

GENERAL EMERGENCY	SITE AREA EMERGENCY	ALERT	UNUSUAL EVENT
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**Abnormal Rad Levels / Radiological Effluents**

<p><b>RG1</b> Release of gaseous radioactivity resulting in offsite dose greater than 1000 mRem TEDE or 5000 mRem thyroid CDE. <span style="float:right;">1 2 3 4 5 6 D</span></p> <p><b>Emergency Action Level (EAL):</b></p> <p><b>Notes:</b></p> <ul style="list-style-type: none"> <li>The Emergency Director should declare the event promptly upon determining that the applicable time has been exceeded, or will likely be exceeded.</li> <li>If an ongoing release is detected and the release start time is unknown, assume that the release duration has exceeded 15 minutes.</li> <li>Classification based on effluent monitor readings assumes that a release path to the environment is established. If the effluent flow past an effluent monitor is known to have stopped due to actions to isolate the release path, then the effluent monitor reading is no longer valid for classification purposes.</li> <li>The pre-calculated effluent monitor values presented in EAL #1 should be used for emergency classification assessments until the results from a dose assessment using actual meteorology are available.</li> </ul> <p>1. Reading on <b>ANY</b> Table R1 Effluent Monitor &gt; <b>Table R1 column GE value</b> for <math>\geq 15</math> minutes.</p> <p><b>OR</b></p> <p>2. Dose assessment using actual meteorology indicates doses at or beyond the site boundary of <b>EITHER</b>:</p> <p style="padding-left: 20px;">a. &gt; 1000 mRem TEDE</p> <p style="padding-left: 40px;"><b>OR</b></p> <p style="padding-left: 20px;">b. &gt; 5000 mRem Thyroid CDE</p> <p><b>OR</b></p> <p>3. Field survey results at or beyond the site boundary indicate <b>EITHER</b>:</p> <p style="padding-left: 20px;">a. Gamma (closed window) dose rates &gt;1000 mR/hr are expected to continue for <math>\geq 60</math> minutes.</p> <p style="padding-left: 40px;"><b>OR</b></p> <p style="padding-left: 20px;">b. Analyses of field survey samples indicate &gt; 5000 mRem Thyroid CDE for 60 minutes of inhalation.</p>	<p><b>RS1</b> Release of gaseous radioactivity resulting in offsite dose greater than 100 mRem TEDE or 500 mRem thyroid CDE. <span style="float:right;">1 2 3 4 5 6 D</span></p> <p><b>Emergency Action Level (EAL):</b></p> <p><b>Notes:</b></p> <ul style="list-style-type: none"> <li>The Emergency Director should declare the event promptly upon determining that the applicable time has been exceeded, or will likely be exceeded.</li> <li>If an ongoing release is detected and the release start time is unknown, assume that the release duration has exceeded 15 minutes.</li> <li>Classification based on effluent monitor readings assumes that a release path to the environment is established. If the effluent flow past an effluent monitor is known to have stopped due to actions to isolate the release path, then the effluent monitor reading is no longer valid for classification purposes.</li> <li>The pre-calculated effluent monitor values presented in EAL #1 should be used for emergency classification assessments until the results from a dose assessment using actual meteorology are available.</li> </ul> <p>1. Reading on <b>ANY</b> Table R1 Effluent Monitor &gt; <b>Table R1 column SAE value</b> for <math>\geq 15</math> minutes.</p> <p><b>OR</b></p> <p>2. Dose assessment using actual meteorology indicates doses at or beyond the site boundary of <b>EITHER</b>:</p> <p style="padding-left: 20px;">a. &gt; 100 mRem TEDE</p> <p style="padding-left: 40px;"><b>OR</b></p> <p style="padding-left: 20px;">b. &gt; 500 mRem Thyroid CDE</p> <p><b>OR</b></p> <p>3. Field survey results at or beyond the site boundary indicate <b>EITHER</b>:</p> <p style="padding-left: 20px;">a. Gamma (closed window) dose rates &gt;100 mR/hr are expected to continue for <math>\geq 60</math> minutes.</p> <p style="padding-left: 40px;"><b>OR</b></p> <p style="padding-left: 20px;">b. Analyses of field survey samples indicate &gt; 500 mRem Thyroid CDE for 60 minutes of inhalation.