RHRSW PUMP B LOCA TRIP HS-11202B3 to **RESET**.
- ☐ b. **Start** RHRSW Pump 1P506B in accordance with OP-116-001.

☐ C.3 **IF** SRVs spuriously initiates and adequate makeup is not available, **Perform** ON-183-001 to depressurize the reactor and **Manually Initiate** Core Spray in accordance with OP-151-001, to provide makeup, depending on location of fire. <sup>(2[130,131])</sup>

a. **IF** fire in following Fire Zones, utilize Division 1 Core Spray:

- ☐ (1) Fire Zone 1-2B Div 2 Core Spray Area (25-670')
- ☐ (2) Fire Zone 1-2D Remote Shutdown Panel Room (25-670')
- ☐ (3) Fire Zone 1-3B-N General Area (25, 28-683')
- ☐ (4) Fire Zone 1-4A-N North Side HCU (25, 28-719')
- ☐ (5) Fire Zone 1-4B TIP Area (25-719')

b. **IF** fire in following Fire Zones, utilize Division 2 Core Spray:

- ☐ (1) Fire Zone 1-2A Div 1 Core Spray Pump Room (27-670')
- ☐ (2) Fire Zone 1-3A RBCCW Hx Area (27-683')
- ☐ (3) Fire Zone 1-4A-S South Side HCU (27, 29-719')
- ☐ (4) Fire Zone 1-5A-S General Area (27, 29-749')

☐ C.4 [Merged with Action C.3 in Revision 34]

UNIT 1 REACTOR BLDG FIRE

Attachment C  
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- ☐ C.5 **IF** SCRAM has occurred **AND** all rods are in, **AND** open/close indication is **Either LOST OR Indicated OPEN** on SDV Vent and Drain Valves **AND/OR** with no SCRAM Pilot Valve Air Header low pressure alarm, then within 6 hours **Close** 147002A **AND** 147002B **AND Uncap AND Open** 147007 to vent air header. <sup>(2[137])</sup>
- C.6 A fire in the following Fire Zones can result in loss of ADS capability from the Control Room. **IF** ADS capability is lost, **Manually Initiate** ADS using the key lock SRV control switches in the Upper or Lower Relay Room, depending on the fire location, to depressurize the RPV. The timing of this action should be as required by the Emergency Operating Procedures. [Note: If the need to perform this action is determined when ADS initiation is attempted from the Control Room in response to reactor level reaching TAF, this follow up action should be completed within 8 minutes of level reaching TAF.] <sup>(2[138, 139, 140])</sup>
- a. **IF** the fire is in the following Fire Zone, **Operate** SRV's G, J, K, L, M, or N (ADS valves) individually from the Upper Relay Room Panel 1C628 or from the Lower Relay Room Panel 1C631 using key lock switches
- ☐ (1) Fire Zone 1-6C Electrical Equipment Room (28, 779')
- ☐ (2) Fire Zone 1-6D HVAC Equipment Room (28, 29-779')
- b. **IF** the fire is in the following Fire Zones, **Operate** SRV's G, J, K, L, M, **OR** N (ADS valve) individually from the Lower Relay Room Panel 1C631 using key lock switches.
- ☐ (1) Fire Zone 1-4A-S South Side HCU (27, 29-719')
- ☐ (2) Fire Zone 1-5A-S General Area (27, 29-749')
- c. **IF** the fire is in the following Fire Zones, **Operate** SRV's G, J, K, L, M, or N (ADS valve) individually from the Upper Relay Room Panel 1C628 using key lock switches.
- ☐ (1) Fire Zone 1-2B Access Corridor (25, 28-670')
- ☐ (2) Fire Zone 1-2D Remote Shutdown Panel (25-670')
- ☐ C.7 **IF** HPCI inadvertently starts and the 54" high water level trip is disabled, take control of HPCI per OP-152-001 **OR Close** valve HV-155-F002 to terminate HPCI injection prior to level reaching the bottom of the MSL (118"). <sup>(2[134])</sup>
- ☐ C.8 **IF** HPCI inadvertently starts and the 54" high water level trip is disabled, take control of HPCI per OP-152-001 **OR Close** valve HV-155-F003 to terminate HPCI injection prior to level reaching the bottom of the MSL (118"). <sup>(2[134])</sup>



UNIT 2 REACTOR BLDG FIRE

Attachment D  
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- ☐ NOTE (1): Time referenced is from time fire started.

☐ NOTE (2): Step numbers in this attachment are repeated in Attachment K, Table 1-1. Do not make any changes in these step numbers without changing this attachment and Table 1-1.

D.1 **IF** Reactor Recirc Pump 2P401A(B) must be tripped, **Manually Trip** Recirc by **EITHER** a, b, c, d **OR** e:

- ☐ a. **Stop** Reactor Recirculation Pump 2P401A(B) by depressing MG SET A DRV MTR BKR HS-24001A(B) **STOP** pushbutton. <sup>(2[240,241])</sup>
- ☐ b. At M.G. Set A(B) Drive Motor 2S134A(B) Cubicle 2A10110(2A10210). <sup>(2[219])</sup>
- ☐ (1) **Push Up** on plunger marked "Lift Plunger to Open."
- ☐ (2) **IF** concern regarding a pump automatically restarting due to fire, control and trip DC Power knife switch can be opened.
- ☐ c. **IF** accessible, at Reactor Recirc Pump 2A 2P401A (RPT) Bkr 2A20501(2A20502):
- ☐ (1) **Depress AND Release** red pushbutton.
- ☐ (2) **IF** concern regarding pump automatically restarting, Control and Trip DC Power knife switch can be opened.
- ☐ d. **IF** accessible, at Reactor Recirc Pump 2B 2P401B (RPT) Bkr 2A20601(2A20602):
- ☐ (1) **Depress AND Release** red pushbutton.
- ☐ (2) **IF** concern regarding pump automatically restarting, Control and Trip DC Power knife switch can be opened.
- ☐ e. At Reactor Recirc Pp MG Set A(B) Exciter & Local Bkr Cubicle 2C062A(B):

NOTE:

- ☐ (1) **Open** MG Set A(B) Gen Local Ckt Bkr (Field Breaker) by **Depressing** Trip pushbutton.
- ☐ (2) **Observe** MG Set A(B) Gen Fld Current **Decrease**.

UNIT 2 REACTOR BLDG FIRE

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- ☐ (3) **IF** desired, MG Set A(B) Drive Motor 2S134A(B) Cubicle 2A10110 (2A10210) can be opened (with no load on pump) by:
  - ☐ (a) **Push Up** on plunger marked "Lift Plunger to Open."
  - ☐ (b) **IF** desired, **Open** control and Trip DC Power knife switch.
- D.2 **IF** RHRSW Pump 2P506A spuriously trips: <sup>(2[228])</sup>
  - ☐ a. **Place** RHRSW PUMP B LOCA TRIP HS-21202A3 to **RESET**.
  - ☐ b. **Start** RHRSW Pump 2P506A in accordance with OP-216-001.
- D.3 **IF** SRVs spuriously initiates and if adequate makeup not available, **Perform** ON-283-001 to depressurize the reactor and **Manually Initiate** Core Spray in accordance with OP-251-001 to provide makeup, depending on location of fire: <sup>(2[230,231])</sup>
  - a. **IF** fire is in following Fire Zones, utilize Division 1 Core Spray:
    - ☐ (1) Fire Zone 2-4A-N General Area (30, 33-719').
    - ☐ (2) Fire Zone 2-4B TIP Room (30-719').
    - ☐ (3) Fire Zone 2-5A-N General Area (30, 33-749').
  - b. **IF** fire is in following Fire Zones, utilize Division 2 Core Spray:
    - ☐ (1) Fire Zone 2-2A Remote Shutdown Panel Room (32-670').
    - ☐ (2) Fire Zone 2-3A RBCCW Hx Area (32-683').
    - ☐ (3) Fire Zone 2-4A-S South Side HCU's (32, 34-719').
    - ☐ (4) Fire Zone 2-4G Main Steam Pipeway (30, 32-719').
- ☐ D.4 [Merged with Action D.3 in Revision 34]
- ☐ D.5 **IF** SCRAM has occurred **AND** all rods are in, **AND** open/close indication is **Either LOST OR Indicated OPEN** on SDV Vent and Drain Valves **AND/OR** with no SCRAM Pilot Valve Air Header low pressure alarm, **THEN** within 6 hours **Close** 247002A **AND** 247002B **AND Uncap AND Open** 247007 to vent air header. <sup>(2[235])</sup>

UNIT 2 REACTOR BLDG FIRE

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- ☐ D.6 A fire in the following Fire Zones can result in loss of ADS capability from the Control Room. **IF** ADS capability is lost, **Manually Initiate** ADS using the key lock SRV control switches in the Upper or Lower Relay Room, depending on the fire location, to depressurize the RPV. The timing of this action should be as required by the Emergency Operating Procedures. [Note: If the need to perform this action is determined when ADS initiation is attempted from the Control Room in response to reactor level reaching TAF, this follow up action should be completed within 8 minutes of level reaching TAF.] <sup>(2[238])</sup>
  - a. **IF** the fire is in the following Fire Zones, **Operate** SRV's G, J, K, L, M or N (ADS valve) individually from the Upper Relay Room Panel 2C628 using key lock switches.
    - ☐ (1) Fire Zone 2-5A-N General Area (30, 33-749')
    - ☐ (2) Fire Zone 2-6C Electrical Equipment Room (33-779')
- ☐ D.7 **IF** HPCI inadvertently starts and the 54" high water level trip is disabled, take control of HPCI per OP-252-001 **OR Close** valve HV-255-F002 to terminate HPCI injection prior to level reaching the bottom of the MSL (118"). <sup>(2[236])</sup>
- ☐ D.8 **IF** HPCI inadvertently starts and the 54" high water level trip is disabled, take control of HPCI per OP-252-001 **OR Close** valve HV-255-F003 to terminate HPCI injection prior to level reaching the bottom of the MSL (118"). <sup>(2[236])</sup>

CONTROL STRUCTURE (EXCLUDING CONTROL ROOM)  
FIRE EFFECTS ON UNIT 1 EQUIPMENT

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- |                          |           |  |
|--------------------------|-----------|--|
| <input type="checkbox"/> | NOTE (1): | This attachment shall be used for fire in Control Structure but outside of Control Room.   |
| <input type="checkbox"/> | NOTE (2): | Time referenced from time fire started.  |
| <input type="checkbox"/> | NOTE (3): | Step numbers in this attachment are repeated in Attachment K, Table 1-1. Do not make any changes in these step numbers without changing this attachment and Table 1-1. |

E.1 **IF** Reactor Recirc Pump 1P401A(B) must be tripped, **Manually Trip** Recirc by Either a, b, c, d **OR** e:

- |                          |    |   |
|--------------------------|----|---|
| <input type="checkbox"/> | a. | <b>Stop</b> Reactor Recirculation Pump 1P401A(B) by depressing MG SET A DRV MTR BKR HS-14001A(B) <b>STOP</b> pushbutton. <sup>(2[97])</sup> |
|                          | b. | At M.G. Set A(B) Drive Motor 1S134A(B) Cubicle 1A10110(1A10210): <sup>(2[43])</sup>   |
| <input type="checkbox"/> |    | (1) <b>Push Up</b> on plunger marked "Lift Plunger to <b>OPEN</b> ."  |
| <input type="checkbox"/> |    | (2) <b>IF</b> concern regarding pump restarting automatically due to fire, Control and Trip DC Power Knife switch can be opened.            |
|                          | c. | <b>IF</b> accessible, at Reactor Recirc Pump 1A 1P401A (RPT) Bkr 1A20501(1A20502): <sup>(2 [42])</sup>                                      |
| <input type="checkbox"/> |    | (1) <b>Depress AND Release</b> red pushbutton.  |
| <input type="checkbox"/> |    | (2) <b>IF</b> concern regarding pump automatically restarting, Control and Trip DC Power knife switch can be opened.                        |
|                          | d. | <b>IF</b> accessible, at Reactor Recirc Pump 1B 1P401B (RPT) Bkr 1A20601(1A20602): <sup>(2 [42])</sup>                                      |
| <input type="checkbox"/> |    | (1) <b>Depress AND Release</b> red pushbutton.  |
| <input type="checkbox"/> |    | (2) <b>IF</b> concern regarding pump automatically restarting, Control and Trip DC Power knife switch can be opened.                        |
|                          | e. | At Reactor Recirc Pp MG Set A(B) Exciter & Local Bkr Cubicle 1C062A(B):   |

- |                          |       |
|--------------------------|-------|
| <input type="checkbox"/> | NOTE: |
|--------------------------|-------|
- |                          |   |
|--------------------------|---|
| <input type="checkbox"/> | (1) <b>Open</b> MG Set A(B) Gen Local Ckt Bkr (Field Breaker) by <b>Depressing</b> Trip pushbutton. |
|--------------------------|---|

CONTROL STRUCTURE (EXCLUDING CONTROL ROOM)  
FIRE EFFECTS ON UNIT 1 EQUIPMENT

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- ☐ (2) **Observe** MG Set A(B) Gen Fld Current **DECREASE**.
- ☐ (3) **IF** desired, MG Set A(B) Drive Motor 1S134A(B) Cubicle 1A10110 (1A10210) can be opened (with no load on pump) by:
  - ☐ (a) **Push Up** on plunger marked "Lift Plunger to **OPEN**."
  - ☐ (b) **IF** desired, **Open** Control and Trip DC Power knife switch.
- ☐ E.2 **IF** RHR INJ IB ISO HV-151-F015A(B) spuriously open, **Close** RHR INJ CTL OB VLV HV-151-F017A(B). <sup>(2[54,55])</sup>
- ☐ E.3 **IF** ADS or SRVs spuriously initiate and if adequate makeup not available, **Manually Initiate** Core Spray in accordance with OP-151-001 to provide makeup, depending on location of fire: <sup>(2[64,65])</sup>
  - a. **IF** fire in following Fire Zones, utilize Division 1 Core Spray:
    - ☐ (1) Fire Zone 0-24D Div 2 Lower Relay Room (12-698')
  - b. **IF** fire in following Fire Zones, utilize Division 2 Core Spray:
    - ☐ (1) Fire Zone 0-26D North Cable Chase (12-728')
    - ☐ (2) Fire Zone 0-26V North Cable Chase (12-741')
    - ☐ (3) Fire Zone 0-27E Div 1 Upper Relay Room (12-754')
    - ☐ (4) Fire Zone 0-27H North Cable Chase (12-753')
    - ☐ (5) Fire Zone 0-27C Div 1 Upper Cable Spreading Room
- ☐ E.4 **IF** a SCRAM condition exists and more than one control rod is greater than position 00, **Close** 147002A **AND** 147002B **AND Uncap AND Open** 147007 to vent air header. **IF** SCRAM has occurred and all rods are in, and open/close indication is **Either LOST OR Indicated OPEN** on SDV Vent and Drain Valves **AND/OR** with no SCRAM Pilot Valve Air Header low pressure alarm, **THEN within 6 hours Close** 147002A **AND** 147002B **AND Uncap AND Open** 147007 to vent air header. <sup>(2[90])</sup>
- ☐ E.5 **IF** there is indication Main Condenser not available, **Close OR Check CLOSED** following valves: <sup>(2[78])</sup>
  - ☐ a. MN STM LINE A OB ISO HV-141-F028A
  - ☐ b. MN STM LINE B OB ISO HV-141-F028B

CONTROL STRUCTURE (EXCLUDING CONTROL ROOM)  
FIRE EFFECTS ON UNIT 1 EQUIPMENT

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- ☐ c. MN STM LINE C OB ISO HV-141-F028C
- ☐ d. MN STM LINE D OB ISO HV-141-F028D
- ☐ e. MN STM LINE A IB ISO HV-141-F022A
- ☐ f. MN STM LINE B IB ISO HV-141-F022B
- ☐ g. MN STM LINE C IB ISO HV-141-F022C
- ☐ h. MN STM LINE D IB ISO HV-141-F022D
- ☐ i. MN STM LINE OB DRAIN HV-141-F019
- ☐ j. MN STM LINE IB DRAIN HV-141-F016
- ☐ E.6 **IF** HPCI inadvertently starts and the 54" high water level trip is disabled, take control of HPCI per OP-152-001 **OR** **Close** valve HV-155-F002 to terminate HPCI injection prior to level reaching the bottom of the MSL (118"). (2[80])
- ☒ E.7 **IF** HPCI inadvertently starts and the 54" high water level trip is disabled, take control of HPCI per OP-152-001 **OR** **Close** valve HV-155-F003 to terminate HPCI injection prior to level reaching the bottom of the MSL (118"). (2[80])

CONTROL STRUCTURE (EXCLUDING CONTROL ROOM)  
FIRE EFFECTS ON UNIT 2 EQUIPMENT

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- ☐ NOTE (1): This attachment shall be used for fire in the Control Structure but outside of Control Room.
- ☐ NOTE (2): Time referenced from time fire started.
- ☐ NOTE (3): Step numbers in this attachment are repeated in Attachment K, Table 1-1. Do not make any changes in these step numbers without changing this attachment and Table 1-1.

F.1 **IF** Reactor Recirc Pumps 2P401A/B must be tripped, **Manually Trip** Recirc by **Either** a, b, c, d **OR** e:

- ☐ a. **Stop** Reactor Recirculation Pump 2P401A(B) by depressing MG SET A DRV MTR BKR HS-24001A(B) **STOP** pushbutton. <sup>(2[98])</sup>
- ☐ b. At M.G. Set A(B) Drive Motor 2S134A(B) Cubicle 2A10110(2A10210): <sup>(2[45])</sup>
  - ☐ (1) **Push Up** on plunger marked "Lift Plunger to **OPEN**."
  - ☐ (2) **IF** concern regarding pump restarting automatically due to fire, Control and Trip DC Power Knife switch can be opened.
- ☐ c. **IF** accessible, at Reactor Recirc Pump 2A 2P401A (RPT) Bkr 2A20501(2A20502):
  - ☐ (1) **Depress AND Release** red pushbutton
  - ☐ (2) **IF** concern regarding pump automatically restarting, Control and Trip DC Power knife switch can be opened.
- ☐ d. **IF** accessible, at Reactor Recirc Pump 2B 2P401B (RPT) Bkr 2A20601(2A20602):
  - ☐ (1) **Depress AND Release** red pushbutton
  - ☐ (2) **IF** concern regarding pump automatically restarting, Control and Trip DC Power knife switch can be opened.
- ☐ e. At Reactor Recirc Pp MG Set A(B) Exciter & Local Bkr Cubicle 2C062A(B):

☐ NOTE:

  - ☐ (1) **Open** MG Set A(B) Gen Local Ckt Bkr (Field Breaker) by **Depressing** Trip pushbutton.
  - ☐ (2) **Observe** MG Set A(B) Gen Fld Current **DECREASE**.

CONTROL STRUCTURE (EXCLUDING CONTROL ROOM)  
FIRE EFFECTS ON UNIT 2 EQUIPMENT

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- (3) **IF** desired, MG Set A(B) Drive Motor 2S134A(B) Cubicle 2A10110 (2A10210) can be opened (with no load on pump) by:

- ☐ (a) **Push Up** on plunger marked "Lift Plunger to **OPEN**."
- ☐ (b) **IF** desired, **Open** Control and Trip DC Power knife switch.
- ☐ F.2 **IF** RHR INJ IB ISO HV-251-F015A(B) spuriously open, **Close** RHR INJ CTL OB VLV HV-251-F017A(B). <sup>(2[56,57])</sup>
- F.3 **IF** ADS or SRV spuriously initiate and if adequate makeup not available, **Manually Initiate** Core Spray in accordance with OP-251-001 to provide makeup, depending on location of fire: <sup>(2[66,67])</sup>
  - a. **IF** fire in following Fire Zones, utilize Division 1 Core Spray:
    - ☐ (1) Fire Zone 0-24G Div 2 Lower Relay Room (21-698')
    - ☐ (2) Fire Zone 0-25A Div 2 Lower Cable Spreading Room (21-714')
  - b. **IF** fire in following Fire Zones, utilize Division 2 Core Spray:
    - ☐ (1) Fire Zone 0-27A Div 1 Upper Relay Room (21-754')
    - ☐ (2) Fire Zone 0-27B Unit 2 Div 1 Upper Cable Spreading Room (21-753')
- ☐ F.4 **IF** a SCRAM condition exists and more than one control rod is greater than position 00, **Close** 247002A **AND** 247002B **AND Uncap AND Open** 247007 to vent air header. **IF** SCRAM has occurred and all rods are in, and open/close indication is **Either LOST OR Indicated OPEN** on SDV Vent and Drain Valves **AND/OR** with no SCRAM Pilot Valve Air Header low pressure alarm, **THEN** within 6 hours **Close** 247002A **AND** 247002B **AND Uncap AND Open** 247007 to vent air header. <sup>(2[89])</sup>
- F.5 **IF** there is indication Main Condenser not available, **Close** or **Check CLOSED** following valves: <sup>(2[79])</sup>
  - ☐ a. MN STM LINE A OB ISO HV-241-F028A
  - ☐ b. MN STM LINE B OB ISO HV-241-F028B
  - ☐ c. MN STM LINE C OB ISO HV-241-F028C
  - ☐ d. MN STM LINE D OB ISO HV-241-F028D
  - ☐ e. MN STM LINE A IB ISO HV-241-F022A
  - ☐ f. MN STM LINE B IB ISO HV-241-F022B



CONTROL STRUCTURE (EXCLUDING CONTROL ROOM)  
FIRE EFFECTS ON UNIT 2 EQUIPMENT

- ☐ g. MN STM LINE C IB ISO HV-241-F022C
- ☐ h. MN STM LINE D IB ISO HV-241-F022D
- ☐ i. MN STM LINE OB DRAIN HV-241-F019
- ☐ j. MN STM LINE IB DRAIN HV-241-F016
- ☐ F.6 **IF** HPCI inadvertently starts and the 54" high water level trip is disabled, take control of HPCI per OP-252-001 **OR Close** valve HV-255-F002 to terminate HPCI injection prior to level reaching the bottom of the MSL (118"). <sup>(2[80])</sup>
- ☐ F.7 **IF** HPCI inadvertently starts and the 54" high water level trip is disabled, take control of HPCI per OP-252-001 **OR Close** valve HV-255-F003 to terminate HPCI injection prior to level reaching the bottom of the MSL (118"). <sup>(2[80])</sup>

UNIT 1 TURBINE BLDG OR MAIN TRANSFORMER FIRE

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☐ NOTE: Step numbers in this attachment are repeated in Attachment K, Table 1-1. Do not make any changes in these step numbers without changing this attachment and Table 1-1.

G.1 **IF** Reactor Recirc Pump 1P401A(B) must be tripped and cannot be tripped from Control Room, **Manually Trip** Recirc Pump by **Either** a, b, c or d:

a. **IF** accessible, at Reactor Recirc Pump 1A 1P401A (RPT) Bkr 1A20501(1A20502): <sup>(2[42])</sup>

☐ (1) **Depress AND Release** red pushbutton.