</p>	<p><b>RA1</b> Release of gaseous or liquid radioactivity resulting in offsite dose greater than 10 mRem TEDE or 50 mRem thyroid CDE. <span style="float:right;">1 2 3 4 5 6 D</span></p> <p><b>Emergency Action Level (EAL):</b></p> <p><b>Notes:</b></p> <ul style="list-style-type: none"> <li>The Emergency Director should declare the event promptly upon determining that the applicable time has been exceeded, or will likely be exceeded.</li> <li>If an ongoing release is detected and the release start time is unknown, assume that the release duration has exceeded 15 minutes.</li> <li>Classification based on effluent monitor readings assumes that a release path to the environment is established. If the effluent flow past an effluent monitor is known to have stopped due to actions to isolate the release path, then the effluent monitor reading is no longer valid for classification purposes.</li> <li>The pre-calculated effluent monitor values presented in EAL #1 should be used for emergency classification assessments until the results from a dose assessment using actual meteorology are available.</li> </ul> <p>1. Reading on <b>ANY</b> Table R1 Effluent Monitor &gt; <b>Table R1 column Alert value</b> for <math>\geq 15</math> minutes.</p> <p><b>OR</b></p> <p>2. Dose assessment using actual meteorology indicates doses at or beyond the site boundary of <b>EITHER</b>:</p> <p style="padding-left: 20px;">a. &gt; 10 mRem TEDE</p> <p style="padding-left: 40px;"><b>OR</b></p> <p style="padding-left: 20px;">b. &gt; 50 mRem Thyroid CDE</p> <p><b>OR</b></p> <p>3. Analysis of a liquid effluent sample indicates a concentration or release rate that would result in doses greater than <b>EITHER</b> of the following at or beyond the site boundary</p> <p style="padding-left: 20px;">a. 10 mRem TEDE for 60 minutes of exposure</p> <p style="padding-left: 40px;"><b>OR</b></p> <p style="padding-left: 20px;">b. 50 mRem Thyroid CDE for 60 minutes of exposure</p> <p><b>OR</b></p> <p>4. Field survey results at or beyond the site boundary indicate <b>EITHER</b>:</p> <p style="padding-left: 20px;">a. Gamma (closed window) dose rates &gt; 10 mR/hr are expected to continue for <math>\geq 60</math> minutes.</p> <p style="padding-left: 40px;"><b>OR</b></p> <p style="padding-left: 20px;">b. Analyses of field survey samples indicate &gt; 50 mRem Thyroid CDE for 60 minutes of inhalation.</p>	<p><b>RU1</b> Release of gaseous or liquid radioactivity greater than 2 times the ODCM limits for 60 minutes or longer. <span style="float:right;">1 2 3 4 5 6 D</span></p> <p><b>Emergency Action Level (EAL):</b></p> <p><b>Notes:</b></p> <ul style="list-style-type: none"> <li>The Emergency Director should declare the event promptly upon determining that the applicable time has been exceeded, or will likely be exceeded.</li> <li>If an ongoing release is detected and the release start time is unknown, assume that the release duration has exceeded 60 minutes.</li> <li>Classification based on effluent monitor readings assumes that a release path to the environment is established. If the effluent flow past an effluent monitor is known to have stopped due to actions to isolate the release path, then the effluent monitor reading is no longer valid for classification purposes.</li> </ul> <p>1. Reading on <b>ANY</b> of the following effluent monitors &gt; <b>2x the alarm set point</b> established by a current radioactive release discharge permit for <math>\geq 60</math> minutes.</p> <ul style="list-style-type: none"> <li>• Liquid Radwaste Effluent Monitor (R-18) with no isolation.</li> <li>• Discharge Permit specified monitor</li> </ul> <p><b>OR</b></p> <p>2. Reading on <b>ANY</b> Table R1 effluent monitors &gt; <b>Table R1 column UE value</b> for <math>\geq 60</math> minutes.</p> <p><b>OR</b></p> <p>3. Confirmed sample analyses for gaseous or liquid releases indicate concentrations or release rates &gt; 2 x ODCM Limit with a release duration of <math>\geq 60</math> minutes.</p>
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Radiological Effluents

Mode: 1 – Power Operations 2 – Startup 3 – Hot Standby 4 – Hot Shutdown 5 – Cold Shutdown 6 – Refueling D – Defueled

Table R1 Effluent Monitor Thresholds						
Monitor	General Emergency (GE)	Site Area Emergency (SAE)	Alert	Monitor	Unusual Event (UE)	
CNMT Vent Noble Gas High Range (R-12A)	2.56 E +01 $\mu$ Ci/cc	2.56 E +00 $\mu$ Ci/cc	2.56 E -01 $\mu$ Ci/cc	CNMT Vent Noble Gas High Range (R-12A)	N/A	
Plant Vent Noble Gas High Range (R-14A)	1.41 E +02 $\mu$ Ci/cc	1.41 E +01 $\mu$ Ci/cc	1.41 E +00 $\mu$ Ci/cc	Plant Vent Noble Gas High Range (R-14A)	3.63 E -01 $\mu$ Ci/cc	
Air Ejector Noble Gas High Range (R-48)	2.17 E +03 $\mu$ Ci/cc	2.17 E +02 $\mu$ Ci/cc	2.17 E +01 $\mu$ Ci/cc	Air Ejector and Gland Steam Exhaust Monitor (R-15)	2.29 E +06 cpm	

**GENERAL EMERGENCY      SITE AREA EMERGENCY      ALERT      UNUSUAL EVENT**

**Abnormal Rad Levels / Radiological Effluents**

**RG2** Spent fuel pool level cannot be 123456D restored to at least 251.67 ft. for 60 minutes or longer.  
**Emergency Action Level (EAL):**  
**Note:** The Emergency Director should declare the General Emergency promptly upon determining that the applicable time has been exceeded, or will likely be exceeded.  
  
Spent fuel pool level cannot be restored to at least **251.67 ft.** as indicated on **EITHER** LI-310 or LI-311 for **≥ 60 minutes.**

Radiological Effluents

Table R2 Fuel Handling Radiation Monitors
<ul style="list-style-type: none"> <li>R-2 Containment (Mode 6 and D)</li> <li>R-5 Spent Fuel Pool (All Modes)</li> </ul>

**RS2** Spent fuel pool level at 123456D 251.67 ft.  
**Emergency Action Level (EAL):**  
Lowering of spent fuel pool level to **251.67 ft.** as indicated on **EITHER** LI-310 or LI-311.

Table R3 Areas Requiring Continuous Occupancy	
<ul style="list-style-type: none"> <li>Main Control Room – R-1</li> <li>Central Alarm Station – (by survey)</li> </ul>	

  

Table R4 Areas with Entry-Related Mode Applicability	
Area	Entry-Related Mode Applicability
Auxiliary Building Top Floor	Mode 3, 4, and 5
Auxiliary Building Middle Level	
Auxiliary Building Basement	

**RA2** Significant lowering of water 123456D level above, or damage to, irradiated fuel.  
**Emergency Action Level (EAL):**

- Uncovery of irradiated fuel in the REFUELING PATHWAY.  
**OR**
- Damage to irradiated fuel resulting in a release of radioactivity from the fuel as indicated by **ANY** Table R2 Radiation Monitor Alarm.  
**OR**
- Lowering of spent fuel pool level to **257.25 ft.** as indicated on **EITHER** LI-310 or LI-311.

**RA3** Radiation levels that impede 123456D access to equipment necessary for normal plant operations, cooldown or shutdown.  
**Emergency Action Levels (EAL):**  
**Note:** If the equipment in the rooms or areas listed in Table R4 was already inoperable, or out of service, before the event occurred, then no emergency classification is warranted.

- Dose rate > **15 mR/hr** in **ANY** of the areas contained in Table R3.  
**OR**
- UNPLANNED event results in radiation levels that prevent or significantly impede access to **ANY** of the plant rooms or areas contained in Table R4 .