☐ (2) **IF** concern regarding pump automatically restarting, Control and Trip DC Power knife switch can be opened.

b. **IF** accessible, at Reactor Recirc Pump 1B 1P401B (RPT) Bkr 1A20601(1A20602): <sup>(2[42])</sup>

☐ (1) **Depress AND Release** red pushbutton

☐ (2) **IF** concern regarding pump automatically restarting, Control and Trip DC Power knife switch can be opened.

c. At M.G. Set A(B) Drive Motor 1S134A(B) Cubicle 1A10110(1A10210) **IF** accessible:

☐ (1) **IF** DC power not available, **Push Up** on plunger marked "Lift Plunger to Open."

☐ (2) **IF** concern regarding pump automatically restarting, Control and Trip DC Power Knife switch can be opened.

d. At Reactor Recirc Pp MG Set A(B) Exciter & Local Bkr Cubicle 1C062A(B):

☐ NOTE:

☐ (1) **Open** MG Set A(B) Gen Local Ckt Bkr (Field Breaker) by **Depressing** Trip pushbutton.

☐ (2) **Observe** MG Set A(B) Gen Fld Current **DECREASE**.

UNIT 1 TURBINE BLDG OR MAIN TRANSFORMER FIRE

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- ☐ (3) **IF** desired, MG Set A(B) Drive Motor S134A(B) Cubicle 1A10110 (1A10210) can be opened (with no load on pump) by:
  - ☐ (a) **Push Up** on plunger marked "Lift Plunger to **OPEN**."
  - ☐ (b) **IF** desired, **Open** Control and Trip DC Power knife, switch.
- ☐ G.2 Moved to Action B.10 in Revision 34.
- ☐ G.3 **IF** there is indication Main Condenser not available, **Close OR Check CLOSED** following valves: <sup>(2[78])</sup>
  - ☐ a. MN STM LINE A OB ISO HV-141-F028A
  - ☐ b. MN STM LINE B OB ISO HV-141-F028B
  - ☐ c. MN STM LINE C OB ISO HV-141-F028C
  - ☐ d. MN STM LINE D OB ISO HV-141-F028D
  - ☐ e. MN STM LINE A IB ISO HV-141-F022A
  - ☐ f. MN STM LINE B IB ISO HV-141-F022B
  - ☐ g. MN STM LINE C IB ISO HV-141-F022C
  - ☐ h. MN STM LINE D IB ISO HV-141-F022D
  - ☐ i. MN STM LINE OB DRAIN HV-141-F019
  - ☐ j. MN STM LINE IB DRAIN HV-141-F016

UNIT 2 TURBINE BLDG. OR MAIN TRANSFORMER FIRE

☐ NOTE: Step numbers in this attachment are repeated in Attachment K, Table 1-1. Do not make any changes in these step numbers without changing this attachment and Table 1-1.

H.1 **IF** Reactor Recirc Pump 2P401A(B) must be tripped and cannot be tripped from Control Room, **Manually Trip** Recirc by **Either** a, b, c **OR** d:

a. **IF** accessible, at Reactor Recirc Pump 2A 2P401A (RPT) Bkr 2A20501(2A20502):<sup>(2[44])</sup>

- ☐ (1) **Depress AND Release** red pushbutton
- ☐ (2) **IF** concern regarding pump automatically restarting, Control and Trip DC Power knife switch can be opened.

b. **IF** accessible, at Reactor Recirc Pump 2B 2P401B (RPT) Bkr 2A20601(2A20602):<sup>(2[44])</sup>

- ☐ (1) **Depress AND Release** red pushbutton
- ☐ (2) **IF** concern regarding pump automatically restarting, Control and Trip DC Power knife switch can be opened.

c. At M.G. Set breaker at M.G. Set A(B) Drive Motor 2S134A(B) Cubicle 2A10110(2A10210) if accessible:

- ☐ (1) **Push Up** on the plunger marked "Lift Plunger to **OPEN**."
- ☐ (2) **IF** concern regarding pump automatically restarting, Control and Trip DC Power Knife switch can be opened.

d. At Reactor Recirc Pp MG Set A(B) Exciter & Local Bkr Cubicle 2C062A(B):

☐ NOTE:

- ☐ (1) **Open** MG Set A(B) Gen Local Ckt Bkr (Field Breaker) by **Depressing** Trip pushbutton.
- ☐ (2) **Observe** MG Set A(B) Gen Fld Current **DECREASE**.
- ☐ (3) **IF** desired, MG Set A(B) Drive Motor S134A(B) Cubicle 2A10110 (2A10210) can be opened (with no load on pump) by:
  - ☐ (a) **Push Up** on plunger marked "Lift Plunger to **OPEN**."
  - ☐ (b) **IF** desired, **Open** Control and Trip DC Power knife switch.

☐ H.2 Moved to Action B.10 in Revision 34.

UNIT 2 TURBINE BLDG. OR MAIN TRANSFORMER FIRE

H.3 **IF** there is indication Main Condenser not available, **Close** OR **Check Closed** following valves: <sup>(2 [79])</sup>

- ☐ a. MN STM LINE A OB ISO HV-241-F028A
- ☐ b. MN STM LINE B OB ISO HV-241-F028B
- ☐ c. MN STM LINE C OB ISO HV-241-F028C
- ☐ d. MN STM LINE D OB ISO HV-241-F028D
- ☐ e. MN STM LINE A IB ISO HV-241-F022A
- ☐ f. MN STM LINE B IB ISO HV-241-F022B
- ☐ g. MN STM LINE C IB ISO HV-241-F022C
- ☐ h. MN STM LINE D IB ISO HV-241-F022D
- ☐ i. MN STM LINE OB DRAIN HV-241-F019
- ☐ j. MN STM LINE IB DRAIN HV-241-F016

DIESEL GENERATOR BUILDING FIRE

- ☐ NOTE (1):
  - ☐ NOTE (2): Consider shutdown of Unit 1 first.
  - ☐ NOTE (3): Step numbers in this attachment are repeated in Attachment K, Table 1-1. Do not make any changes in these step numbers without changing this attachment and Table 1-1.
- 
- ☐ I.1 **IF** a fire in A D/G Room: Unit 1 HPCI automatic operation and CST low level signal input to HPCI pump suction automatic transfer logic from CST to Suppression Pool may be lost due to fire damage. Manual transfer of Unit 1 HPCI Pump suction may be required depending on CST level. **IF** CST level instrumentation is not available, **Transfer** Unit 1 HPCI suction to the Suppression Pool within 8 hours IAW section SETUP FOR TAKING SUCTION FROM SUPPRESSION POOL of OP-152-001. <sup>(2 [91])</sup>

SOUND POWERED PHONE LOCATIONS

- |                          |           |  |
|--------------------------|-----------|--|
| <input type="checkbox"/> | NOTE (1): | Headsets are stored in a storage box located near the Sound Powered Phone Jack, except as noted. |
| <input type="checkbox"/> | NOTE (2): | Sound Powered Phone Jacks and storage boxes are color coded Pink.                                |
| <input type="checkbox"/> | NOTE (3): | Headsets must be plugged into the same communications loop.                                      |

UNIT 1

LOOP 1 SAFE SHTDWN DIV 1

JP1101	1A201 4.16 KV Switchgear Room	(29-749')	
JP1102	1Y236 120 VAC Panel	(29-719')	(Headset located in 1A203 Switchgear room)
JP1103	1A203 4.16 KV Switchgear Room	(29-719')	
JP1104	Unit 1 Control Room (PCO Desk)	(12-729')	(Headset located in Shift Supervisor Locker)
JP1105	0C879 Local Control Structure HVAC Panel	(21-783')	

LOOP 3 SAFE SHTDWN DIV 2

JP1301	1A202 4.16 KV Switchgear Room	(28-749')	
JP1302	1Y246 120 VAC Panel	(28-719')	(Headset located in 1A204 Switchgear room)
JP1303	1A204 4.16 KV Switchgear Room (located by B CRM panel)	(28-719')	
JP1304	Unit 1 Control Room (PCO Desk)	(12-729')	(Headset located in Shift Supervisor Locker)
JP1305	0C879 Local Control Structure HVAC Panel	(21-783')	

SOUND POWERED PHONE LOCATIONS

LOOP 4 CTL-REMOTE SHTDWN PNL

JP1401	Unit 1 Control Room (PCO Desk)	(12-729')	(Headset located in Shift Supervisor's Locker)
JP1402	Unit 1 Remote Shutdown Panel (located by RSP 1C201)	(25-670')	

LOOP 5 CTL-TURBINE BUILDING

JP1501	Unit 1 Control Room (PCO Desk)	(12-729')	
JP1502	1A101(1A102)(2A101)(2A102) 13.8 KV Aux Bus	(4-699')	(Headset Located in 1A101/1A102 13.8 KV Switchgear room)

LOOP 6 CTL-UPPER RELAY ROOM

JP1601	Unit 1 Control Room (PCO Desk)	(12-729')	(Headset located in Shift Supervisor's Locker)
JP1602	1C628 Upper Relay Room	(12-754')	(Headset located in hallway directly outside URR door)

LOOP 7 CTL-LOWER RELAY ROOM

JP1701	Unit 1 Control Room (PCO Desk)	(12-729')	(Headset located in Shift Supervisor's Locker)
JP1702	1C631 Lower Relay Room	(12-698')	(Headset located in hallway directly outside LRR door)



SOUND POWERED PHONE LOCATIONS

UNIT 2



NOTE: For communication with Unit 2 13.8 KV Switchgear Room, must use Loop 5, JP1501 to JP1502 (Unit 1 Control Room to Unit 1 13.8 KV Switchgear Room)

LOOP 1 SAFE SHTDWN DIV 1

JP2101	2A201 4.16 KV Switchgear Room	(34-749')	
JP2102	2Y236 120 VAC Panel	(34-719')	(Headset located in 2A203 Switchgear room)
JP2103	2A203 4.16 KV Switchgear Room	(34-719')	
JP2104	Unit 2 Control Room (PCO Desk)	(21-729')	(Headset located in Shift Supervisor's Locker)

LOOP 3 SAFE SHTDWN DIV 2

JP2301	2A202 4.16 KV Switchgear Room	(33-749')	
JP2302	Unit 2 Control Room (PCO Desk)	(21-729')	(Headset located in Shift Supervisor's Locker)
JP2303	2Y246 120 VAC Panel	(33-719')	(Headset located in 2A204 Switch gear room)

LOOP 4 CTL-REMOTE SHTDWN PANEL

JP2401	Unit 2 Remote Shutdown Panel	(32-670')	
JP2402	Unit 2 Control Room (PCO Desk)	(21-729')	(Headset located in Shift Supervisor's Locker)

SOUND POWERED PHONE LOCATIONS

LOOP 6 CTL-UPPER RELAY ROOM

JP2601	Unit 2 Control Room (PCO Desk)	(21-729')	(Headset located in Shift Supervisor's Locker)
JP2602	2C628 Upper Relay Room	(21-754')	(Headset located in URR directly inside door)

LOOP 7 CTL-LOWER RELAY ROOM

JP2701	Unit 2 Control Room (PCO Desk)	(21-729')	(Headset located in Shift Supervisor's Locker)
JP2702	2C631 Lower Relay Room	(21-698')	(Headset located in LRR on east wall)

TABLE 1-1 APPENDIX R SSD PATHS AND OPERATOR ACTIONS

Building	Elev	Fire Zone	Plant Area	Fire Zone Description	Protected Path	Clarifying Notes	Operator Actions	Remarks
Control Structure	656'	0-21A	12, 21	Common Equipment Area	Path 1	RCIC protected on Unit 1 (#)	None	
		0-21B	12, 21	Freight Elev & Stairwell No. 221	Paths 1 and 3	RCIC and HPCI Protected on both units (#)	None	
	676'	0-22A	12, 21	Central Access Area	Path 1	RCIC protected on Unit 1 (#)	None	
		0-22B	12	Passenger Elev & Stairwell No. 120	Paths 1 and 3	RCIC and HPCI protected on both units (#)	None	
		0-22C	12, 21, 30, 33	Entrance Corridor & Lobby	Path 1	RCIC protected on Unit 1 (#)	None	
	687'	0-23	21	Control Structure Egress Corridor	Path 1	RCIC protected on Unit 1 (#)	None	
	698'	0-24A	21	UPS Panel Room(U2)	Path 1	RCIC protected on Unit 1 (#)	None	
		0-24B	12, 21	Corridor (C-200, C-204)	Path 1	RCIC protected on Unit 1 (#)	E.5, F.1, F.5	
		0-24C	12	UPS Panel Room(U1)	Path 1	RCIC protected on Unit 1 (#)	None	

(#) The table above indicates where HPCI AND/OR RCIC is protected from the effects of fire.