**RU2** UNPLANNED loss of water 123456D level above irradiated fuel.  
**Emergency Action Level (EAL):**

- UNPLANNED water level drop in the REFUELING PATHWAY as indicated by **ANY** of the following:
    - Refueling Cavity water level < **23 ft** above the Reactor Flange  
**OR**
    - Spent Fuel Pool water level < **23 ft.** (Equivalent to < **274.50 feet** on **EITHER** LI-310 or LI-311) above the fuel  
**OR**
    - Indication or report of a drop in water level in the REFUELING PATHWAY.

**AND**

- UNPLANNED Area Radiation Monitor reading rise on **ANY** radiation monitors in Table R2.

**RU3** Reactor coolant activity greater than 1234 Technical Specification allowable limits.  
**Emergency Action Levels (EAL):**

- Letdown Monitor (R-9) reading ≥ **4.8 R/hr**  
**OR**
- RCS specific activity > **60.0 µCi/gm** Dose Equivalent I-131  
**OR**
- RCS specific activity > **650 µCi/gm** Dose Equivalent Xe-133

Mode:      1 – Power Operations      2 – Startup      3 – Hot Standby      4 – Hot Shutdown      5 – Cold Shutdown      6 – Refueling      D - Defueled

**Fission Product Barrier Matrix** **Hot Matrix**

GENERAL EMERGENCY	SITE AREA EMERGENCY	ALERT
<b>FG1</b> Loss of any two barriers AND Loss or Potential Loss of the third barrier. <span style="float: right;">1 2 3 4</span>	<b>FS1</b> Loss or Potential Loss of ANY two barriers. <span style="float: right;">1 2 3 4</span>	<b>FA1</b> ANY Loss or ANY Potential Loss of either Fuel Clad or RCS barrier. <span style="float: right;">1 2 3 4</span>

Sub-Category	FC – Fuel Clad		RC – Reactor Coolant System		CT - Containment	
	Loss	Potential Loss	Loss	Potential Loss	Loss	Potential Loss
1. RCS or SG Tube Leakage	None	<b>Orange Path</b> conditions exist, F-0.2 Core Cooling	1. Automatic or manual SI actuation is required by <b>EITHER</b> of the following: a. UNISOLABLE RCS leakage <b>OR</b> b. Steam Generator tube RUPTURE.	2. RCS leak rate $\geq 50$ gpm with letdown isolated. <b>OR</b> 3. <b>Red path</b> conditions exist, F-0.4 Integrity	A leaking or RUPTURED SG $\geq 50$ gpm is FAULTED outside of containment.	None
2. Inadequate Heat Removal	1. <b>Red Path</b> conditions exist, F-0.2 Core Cooling	2. <b>Orange Path</b> conditions exist., F-0.2 Core Cooling <b>OR</b> 3. <b>Red Path</b> conditions exist, F-0.3 Heat Sink	None	<b>Red Path</b> conditions exist, F-0.3 Heat Sink	None	<b>Red Path</b> conditions exist, F-0.2 Core Cooling <b>AND</b> Functional Restoration procedures <u>not</u> effective in <b>&lt; 15 minutes</b>
3. Containment Radiation / RCS Activity	1. Containment radiation monitor R-29/ R-30 reading <b>&gt; 700 R/hr</b> <b>OR</b> 2. Letdown Monitor reading (R-9) $\geq 24$ R/hr with letdown in service <b>OR</b> 3. Coolant activity as sampled <b>&gt; 300<math>\mu</math>Ci/gm</b> Dose Equivalent I-131.	None	Containment radiation monitor R-29/R-30 reading <b>&gt; 10 R/hr</b>	None	None	Containment radiation monitor R-29/R-30 reading <b>&gt; 7000 R/hr</b>
4. Containment Integrity or Bypass	None	None	None	None	1. Containment isolation is required <b>AND EITHER</b> of the following: a. UNPLANNED lowering in containment pressure or rise in radiation monitor readings outside of containment that in the Emergency Director's judgment indicate a loss of containment integrity. <b>OR</b> b. UNISOLABLE pathway from containment to the environment exists. <b>OR</b> 2. Indication of RCS leakage outside of containment	3. <b>Red path</b> conditions exist, F-0.5 Containment. <b>OR</b> 4. Hydrogen Concentration in Containment $\geq 4\%$ . <b>OR</b> 5. a. Containment pressure $\geq 28$ psig <b>AND</b> b. <b>EITHER</b> of the following conditions for $\geq 15$ minutes: • < 2 CRFC units operating • < 1 CS pump operating
5. Emergency Director Judgment	1. <b>ANY</b> Condition in the opinion of the Emergency Director that indicates Loss of the Fuel Clad Barrier.	2. <b>ANY</b> Condition in the opinion of the Emergency Director that indicates Potential Loss of the Fuel Clad Barrier.	1. <b>ANY</b> Condition in the opinion of the Emergency Director that indicates Loss of the RCS Barrier.	2. <b>ANY</b> Condition in the opinion of the Emergency Director that indicates Potential Loss of the RCS Barrier.	1. <b>ANY</b> Condition in the opinion of the Emergency Director that indicates Loss of the Containment Barrier.	2. <b>ANY</b> Condition in the opinion of the Emergency Director that indicates Potential Loss of the Containment Barrier.