TABLE 1-1 APPENDIX R SSD PATHS AND OPERATOR ACTIONS

Building	Elev	Fire Zone	Plant Area	Fire Zone Description	Protected Path	Clarifying Notes	Operator Actions	Remarks
Control Structure	698'	0-24D	12	U1 Div II Lower Relay Room	Path 1	RCIC protected on Unit 2 (#)	E.1, E.2, E.3, E.4, E.5, E.6	Pumps 1P401A and 1P401B can be tripped from the Control Room.
		0-24E	12, 21	Computer Room	Path 1	RCIC protected on Unit 1 (#)	E.5, F.1, F.5, F.6	
		0-24F	12, 21	Computer Maint. Room & Office	Path 1	RCIC protected on Unit 1 (#)	E.5, F.1, F.5	
		0-24G	21	U2 Div II Lower Relay Room	Path 1	RCIC protected on Unit 1 (#)	F.1, F.2, F.3, F.4, F.5, F.6	Pumps 2P401A and 2P401B can be tripped from the Control Room.

(#) The table above indicates where HPCI AND/OR RCIC is protected from the effects of fire.

TABLE 1-1 APPENDIX R SSD PATHS AND OPERATOR ACTIONS

Building	Elev	Fire Zone	Plant Area	Fire Zone Description	Protected Path	Clarifying Notes	Operator Actions	Remarks
Control Structure	698'	0-24I	21	HVAC Duct Chase	Paths 1 and 3	RCIC and HPCI protected on Unit 1 (#)	None	<b>Offsite Power (T-10 &amp; T-20 Protected)</b>
		0-24J	21	South Elec Cable Chase	Path 3	HPCI protected on both units (#)	F.1, F.5	
		0-24K	12, 21	HVAC Duct Chase	Paths 1 and 3	RCIC and HPCI protected on Unit 1 (#)	None	<b>Offsite Power (T-10 &amp; T-20 Protected)</b>
		0-24L	12	Center Elec Cable Chase	Path 3	HPCI protected on Unit 2 (#)	E.5	
		0-24M	12	North Elec Cable Chase	Path 3	HPCI protected on Unit 2 (#)	None	

(#) The table above indicates where HPCI AND/OR RCIC is protected from the effects of fire.

TABLE 1-1 APPENDIX R SSD PATHS AND OPERATOR ACTIONS

Building	Elev	Fire Zone	Plant Area	Fire Zone Description	Protected Path	Clarifying Notes	Operator Actions	Remarks
Control Structure	714'	0-25A	21	U2 Div II Lower Cable Spreading Room	Path 1	RCIC protected on Unit 1 (#)	F.1, F.3, F.4, F.6	
		0-25B	21	South Elec Cable Chase	Path 3	HPCI protected on both units (#)	None	
		0-25C	12	Center Elec Cable Chase	Path 3	HPCI protected on Unit 2 (#)	None	
		0-25D	12	North Elec Cable Chase	Path 3	HPCI protected on Unit 2 (#)	None	
		0-25E	12, 21	U1 Div II Lower Cable Spreading	Path 1	RCIC protected on Unit 2 (#)	E.1, E.2, E.4, E.6	
	729'	0-26B	21	South Elec Cable Chase	Path 3	HPCI protected on both units (#)	None	
		0-26C	12	Center Elec Cable Chase	Path 3	HPCI protected on Unit 2 (#)	None	
		0-26D	12	North Elec Cable Chase	Path 3	HPCI protected on Unit 2 (#)	E.3	
	741'	0-26S	12	South Elec Cable Chase	Path 3	HPCI protected on both units (#)	None	

(#) The table above indicates where HPCI AND/OR RCIC is protected from the effects of fire.

TABLE 1-1 APPENDIX R SSD PATHS AND OPERATOR ACTIONS

Building	Elev	Fire Zone	Plant Area	Fire Zone Description	Protected Path	Clarifying Notes	Operator Actions	Remarks
Control Structure	714'	0-26T	12	Center Elec Cable Chase	Path 3	HPCI protected on Unit 2 (#)	None	
		0-26V	12	North Elec Cable Chase	Path 3	HPCI protected on Unit 2 (#)	E.3	
	754'	0-27A	21	U2 Div I Upper Relay Room	Path 3	HPCI protected on Unit 1 (#)	F.1, F.2, F.3 F.4, F.5, F.7	Pumps 2P401A and 2P401B can be tripped from the Control Room.
		0-27B	21	U2 Div I Upper Cable Spreading Room	Path 3	HPCI protected on Unit 1 (#)	F.1, F.2, F.3, F.5, F.7	
		0-27C	12, 21	U1 Div I Upper Cable Spreading Room	Path 3	HPCI protected on Unit 2 (#)	E.1, E.2, E.3, E.4, E.5, E.7, F.1	Pumps 1P401A, 1P401B, 2P401A and 2P401B can be tripped from the Control Room.
Control Structure	754'	0-27D	12	Electricians Office	Path 3	HPCI protected on Unit 2 (#)	None	

(#) The table above indicates where HPCI AND/OR RCIC is protected from the effects of fire.

TABLE 1-1 APPENDIX R SSD PATHS AND OPERATOR ACTIONS

Building	Elev	Fire Zone	Plant Area	Fire Zone Description	Protected Path	Clarifying Notes	Operator Actions	Remarks
		0-27E	12	U1 Div I Upper Relay Room	Path 3	S/D Unit 1 first, HPCI protected on Unit 2 (#)	E.1, E.2, E.3, E.4, E.5, E.7	Pumps 1P401A and 1P401B can be tripped from the Control Room.
		0-27F	21	South Elec Cable Chase	Path 3	HPCI protected on both units (#)	F.1	
		0-27G	12	Center Elec Cable Chase	Path 3	HPCI protected on Unit 2 (#)	None	

(#) The table above indicates where HPCI AND/OR RCIC is protected from the effects of fire.



TABLE 1-1 APPENDIX R SSD PATHS AND OPERATOR ACTIONS

Building	Elev	Fire Zone	Plant Area	Fire Zone Description	Protected Path	Clarifying Notes	Operator Actions	Remarks
Control Structure	754'	0-27H	12	North Elec Cable Chase	Path 3	HPCI protected on Unit 2 (#)	E.3	
	771'	0-28A-I	21	U2 Div II Equipment Room	Path 1	RCIC protected on Unit 1 (#)	None	
		0-28A-II	21	U2 Div I Equipment Room	Path 3	HPCI protected on Unit 1 (#)	F.1	
		0-28B-I	12	U1 Div II Equipment Room	Path 1	RCIC protected on Unit 2 (#)	None	
		0-28B-II	12	U1 Div Equipment Room I	Path 3	HPCI protected on Unit 2 (#)	E.1	
		0-28C	21	U2 Div I 125V Battery Room	Path 3	HPCI protected on Unit 1 (#)	None	
		0-28D	21	U2 Div II 125V Battery Room	Path 1	RCIC protected on both units (#)	None	
		0-28E	21	U2 Div II 125V Battery Room	Path 1	RCIC protected on both units (#)	None	
		0-28F	21	U2 Div I 250V Battery Room	Path 3	HPCI protected on Unit 1 (#)	F.1	

(#) The table above indicates where HPCI AND/OR RCIC is protected from the effects of fire.

TABLE 1-1 APPENDIX R SSD PATHS AND OPERATOR ACTIONS

Building	Elev	Fire Zone	Plant Area	Fire Zone Description	Protected Path	Clarifying Notes	Operator Actions	Remarks
Control Structure	771'	0-28G	21	U2 Div II 250V Battery Room	Path 1	RCIC protected on Unit 1 (#)	None	
		0-28H	12, 21	Cold Instr. Repair Shop	Path 1	RCIC protected on Unit 2. (#)	E.1, F.1	
		0-28I	12	U1 Div I 250V Battery Room	Path 3	HPCI protected on Unit 2. (#)	E.1	
		0-28J	12	U1 Div II 250V Battery Room	Path 1	RCIC protected on Unit 2 (#)	None	
		0-28K	12	U1 Div I 125V Battery Room	Path 3	HPCI protected on both units. (#)	None	
		0-28L	12	U1 Div I 125V Battery Room	Path 3	HPCI protected on both units. (#)	None	
		0-28M	12	U1 Div II 125V Battery Room	Path 1	RCIC protected on both units. (#)	None	
		0-28N	12	U1 Div II 125V Battery Room	Path 1	RCIC protected on both units. (#)	None	
		0-28P	21	South Elec Cable Chase	Path 3	HPCI protected on both units. (#)	None	
		0-28Q	12	Center Elec Cable Chase	Path 3	HPCI protected on Unit 2. (#)	None	

(#) The table above indicates where HPCI AND/OR RCIC is protected from the effects of fire.

TABLE 1-1 APPENDIX R SSD PATHS AND OPERATOR ACTIONS

Building	Elev	Fire Zone	Plant Area	Fire Zone Description	Protected Path	Clarifying Notes	Operator Actions	Remarks
Control Structure	771'	0-28R	12	North Elec Cable Chase	Path 3	HPCI protected on Unit 2 (#)	None	
		0-28S	12	HVAC Duct Chase	Paths 1 and 3	RCIC and HPCI protected on Unit 1. (#)	None	Offsite Power (T-10 & T-20 Protected)
		0-28T	21	U2 Div I 125V Battery Room	Path 3	HPCI protected on both units. (#)	None	
	783'	0-29A	21	Stairwell Vestibule	Paths 1 and 3	HPCI and RCIC protected on both units. (#)	None	
		0-29B	12, 21	Fan Room & Assoc. HVAC Equipment	Paths 1 And 3	RCIC and HPCI protected on Unit 1. (#)	None	Offsite Power (T-10 & T-20 Protected)
		0-29C	12	Stairwell Vestibule	Paths 1 and 3	RCIC and HPCI protected on both units. (#)	None	
		0-29D	12	Pipe & Duct Chase	Paths 1 and 3	RCIC and HPCI protected on Unit 1. (#)	None	Offsite Power (T-10 & T-20 Protected)
	806'	0-30A	12, 21	C.S. HVAC& SBGTS	Paths 1 and 3	RCIC and HPCI protected on Unit 1. (#)	None	Offsite Power (T-10 & T-20 Protected)
		0-30B	21	Stairwell No. 125	Paths 1 and 3	RCIC and HPCI protected on Unit 1. (#)	None	Offsite Power (T-10 & T-20 Protected)

(#) The table above indicates where HPCI AND/OR RCIC is protected from the effects of fire.