GENERAL EMERGENCY		SITE AREA EMERGENCY		ALERT		UNUSUAL EVENT	
<b>System Malfunction</b>							
Loss of AC Power	<p><b>MG1</b> Prolonged loss of all offsite <span style="border: 1px solid black; padding: 0 2px;">1</span><span style="border: 1px solid black; padding: 0 2px;">2</span><span style="border: 1px solid black; padding: 0 2px;">3</span><span style="border: 1px solid black; padding: 0 2px;">4</span> and all onsite AC power to emergency buses.</p> <p><b>Emergency Action Level (EAL):</b></p> <p><b>Note:</b> The Emergency Director should declare the event promptly upon determining that the applicable time has been exceeded, or will likely be exceeded.</p> <p>1. Loss of <b>ALL</b> offsite and <b>ALL</b> onsite AC power to 480V safeguards buses 14 and 16.</p> <p><b>AND</b></p> <p>2. <b>EITHER</b> of the following:</p> <p style="margin-left: 20px;">a. Restoration of 480V safeguards bus 14 or 16 in <b>&lt; 4 hours</b> is <b>not</b> likely.</p> <p style="margin-left: 20px;"><b>OR</b></p> <p style="margin-left: 20px;">b. <b>Red Path</b> conditions exist, F-0.2 Core Cooling.</p>	<p><b>MS1</b> Loss of all offsite and all onsite <span style="border: 1px solid black; padding: 0 2px;">1</span><span style="border: 1px solid black; padding: 0 2px;">2</span><span style="border: 1px solid black; padding: 0 2px;">3</span><span style="border: 1px solid black; padding: 0 2px;">4</span> AC power to emergency buses for 15 minutes or longer.</p> <p><b>Emergency Action Level (EAL):</b></p> <p><b>Note:</b> The Emergency Director should declare the event promptly upon determining that the applicable time has been exceeded, or will likely be exceeded.</p> <p>1. Loss of <b>ALL</b> offsite and <b>ALL</b> onsite AC power to 480V safeguards buses 14 and 16.</p> <p><b>AND</b></p> <p>2. Failure to restore power to 480V safeguards bus 14 or 16 in <b>&lt; 15 minutes</b> from the time of loss of both offsite and onsite AC power.</p>	<p><b>MA1</b> Loss of all but one AC power <span style="border: 1px solid black; padding: 0 2px;">1</span><span style="border: 1px solid black; padding: 0 2px;">2</span><span style="border: 1px solid black; padding: 0 2px;">3</span><span style="border: 1px solid black; padding: 0 2px;">4</span> source to emergency buses for 15 minutes or longer.</p> <p><b>Emergency Action Level (EAL):</b></p> <p><b>Note:</b> The Emergency Director should declare the event promptly upon determining that the applicable time has been exceeded, or will likely be exceeded.</p> <p>1. AC power capability to 480V safeguards buses 14 and 16 reduced to only one of the following power sources for <b>≥ 15 minutes</b>.</p> <ul style="list-style-type: none"> <li>• Station Auxiliary Transformer 12A</li> <li>• Station Auxiliary Transformer 12B</li> <li>• Unit Auxiliary Transformer 11 backfeed</li> <li>• Emergency Diesel Generator EDG 1A</li> <li>• Emergency Diesel Generator EDG 1B</li> </ul> <p><b>AND</b></p> <p>2. <b>ANY</b> additional single power source failure will result in a loss of <b>ALL</b> AC power to SAFETY SYSTEMS powered from 480V safeguards buses 14 and 16.