TABLE 1-1 APPENDIX R SSD PATHS AND OPERATOR ACTIONS

Building	Elev	Fire Zone	Plant Area	Fire Zone Description	Protected Path	Clarifying Notes	Operator Actions	Remarks
Diesel Generator	All	0-41A	44	Diesel Generator Bay A	Path 3	HPCI protected on both units (#)	I.1	Offsite Power (T-20 protected)
		0-41B	43	Diesel Generator Bay B	Path 1	RCIC protected on Unit 2. (#)	None	
		0-41C	44	Diesel Generator Bay C	Path 3	HPCI protected on both units. (#)	None	Offsite Power (T-20 protected)
		0-41D	43	Diesel Generator Bay D	Path 1	RCIC protected on both units. (#)	None	
		0-41E	81	Diesel Generator "E" Bldg	Paths 1 And 3	RCIC and HPCI protected on both units (#)	None	Offsite Power(T-10/ T-20 are also protected)
ESSW Pumphouse		0-51	55	East Side of ESSW Pumphouse	Path 3	HPCI protected on both units. (#)	None	
		0-52	56	West Side of ESSW Pumphouse	Path 1	RCIC protected (#)	None	

(#) The table above indicates where HPCI AND/OR RCIC is protected from the effects of fire.

TABLE 1-1 APPENDIX R SSD PATHS AND OPERATOR ACTIONS

Building	Elev	Fire Zone	Plant Area	Fire Zone Description	Protected Path	Clarifying Notes	Operator Actions	Remarks
Outside Areas	All	0-00	71-80, 82-97	Outside/Yard Areas	Paths 1 and 3	RCIC and HPCI protected on Unit 2 (#)	None	
Radwaste		All	37-42	Radwaste Building	Paths 1 and 3	RCIC and HPCI protected on both units (#)	None	
Turbine		All	1-24	Unit 1 and 2 Turbine Buildings	Paths 1, 2 and 3	RCIC and HPCI protected on Unit 1 (#)	B.9, G.1, G.3, H.1, H.3	
Unit 1 Reactor	645'	1-1A	25, 27	Core Spray 'A' Pump Room	Path 3	HPCI protected on Unit 2. (#)	None	
		1-1B	25	Core Spray 'B' Pump Room	Path 1	RCIC protected on Unit 2. (#)	None	
		1-1C	25, 28	HPCI Pump Room	Path 1	RCIC protected on Unit 2. (#)	None	
		1-1D	28	RCIC Pump Room	Path 1	RCIC protected on Unit 2. (#)	None	
		1-1E	28	RHR 'B' Pump Room	Path 1	RCIC protected on Unit 2. (#)	None	
		1-1F	29	RHR 'A' Pump Room	Path 3	HPCI protected on Unit 2. (#)	None	

(#) The table above indicates where HPCI AND/OR RCIC is protected from the effects of fire.

TABLE 1-1 APPENDIX R SSD PATHS AND OPERATOR ACTIONS

Building	Elev	Fire Zone	Plant Area	Fire Zone Description	Protected Path	Clarifying Notes	Operator Actions	Remarks
Unit 1 Reactor	645'	1-1G	29	Sump Room	Path 3	HPCI protected on Unit 2. (#)	None	
		1-1I	25	Elev Shaft & Stairwell No. 102	Path 1	RCIC protected on Unit 2. (#)	None	
		1-1J	28	Stairwell No. 101	Paths 1 and 3	RCIC and HPCI protected on Unit 2. (#)	None	
	648'	1-1H	26	Suppression Chamber	N/A		None	PC is inerted
	670'	1-2A	25, 27	Core Spray 'A' Pump Room Access	Path 3	HPCI protected on Unit 2. (#)	C.3	
		1-2B	25, 28	Access Corridor	Path 1	RCIC protected on Unit 2. (#)	C.3, C.6	
		1-2C	29	RR Airlock/ Access Shaft	Path 3	HPCI protected on Unit 2. (#)	None	
		1-2D	25	Remote Shutdown Panel	Path 1	RCIC protected on Unit 2. (#)	C.3, C.6	
	683'	1-3A	25, 27	Heat Exch. & Pump Room	Path 3	HPCI protected on Unit 2. (#)	C.1, C.3	

(#) The table above indicates where HPCI AND/OR RCIC is protected from the effects of fire.

TABLE 1-1 APPENDIX R SSD PATHS AND OPERATOR ACTIONS

Building	Elev	Fire Zone	Plant Area	Fire Zone Description	Protected Path	Clarifying Notes	Operator Actions	Remarks
Unit 1 Reactor	683'	1-3B-N	25, 28	Equipment Removal Area	Path 1	RCIC protected on Unit 2. (#)	C.1, C.3, C.7	
		1-3B-S	29	Equipment Removal Area	Path 3	HPCI protected on Unit 2. (#)	None	
		1-3B-W	28, 29	Equipment Removal Area	Paths 1 and 3	RCIC and HPCI protected on Unit 2. (#)	None	
		1-3C-N	25, 28	Equipment Access Area	Path 1	RCIC protected on Unit 2. (#)	None	
		1-3C-S	27, 29	Equipment Access Area	Path 3	HPCI protected on Unit 2. (#)	None	
		1-3C-W	28, 29	Equipment Access Area	Paths 1 and 3	RCIC and HPCI protected on Unit 2. (#)	None	
	704'	1-4F	26	Drywell	N/A		None	
	715'-818'	0-6H	29, 33	Cask Storage Pit	Paths 1 and 3	RCIC and HPCI protected on Unit 2. (#)	None	
	719'	1-4A-N	25, 28	Containment Access Area	Path 1	RCIC protected on Unit 2. (#)	C.1, C.3, C.7	Pump 1P401A can be tripped from the Control Room.

(#) The table above indicates where HPCI AND/OR RCIC is protected from the effects of fire.

TABLE 1-1 APPENDIX R SSD PATHS AND OPERATOR ACTIONS

Building	Elev	Fire Zone	Plant Area	Fire Zone Description	Protected Path	Clarifying Notes	Operator Actions	Remarks
Unit 1 Reactor	719'	1-4A-S	27, 29	Containment Access Area	Path 3	HPCI protected on Unit 2. (#)	C.1, C.2, C.3, C.6, C.8	
		1-4A-W	28, 29	Containment Access Area	Paths 1 and 3	RCIC and HPCI protected on Unit 2. (#)	C.1, C.5	Pump 1P401B can be tripped from the Control Room.
		1-4B	25	Pipe Penetration Room	Path 1	RCIC protected on Unit 2. (#)	C.1, C.3, C.7	Pump 1P401A can be tripped from the Control Room.
		1-4C	28	4.16 KV Switchgear Room Div. II	Path 1	RCIC protected on Unit 2. (#)	None	
		1-4D	28, 29	4.16 KV Switchgear Room Div. I	Path 3	HPCI protected on Unit 2. (#)	None	
		1-4E	29	CRD Rebuild Room	Path 3	HPCI protected on Unit 2. (#)	None	
		1-4G	11, 12, 25, 27	Main Steam Pipeway	Path 1	RCIC protected on Unit 2. (#)	None	
	749'	1-5A-N	25, 28	SLC Area	Path 1	RCIC protected on Unit 2. (#)	C.7	
		1-5A-S	27, 29	General Access Area	Path 3	HPCI protected on Unit 2. (#)	C.1, C.2, C.3, C.6, C.8	

(#) The table above indicates where HPCI AND/OR RCIC is protected from the effects of fire.



TABLE 1-1 APPENDIX R SSD PATHS AND OPERATOR ACTIONS

Building	Elev	Fire Zone	Plant Area	Fire Zone Description	Protected Path	Clarifying Notes	Operator Actions	Remarks
Unit 1 Reactor	749'	1-5A-W	28, 29	Access Corridor	Paths 1 and 3	RCIC and HPCI protected on Unit 2 (#)	C.1, C.2	Pump 1P401A can be tripped from the Control Room.
		1-5D	25, 28	RWCU Pump Room & Heat Exch. Room	Paths 1 and 3	RCIC and HPCI protected on Unit 2. (#)	None	
		1-5E	28, 29	Penetration Room	Path 3	HPCI protected on Unit 2. (#)	C.2	
		1-5F	28	4.16 KV Switchgear Room Div. II	Path 1	RCIC protected on Unit 2. (#)	C.1	
		1-5G	28, 29	4.16 KV Switchgear Room Div. I	Path 3	HPCI protected on Unit 2. (#)	C.1	Pump 1P401B can be tripped from the Control Room.
		1-5H	29	I&C Instr. Repair Shop	Path 3	HPCI protected on Unit 2. (#)	None	
	761'	1-5B	25, 27	Valve Access Area	Paths 1 and 3	RCIC for inventory control & RHR SDC for decay heat removal S/D Unit 2 with Path 3. (also refer to Table 1-3b).	None	Both division CS injection valves In fire zone. See Table 1-3b.

(#) The table above indicates where HPCI AND/OR RCIC is protected from the effects of fire.

TABLE 1-1 APPENDIX R SSD PATHS AND OPERATOR ACTIONS

Building	Elev	Fire Zone	Plant Area	Fire Zone Description	Protected Path	Clarifying Notes	Operator Actions	Remarks
Unit 1 Reactor	761'	1-5C	25	RWCU Backwash Receiving Tank Room	Path 1	RCIC protected on Unit 2 (#)	C.7	
	779'	0-6G	27, 29, 30, 33	Surge Tank Vault	Paths 1 and 3	RCIC and HPCI protected on Unit 2. (#)	None	
		1-6A	25, 27	General Access Area & Pump Room	Path 1	RCIC protected on Unit 2. (#)	C.7	
		1-6B	25, 28	Load Center Room	Paths 1 and 3	RCIC and HPCI protected on Unit 2. (#)	None	
		1-6C	28	Electrical Equipment Room	Paths 1 and 3	RCIC and HPCI protected on Unit 2 (#)	C.2, C.6, C.7	
		1-6D	28, 29	HVAC Equipment Room	Paths 1 and 3	RCIC and HPCI protected on Unit 2. (#)	C.6, C.7	
		1-6E	29	HVAC Plenum Area	Path 3	HPCI protected on Unit 2 (#)	None	
		1-6F	27, 29	Spent Fuel Pool	Paths 1 and 3	RCIC and HPCI protected on Unit 2. (#)	None	

(#) The table above indicates where HPCI AND/OR RCIC is protected from the effects of fire.

TABLE 1-1 APPENDIX R SSD PATHS AND OPERATOR ACTIONS

Building	Elev	Fire Zone	Plant Area	Fire Zone Description	Protected Path	Clarifying Notes	Operator Actions	Remarks
Unit 1 Reactor	779'	1-6I	27, 30	Fuel Pool Holding Pump Room	Path 1	RCIC protected on Unit 2 (#)	None	
		1-7B	29	Recirc Fan Room	Paths 1 and 3	RCIC and HPCI protected on Unit 2. (#)	None	
	799'	1-7A	28, 29	HVAC Equipment Area	Paths 1 and 3	RCIC and HPCI protected on Unit 2 (#)	None	
	818'	0-8A	25-29, 31-34	Refueling Floor	Paths 1 and 3	RCIC and HPCI protected on Unit 2. (#)	None	
Unit 2 Reactor	645'	2-1A	30, 32	Core Spray 'B' Pump Room	Path 1	RCIC protected on Unit 1. (#)	None	
		2-1B	32	Core Spray 'A' Pump Room	Path 3	HPCI protected on Unit 1. (#)	None	
		2-1C	30, 33	HPCI Pump Room	Path 1	RCIC protected on Unit 1. (#)	None	
		2-1D	33	RCIC Pump Room	Path 1	RCIC protected on Unit 1. (#)	None	
		2-1E	33	RHR 'B' Pump Room	Path 1	RCIC protected on Unit 1. (#)	None	

(#) The table above indicates where HPCI AND/OR RCIC is protected from the effects of fire.

TABLE 1-1 APPENDIX R SSD PATHS AND OPERATOR ACTIONS

Building	Elev	Fire Zone	Plant Area	Fire Zone Description	Protected Path	Clarifying Notes	Operator Actions	Remarks
Unit 2 Reactor	645'	2-1F	34	RHR 'A' Pump Room	Path 3	HPCI protected on Unit 1 (#)	None	
		2-1G	34	Sump Room	Path 3	HPCI protected on Unit 1. (#)	None	
		2-1H	31	Suppression Chamber	N/A		None	PC is inerted
		2-1I	32	Elev Shaft & Stairwell No. 202	Paths 1 and 3	RCIC and HPCI protected on Unit 1. (#)	None	
		2-1J	33	Stairwell No. 201	Paths 1 and 3	RCIC and HPCI protected on Unit 1. (#)	None	
	670'	2-2A	32	Remote Shutdown Panel Room	Path 3	HPCI protected on Unit 1. (#)	D.3	
		2-2B	30, 32, 33	Personnel Access Corridor	Path 1	RCIC protected on Unit 1. (#)	None	
		2-2C	34	Vehicle Airlock	Path 3	HPCI protected on Unit 1. (#)	None	
	683'	2-3A	32, 34	Access Area	Path 3	HPCI protected on Unit 1. (#)	D.1, D.3	

(#) The table above indicates where HPCI AND/OR RCIC is protected from the effects of fire.

TABLE 1-1 APPENDIX R SSD PATHS AND OPERATOR ACTIONS

Building	Elev	Fire Zone	Plant Area	Fire Zone Description	Protected Path	Clarifying Notes	Operator Actions	Remarks
Unit 2 Reactor	683'	2-3B-N	30, 32, 33	Equipment Removal Area	Path 1	RCIC protected on Unit 1. (#)	D.1, D.7	
		2-3B-S	34	Equipment Removal Area	Path 3	HPCI protected on Unit 1. (#)	None	
		2-3B-W	33, 34	Equipment Removal Area	Paths 1 and 3	RCIC and HPCI protected on Unit 1. (#)	None	
		2-3C-N	30, 33	Equipment Access Area	Path 1	RCIC protected on Unit 1. (#)	None	
		2-3C-S	32, 34	Equipment Access Area	Path 3	HPCI protected on Unit 1. (#)	None	
		2-3C-W	33, 34	Equipment Access Area	Paths 1 and 3	RCIC and HPCI protected on Unit 1. (#)	None	
	704'	2-4F	31	Drywell	N/A		None	PC is inerted
	719'	2-4A-N	30, 33	Containment Access Area	Path 1	RCIC protected on Unit 1. (#)	D.1, D.3, D.7	Pump 2P401A can be tripped from the Control Room.
		2-4A-S	32, 34	Containment Access Area	Path 3	HPCI protected on Unit 1. (#)	D.1, D.3	Pump 2P401B can be tripped from the Control Room.

(#) The table above indicates where HPCI AND/OR RCIC is protected from the effects of fire.

TABLE 1-1 APPENDIX R SSD PATHS AND OPERATOR ACTIONS

Building	Elev	Fire Zone	Plant Area	Fire Zone Description	Protected Path	Clarifying Notes	Operator Actions	Remarks
Unit 2 Reactor	719'	2-4A-W	33, 34	Containment Access Area	Paths 1 and 3	RCIC and HPCI protected on Unit 1 (#)	D.1, D.5	Pump 2P401B can be tripped from the Control Room.
		2-4B	30	Pipe Penetration Room	Path 1	RCIC protected on Unit 1. (#)	D.1, D.3, D.7	
		2-4C	33	4.16 KV Switchgear Room Div. II	Path 1	RCIC protected on Unit 1. (#)	None	
		2-4D	33, 34	4.16 KV Switchgear Room Div. I	Path 3	HPCI protected on Unit 1. (#)	None	
		2-4E	34	CRD Rebuild Room	Path 3	HPCI protected on Unit 1. (#)	None	
		2-4G	21, 22, 30, 32	Main Steam Pipeway	Path 3	HPCI protected on Unit 1. (#)	D.1, D.3	Pumps 2P401A and 2P401B can be tripped from the Control Room.
	749'	2-5A-N	30, 33	SLC Area	Path 1	RCIC protected on Unit 1. (#)	D.1, D.2, D.3, D.6, D.8	
		2-5A-S	32, 34	General Access Area	Path 3	HPCI protected on Unit 1. (#)	D.1	Pumps 2P401A and 2P401B can be tripped from the Control Room.
		2-5A-W	33, 34	Access Corridor	Paths 1 and 3	RCIC and HPCI protected on Unit 1 (#)	D.1, D.2	Pump 2P401B can be tripped from the Control Room.

(#) The table above indicates where HPCI AND/OR RCIC is protected from the effects of fire.

TABLE 1-1 APPENDIX R SSD PATHS AND OPERATOR ACTIONS

Building	Elev	Fire Zone	Plant Area	Fire Zone Description	Protected Path	Clarifying Notes	Operator Actions	Remarks
Unit 2 Reactor	749'	2-5D	32, 34	RWCU Pump Room & Heat Exch. Room	Paths 1 and 3	RCIC and HPCI protected on Unit 1 (#)	D.2	
		2-5E	33, 34	Pipe Penetration Room	Path 3	HPCI protected on Unit 1. (#)	D.1	Pumps 2P401A and 2P401B can be tripped from the Control Room.
		2-5F	33	4.16 KV Switchgear Room Div. II	Path 1	RCIC protected on Unit 1. (#)	D.1	Pump 2P401A can be tripped from the Control Room.
		2-5G	33, 34	4.16 KV Switchgear Room Div. I	Path 3	HPCI protected on Unit 1. (#)	D.1	Pump 2P401B can be tripped from the Control Room.
		2-5H	34	I&C Instr. Repair Shop	Paths 1 and 3	RCIC and HPCI protected on Unit 1. (#)	None	
	761'	2-5B	30, 32	Valve Access Area	Paths 1 and 3	RCIC for inventory control & RHR SDC for decay heat removal S/D Unit 1 with Path 3. (also refer to Table 1-3b).	None	Both division CS injection valves In fire zone. See Table 1-3b

(#) The table above indicates where HPCI AND/OR RCIC is protected from the effects of fire.

TABLE 1-1 APPENDIX R SSD PATHS AND OPERATOR ACTIONS

Building	Elev	Fire Zone	Plant Area	Fire Zone Description	Protected Path	Clarifying Notes	Operator Actions	Remarks
Unit 2 Reactor	761'	2-5C	32	RWCU Backwash Receiving Tank Room	Path 3	HPCI protected on Unit 1. (#)	None	
	779'	2-6A	30, 32	General Access Area & Pump Room	Path 1	RCIC protected on Unit 1. (#)	D.2, D. 7	
		2-6B	32, 34	Load Center Room	Paths 1 and 3	RCIC and HPCI protected on Unit 1. (#)	None	
		2-6C	33	Electrical Equipment Room	Path 1	RCIC protected on Unit 1. (#)	D.6, D. 7	
		2-6D	33, 34	HVAC Equipment Room	Paths 1 and 3	RCIC and HPCI protected on Unit 1. (#)	None	
		2-6E	34	HVAC Plenum Area	Paths 1 and 3	RCIC and HPCI protected on Unit 1. (#)	None	
		2-6F	30, 33	Spent Fuel Pool	Paths 1 and 3	RCIC and HPCI protected on Unit 1. (#)	None	
	799'	2-7A	33, 34	HVAC Equipment Area	Paths 1 and 3	RCIC and HPCI protected on Unit 1. (#)	None	

(#) The table above indicates where HPCI AND/OR RCIC is protected from the effects of fire.



**TABLE 1-2**  
**APPENDIX R SAFE SHUTDOWN PATHS**

**Path 1<sup>1</sup>**

**Reactivity Control**

CRD (Scram Function)

Manual Scram from Control Room or by venting the instrument air header locally on Elevation 719 of the Reactor Building

**Reactor Pressure Control**

Manual ADS from Control Room or from the Upper Relay Room

Manual SRVs from Control Room (Non-Fire Unit)

Inboard MSIVs

**Reactor Coolant Makeup**

Core Spray

RCIC (Non-Fire Unit)

**Reactor Heat Removal Process**

RHR Suppression Pool Cooling Mode

RHRSW

**Path 3<sup>1</sup>**

**Reactivity Control**

CRD (Scram Function)

Manual Scram from Control Room or by venting the instrument air header locally on Elevation 719 of the Reactor Building

**Reactor Pressure Control**

Manual ADS from Control Room or from the Lower Relay Room

Manual SRVs from LRR (Non-Fire Unit)

Outboard MSIVs

**Reactor Coolant Makeup**

Core Spray

HPCI (Non-Fire Unit)<sup>4</sup>

**Reactor Heat Removal Process**

RHR Suppression Pool Cooling Mode

RHRSW

**Notes:**

- ☐ 1. These Paths are not completely divisionalized.
- ☐ 2. This note has been deleted.
- ☐ 3. Loop No. 5 installed between Turbine Building and Unit 1 Control Room may be used for safe shutdown for both units.
- ☐ 4. HPCI is credited for high pressure make-up along with ADS and Core Spray in Fire Areas D-1 and D-3.
- ☐ 5. Diesel Generator E can be substituted for Diesel Generator A, B, C or D

**TABLE 1-2**  
**APPENDIX R SAFE SHUTDOWN PATHS**

**Path 1<sup>1</sup>**

Monitoring

Suppression Pool Monitoring

Nuclear Boiler Instrumentation

Control Room Indication

Associated Support Functions

RHR Room Coolers

RCIC Room Coolers (Non-Fire Unit)

Passive Keepfill System

- Tank 1T274 for Unit 1
- Tank 2T274 for Unit 2

Common Required Components

ESW

ESSW Pumphouse HVAC

D.G. HVAC & Aux. Systems

**Path 3<sup>1</sup>**

Monitoring

Suppression Pool Monitoring

Nuclear Boiler Instrumentation

Control Room Indication

Associated Support Function

RHR Room Coolers

HPCI Room Coolers (Non-Fire Unit)

Passive Keepfill System

- Tank 1T274 for Unit 1
- Tank 2T274 for Unit 2

Common Required Components

ESW

ESSW Pumphouse HVAC

D.G. HVAC & Aux. Systems

Notes:

- ☐ 1. These Paths are not completely divisionalized.
- ☐ 2. This note has been deleted.
- ☐ 3. Loop No. 5 installed between Turbine Building and Unit 1 Control Room may be used for safe shutdown for both units.
- ☐ 4. HPCI is credited for high pressure make-up along with ADS and Core Spray in Fire Areas D-1 and D-3.
- ☐ 5. Diesel Generator E can be substituted for Diesel Generator A, B, C or D

**TABLE 1-2**  
**APPENDIX R SAFE SHUTDOWN PATHS**

Electrical

EDGs A&C or Offsite Power  
 (T-10)<sup>5</sup>

Respective Distribution Equipment

App. R Comm. System (Unit 1)

Communication Loop No. 1  
 Communication Loop No. 5<sup>3</sup>  
 Communication Loop No. 6

App. R Comm. System (Unit 2)

Communication Loop No. 1  
 Communication Loop No. 4  
 Communication Loop No. 5<sup>3</sup>  
 Communication Loop No. 6

Electrical

EDGs B&D or Offsite Power (T-20)<sup>5</sup>

Respective Distribution Equipment

App. R Comm. System (Unit 1)

Communication Loop No. 3  
 Communication Loop No. 4  
 Communication Loop No. 5<sup>3</sup>  
 Communication Loop No. 7

App. R Comm. System (Unit 2)

Communication Loop No. 3  
 Communication Loop No. 5<sup>3</sup>  
 Communication Loop No. 7

Notes:

- ☐ 1. These Paths are not completely divisionalized.
- ☐ 2. This note has been deleted.
- ☐ 3. Loop No. 5 installed between Turbine Building and Unit 1 Control Room may be used for safe shutdown for both units.
- ☐ 4. HPCI is credited for high pressure make-up along with ADS and Core Spray in Fire Areas D-1 and D-3.
- ☐ 5. Diesel Generator E can be substituted for Diesel Generator A, B, C or D

**TABLE 1-3a**

**SHUTDOWN PATHS AND METHODOLOGY BY FIRE LOCATION**  
**FIRE OUTSIDE CONTROL ROOM (EXCEPT FIRE ZONES 1-5B AND 2-5B)**

Unit 1 (Fire Unit)

Path 1 [Use RHR Pump 1A]

Path 3 [Use RHR Pump 1D]

Unit 1 (Non-Fire Unit)

Path 1 [Use RHR Pump 1A]  
RCIC [Is also protected – see note 3]  
No Spurious SRV or ADS  
Path 1

Path 3 [Use RHR Pump 1D]  
HPCI [Is also protected – see note 3]  
No Spurious SRV or ADS  
Path 3

Unit 2 (Non-Fire Unit)

Path1 [Use RHR pump 2C]  
RCIC [Is also protected – see note 3]  
No Spurious SRV or ADS  
Path 1

Path 3 [Use RHR Pump RHR 2B]  
HPCI [Is also protected – see note 3]  
No Spurious SRV or ADS  
Path 3

Unit 2 (Fire Unit)

Path 1 [Use RHR pump 2C]

Path 3 [Use RHR Pump RHR 2B]

---

**NOTES:**

- ☐ 1. Table 1-1 lists the required safe shutdown path (Path 1 or 3) and which unit is to be shutdown first for all fire zones.
- ☐ 2. High pressure make-up along with ADS and Core Spray is available for both units when the "Clarifying Notes" column of Table 1-1 states either unit may be shutdown first.
- ☐ 3. Based on changes made for the Extended Power Uprate Project to add ESW Cooling for the RHR C and D Pump Motor Oil Coolers, both units could be safely shutdown using ADS and CS using path 1 or 3 as described above. During the implementation of the RHR Pump motor oil cooling changes made as part of the Extended Power Uprate Project, however, a conscious decision was made to maintain the availability of HPCI or RCIC for the non fire unit. Use of HPCI or RCIC during fire conditions, could minimize the transient on the affected unit. If HPCI or RCIC, however, is not available, use path 1 or 3, as appropriate.

**TABLE 1-3b**  
**SHUTDOWN PATHS AND METHODOLOGY BY FIRE LOCATION**  
**FIRE ZONES 1-5B AND 2-5B**

**FIRE ZONE 1-5B**

**UNIT 1**

Path 1 With Following  
 Changes:

- A. CS Not Available For Vessel Makeup
- B. Spurious SRV Or ADS Must Be Prevented
- C. RCIC And Division I RHR SPC Used Until Division I RHR SDC Can Be Entered (Reactor Pressure <98 Psig) To Achieve Cold Shutdown (Note 1)

**FIRE ZONE 2-5B**

**UNIT 2**

Path 1 With Following  
 Changes:

- A. CS Not Available For Vessel Makeup
- B. Spurious SRV Or ADS Must Be Prevented
- C. RCIC And Division I RHR SPC Used Until Division I RHR SDC Can Be Entered (Reactor Pressure <98 Psig) To Achieve Cold Shutdown (Note 1)

**UNIT 2**

Path 3

**UNIT 1**

Path 3

---

**NOTES:**

- ☐ 1. As an alternative to the use of RCIC, RHR (LPCI) may be used in the alternative shutdown cooling mode. ADS/SRV's must be available for depressurization and vessel flow to the suppression pool. The main steam line drain valves must be capable of being closed.
- ☐ 2. Both units could be safely shutdown using Path 1. The fire unit could use Path 1 components with the modifications as described above. The non-fire unit could use the traditional Path 1 safe shutdown methodology for the fire unit (ADS/Core Spray) with or without the availability of RCIC typically used for non fire unit. During the implementation of the RHR Pump motor oil cooling changes made as a part of the Extended Power Uprate Project, however, a conscious decision was made to maintain the availability of Path 3 for the non fire unit.

## FIRE BRIGADE NORMAL RESPONSE

### Activity Hard Card

PERFORM THE FOLLOWING **CONCURRENTLY AND EXPEDITIOUSLY** UPON CONFIRMATION OF ACTUAL FIRE

- ☐ Record Date and Time of fire notification.
- ☐ Dispatch Fire Brigade Leader to area of reported fire.
- ☐ Sound Fire Alarm for ~ 10 seconds. Make plant page announcement.  
Example:

“ATTENTION ALL PERSONNEL: THERE IS A FIRE IN  
(UNIT/BUILDING/ELEVATION/AREA AND ROOM/AREA NAME IF  
APPROPRIATE). STATION FIRE BRIGADE HAS BEEN ACTIVATED;  
STAY CLEAR OF AFFECTED AREAS.”

REPEAT ANNOUNCEMENT.

- ☐ Fire Brigade Leader reports location of Command Post:

- ☐ Fire Brigade Shed #1 – Unit 1 Turbine Building 729'
- ☐ Fire Brigade Shed #2 – Unit 2 Tool Room 676'
- ☐ Fire Brigade Garage
- ☐ Mobile Fire Pumper 0P911'

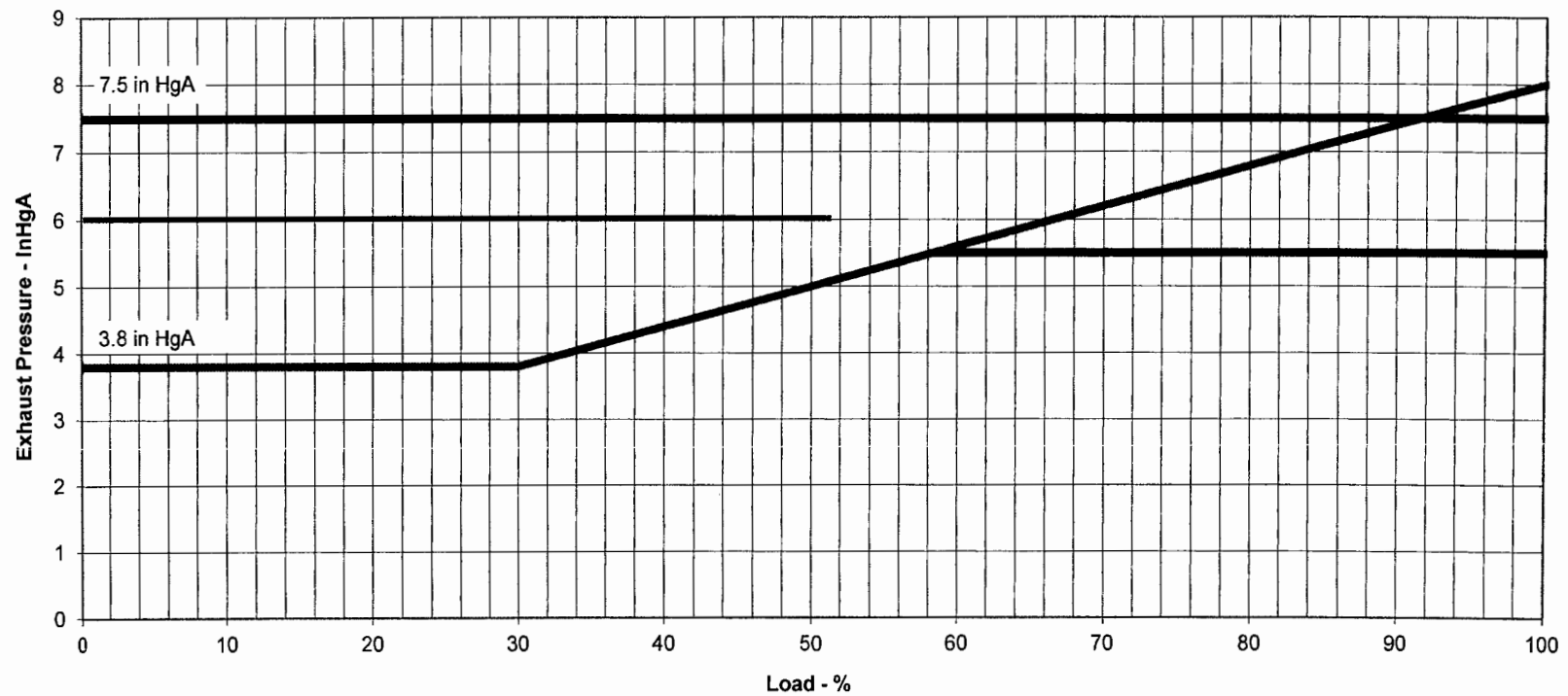
Channel \_\_\_\_\_ Command Post location \_\_\_\_\_



<b>NOTE:</b> Effluents Fire Brigade members will normally be selected to the “Facilities” Radio Channel and will transfer to “OPS1” Radio Channel upon the sounding of the Fire Alarm and pager activation.
---

- ☐ Activate the Fire Brigade pagers using the central desk phoneset by pressing blue button and lifting the handset for at least 30 seconds.
- ☐ **IF** the Fire Brigade does not respond when activated via the plant page or pagers, **Activate** the Fire Brigade by contacting them using OPS 1 radio channel.
- ☐ Fire Brigade Leader report the following to the Fire Brigade members:
  1. Location of fire
  2. Location of Command Post
  3. **IF** Fire Pumper 0P911 is being used as the Command Post, location of pumper
  4. Radio Channel (N/A if already on channel 1)
- ☐ Direct a Fire Brigade Member to take Pre-Fire plan for the applicable building to the Command Post.
- ☐ Inform Security (X3114 or X3115) of fire and OPS radio channel being used.

# SSS Turbine Exhaust Pressure Alarm and Trip Level



NOTE (1): Any changes made to this attachment must also be made to OP-193-001, Attachment H.



NOTE (2):

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NOTE (3):

### 3.4 REACTOR COOLANT SYSTEM (RCS)

#### 3.4.3 Safety/Relief Valves (S/RVs)

LCO 3.4.3

APPLICABILITY:

#### ACTIONS

CONDITION		REQUIRED ACTION	COMPLETION TIME
A.1	One or more required S/RVs inoperable.	A.1 Be in MODE 3.	12 hours
		<u>AND</u>	
		A.2 Be in MODE 4.	36 hours



### 3.5 EMERGENCY CORE COOLING SYSTEMS (ECCS) AND REACTOR CORE ISOLATION COOLING (RCIC) SYSTEM

#### 3.5.1 ECCS—Operating

#### LCO 3.5.1

#### APPLICABILITY:

#### ACTIONS

#### -----NOTE-----

LCO 3.0.4.b is not applicable to HPCI.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One low pressure ECCS injection/spray subsystem inoperable for reasons other than Condition B.	A.1 Restore low pressure ECCS injection/spray subsystem to OPERABLE status.	7 days
B. One LPCI pump in one or both LPCI subsystems inoperable.	B.1 Restore LPCI pump(s) to OPERABLE status.	7 days
C. Required Action and associated Completion Time of Condition A or Condition B not met.	C.1 Be in MODE 3.	12 hours
	<u>AND</u> C.2 Be in MODE 4.	36 hours

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. HPCI System inoperable.	D.1 Verify by administrative means RCIC System is OPERABLE.	Immediately
	<u>AND</u>	
	D.2 Restore HPCI System to OPERABLE status.	14 days
E. HPCI System inoperable.	E.1 Restore HPCI System to OPERABLE status.	72 hours
<u>AND</u>	<u>OR</u>	
Condition A or Condition B entered.	E.2 Restore low pressure ECCS injection/spray subsystem to OPERABLE status.	72 hours
F. One ADS valve inoperable.	F.1 Restore ADS valve to OPERABLE status.	14 days
G. One ADS valve inoperable.	G.1 Restore ADS valve to OPERABLE status.	72 hours
<u>AND</u>	<u>OR</u>	
Condition A or Condition B entered.	G.2 Restore low pressure ECCS injection/spray subsystem to OPERABLE status.	72 hours

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>H. Two or more ADS valves inoperable.</p> <p><u>OR</u></p> <p>Required Action and associated Completion Time of Condition D, E, F, or G not met.</p>	<p>H.1 Be in MODE 3.</p> <p><u>AND</u></p> <p>H.2 Reduce reactor steam dome pressure to <math>\leq 150</math> psig.</p>	<p>12 hours</p> <p>36 hours</p>
<p>I. Two Core Spray subsystems inoperable.</p> <p><u>OR</u></p> <p>One LPCI subsystem inoperable for reasons other than Condition B and One Core Spray subsystem inoperable.</p> <p><u>OR</u></p> <p>Two LPCI subsystems inoperable for reasons other than Condition B.</p> <p><u>OR</u></p> <p>HPCI System and one or more ADS valves inoperable.</p>	<p>I.1 Enter LCO 3.0.3.</p>	<p>Immediately</p>

### 3.7 PLANT SYSTEMS

#### 3.7.1 Residual Heat Removal Service Water (RHRSW) System and the Ultimate Heat Sink (UHS)

LCO 3.7.1 Two RHRSW subsystems and the UHS shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

#### ACTIONS

-----NOTE-----  
Enter applicable Conditions and Required Actions of LCO 3.4.8, "Residual Heat Removal (RHR) Shutdown Cooling System-Hot Shutdown," for RHR shutdown cooling made inoperable by RHRSW System.  
-----

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>A. -----NOTE----- Separate Condition entry is allowed for each valve. -----</p> <p>One valve in Table 3.7.1-1 inoperable.</p> <p><u>OR</u></p> <p>One valve in Table 3.7.1-2 inoperable.</p> <p><u>OR</u></p> <p>One valve in Table 3.7.1-3 inoperable.</p> <p><u>OR</u></p> <p>Any combination of valves in Table 3.7.1-1, Table 3.7.1-2, or Table 3.7.1-3 in the same return loop inoperable.</p>	A.1 Declare the associated RHRSW subsystems inoperable	Immediately
	<u>AND</u>	
	A.2 Establish an open flow path to the UHS.	8 hours
	<u>AND</u>	
	A.3 Restore the inoperable valve(s) to OPERABLE status.	8 hours from the discovery of an inoperable RHRSW subsystem in the opposite loop from the inoperable valve(s)
		<u>AND</u>
		72 hours

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. One Unit 1 RHRSW subsystem inoperable.	B.1 Restore the Unit 1 RHRSW subsystem to OPERABLE status.	72 hours from discovery of the associated Unit 2 RHRSW subsystem inoperable  <u>AND</u>  7 days
C. Both Unit 1 RHRSW subsystems inoperable.	C.1 Restore one Unit 1 RHRSW subsystem to OPERABLE status.	8 hours from discovery of one Unit 2 RHRSW subsystem not capable of supporting associated Unit 1 RHRSW subsystem  <u>AND</u>  72 hours
D. Required Action and associated Completion Time not met.  <u>OR</u>  UHS inoperable	D.1 Be in MODE 3.  <u>AND</u>  D.2 Be in MODE 4.	12 hours    36 hours



ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. One Unit 1 RHRSW subsystem inoperable.	B.1 Restore the Unit 1 RHRSW subsystem to OPERABLE status.	72 hours from discovery of the associated Unit 2 RHRSW subsystem inoperable  <u>AND</u>  7 days
C. Both Unit 1 RHRSW subsystems inoperable.	C.1 Restore one Unit 1 RHRSW subsystem to OPERABLE status.	8 hours from discovery of one Unit 2 RHRSW subsystem not capable of supporting associated Unit 1 RHRSW subsystem  <u>AND</u>  72 hours
D. Required Action and associated Completion Time not met.  <u>OR</u>  UHS inoperable	D.1 Be in MODE 3.  <u>AND</u>  D.2 Be in MODE 4.	12 hours    36 hours

TABLE B 3.8.1-1 (page 1 of 2)  
UNIT 1 AND UNIT 2 LOAD TIMERS

DEVICE TAG NO.	SYSTEM LOADING TIMER	LOCATION	NOMINAL SETTING (seconds)	ALLOWABLE VALUE (seconds)
62A-20102	RHR Pump 1A	1A201	3	$\geq 2.7$ and $\leq 3.6$
62A-20202	RHR Pump 1B	1A202	3	$\geq 2.7$ and $\leq 3.6$
62A-20302	RHR Pump 1C	1A203	3	$\geq 2.7$ and $\leq 3.6$
62A-20402	RHR Pump 1D	1A204	3	$\geq 2.7$ and $\leq 3.6$
62A-20102	RHR Pump 2A	2A201	3	$\geq 2.7$ and $\leq 3.6$
62A-20202	RHR Pump 2B	2A202	3	$\geq 2.7$ and $\leq 3.6$
62A-20302	RHR Pump 2C	2A203	3	$\geq 2.7$ and $\leq 3.6$
62A-20402	RHR Pump 2D	2A204	3	$\geq 2.7$ and $\leq 3.6$
E11A-K202B	RHR Pump 1C (Offsite Power Timer)	1C618	7.0	$\geq 6.5$ and $\leq 7.5$
E11A-K120A	RHR Pump 1C (Offsite Power Timer)	1C617	7.0	$\geq 6.5$ and $\leq 7.5$
E11A-K120B	RHR Pump 1D (Offsite Power Timer)	1C618	7.0	$\geq 6.5$ and $\leq 7.5$
E11A-K202A	RHR Pump 1D (Offsite Power Timer)	1C617	7.0	$\geq 6.5$ and $\leq 7.5$
E11A-K120A	RHR Pump 2C (Offsite Power Timer)	2C617	7.0	$\geq 6.5$ and $\leq 7.5$
E11A-K202B	RHR Pump 2C (Offsite Power Timer)	2C618	7.0	$\geq 6.5$ and $\leq 7.5$
E11A-K120B	RHR Pump 2D (Offsite Power Timer)	2C618	7.0	$\geq 6.5$ and $\leq 7.5$
E11A-K202A	RHR Pump 2D (Offsite Power Timer)	2C617	7.0	$\geq 6.5$ and $\leq 7.5$
E21A-K116A	CS Pump 1A	1C626	10.5	$\geq 9.4$ and $\leq 11.6$
E21A-K116B	CS Pump 1B	1C627	10.5	$\geq 9.4$ and $\leq 11.6$
E21A-K125A	CS Pump 1C	1C626	10.5	$\geq 9.4$ and $\leq 11.6$
E21A-K125B	CS Pump 1D	1C627	10.5	$\geq 9.4$ and $\leq 11.6$
E21A-K116A	CS Pump 2A	2C626	10.5	$\geq 9.4$ and $\leq 11.6$
E21A-K116B	CS Pump 2B	2C627	10.5	$\geq 9.4$ and $\leq 11.6$
E21A-K125A	CS Pump 2C	2C626	10.5	$\geq 9.4$ and $\leq 11.6$
E21A-K125B	CS Pump 2D	2C627	10.5	$\geq 9.4$ and $\leq 11.6$
E21A-K16A	CS Pump 1A (Offsite Power Timer)	1C626	15	$\geq 14.0$ and $\leq 16.0$
E21A-K16B	CS Pump 1B (Offsite Power Timer)	1C627	15	$\geq 14.0$ and $\leq 16.0$
E21A-K25A	CS Pump 1C (Offsite Power Timer)	1C626	15	$\geq 14.0$ and $\leq 16.0$
E21A-K25B	CS Pump 1D (Offsite Power Timer)	1C627	15	$\geq 14.0$ and $\leq 16.0$
E21A-K16A	CS Pump 2A (Offsite Power Timer)	2C626	15	$\geq 14.0$ and $\leq 16.0$
E21A-K16B	CS Pump 2B (Offsite Power Timer)	2C627	15	$\geq 14.0$ and $\leq 16.0$
E21A-K25A	CS Pump 2C (Offsite Power Timer)	2C626	15	$\geq 14.0$ and $\leq 16.0$
E21A-K25B	CS Pump 2D (Offsite Power Timer)	2C627	15	$\geq 14.0$ and $\leq 16.0$
62AX2-20108	Emergency Service Water	1A201	40	$\geq 36$ and $\leq 44$
62AX2-20208	Emergency Service Water	1A202	40	$\geq 36$ and $\leq 44$
62AX2-20303	Emergency Service Water	1A203	44	$\geq 39.6$ and $\leq 48.4$
62AX2-20403	Emergency Service Water	1A204	48	$\geq 43.2$ and $\leq 52.8$
62X3-20404	Control Structure Chilled Water System	OC877B	60	$\geq 54$
62X3-20304	Control Structure Chilled Water System	OC877A	60	$\geq 54$
62X-20104	Emergency Switchgear Rm Cooler A & RHR SW Pump H&V Fan A	OC877A	60	$\geq 54$
62X-20204	Emergency Switchgear Rm Cooler B & RHR SW Pump H&V Fan B	OC877B	60	$\geq 54$
62X-5653A	DG Room Exhaust Fan E3	OB565	60	$\geq 54$
62X-5652A	DG Room Exhausts Fan E4	OB565	60	$\geq 54$
262X-20204	Emergency Switchgear Rm Cooler B	OC877B	120	$\geq 54$
262X-20104	Emergency Switchgear Rm Cooler A	OC877A	120	$\geq 54$

(continued)



TABLE B 3.8.1-1 (page 2 of 2)  
UNIT 1 AND UNIT 2 LOAD TIMERS

DEVICE TAG NO.	SYSTEM LOADING TIMER	LOCATION	NOMINAL SETTING (seconds)	ALLOWABLE VALUE (seconds)
62X-546	DG Rm Exh Fan D	OB546	120	≥ 54
62X-536	DG Rm Exh Fan C	OB536	120	≥ 54
62X-526	DG Rm Exh Fan B	OB526	120	≥ 54
62X-516	DG Rm Exh Fan A	OB516	120	≥ 54
CRX-5652A	DG Room Supply Fans E1 and E2	OB565	120	≥ 54
62X2-20410	Control Structure Chilled Water System	OC876B	180	≥ 54
62X1-20304	Control Structure Chilled Water System	OC877A	180	≥ 54
62X2-20310	Control Structure Chilled Water System	OC876A	180	≥ 54
62X1-20404	Control Structure Chilled Water System	OC877B	180	≥ 54
62X2-20304	Control Structure Chilled Water System	OC877A	210	≥ 54
62X2-20404	Control Structure Chilled Water System	OC877B	210	≥ 54
62X-K11BB	Emergency Switchgear Rm Cooling Compressor B	2CB250B	260	≥ 54
62X-K11AB	Emergency Switchgear Rm Cooling Compressor A	2CB250A	260	≥ 54