</p>	<p><b>MU1</b> Loss of all offsite AC power <span style="border: 1px solid black; padding: 0 2px;">1</span><span style="border: 1px solid black; padding: 0 2px;">2</span><span style="border: 1px solid black; padding: 0 2px;">3</span><span style="border: 1px solid black; padding: 0 2px;">4</span> capability to emergency buses for 15 minutes or longer.</p> <p><b>Emergency Action Level (EAL):</b></p> <p><b>Note:</b> The Emergency Director should declare the event promptly upon determining that the applicable time has been exceeded, or will likely be exceeded.</p> <p>Loss of <b>ALL</b> of the following offsite AC power capability to 480V safeguards buses 14 and 16 for <b>≥ 15 minutes</b>.</p> <ul style="list-style-type: none"> <li>• Station Auxiliary Transformer 12A</li> <li>• Station Auxiliary Transformer 12B</li> <li>• Unit Auxiliary Transformer 11 backfeed</li> </ul>			
	Loss of DC Power	<p><b>MG2</b> Loss of all AC and Vital DC <span style="border: 1px solid black; padding: 0 2px;">1</span><span style="border: 1px solid black; padding: 0 2px;">2</span><span style="border: 1px solid black; padding: 0 2px;">3</span><span style="border: 1px solid black; padding: 0 2px;">4</span> power sources for 15 minutes or longer.</p> <p><b>Emergency Action Level (EAL):</b></p> <p><b>Note:</b> The Emergency Director should declare the event promptly upon determining that the applicable time has been exceeded, or will likely be exceeded.</p> <p>1. Loss of <b>ALL</b> offsite and <b>ALL</b> onsite AC power to 480V safeguards buses 14 and 16.</p> <p><b>AND</b></p> <p>2. Voltage is <b>&lt; 110.6 VDC</b> on unit 125 VDC buses 1A and 1B.</p> <p><b>AND</b></p> <p>3. <b>ALL</b> AC and Vital DC power sources have been lost for <b>≥ 15 minutes</b>.</p>	<p><b>MS2</b> Loss of all Vital DC power for <span style="border: 1px solid black; padding: 0 2px;">1</span><span style="border: 1px solid black; padding: 0 2px;">2</span><span style="border: 1px solid black; padding: 0 2px;">3</span><span style="border: 1px solid black; padding: 0 2px;">4</span> 15 minutes or longer.</p> <p><b>Emergency Action Level (EAL):</b></p> <p><b>Note:</b> The Emergency Director should declare the event promptly upon determining that the applicable time has been exceeded, or will likely be exceeded.</p> <p>Voltage is <b>&lt; 110.6 VDC</b> on unit 125 VDC buses 1A and 1B for <b>≥ 15 minutes</b>.</p>				

Mode: 1 – Power Operations 2 – Startup 3 – Hot Standby 4 – Hot Shutdown 5 – Cold Shutdown 6 – Refueling D - Defueled

GENERAL EMERGENCY		SITE AREA EMERGENCY	ALERT	UNUSUAL EVENT				
System Malfunction	RPS Failure	<p><b>MS3</b> Inability to shutdown the reactor <span style="border: 1px solid black; padding: 0 2px;">1</span><span style="border: 1px solid black; padding: 0 2px;">2</span> causing a challenge to core cooling or RCS heat removal.</p> <p><b>Emergency Action Level (EAL):</b></p> <ol style="list-style-type: none"> <li>Automatic or Manual Trip did <b>not</b> shutdown the reactor as indicated by Reactor Power <math>\geq 5\%</math>.</li> </ol> <p><b>AND</b></p> <ol style="list-style-type: none"> <li><b>ALL</b> manual and local actions to shutdown the reactor have been unsuccessful as indicated by Reactor Power <math>\geq 5\%</math>.</li> </ol> <p><b>AND</b></p> <ol style="list-style-type: none"> <li><b>EITHER</b> of the following conditions exist:                             <ol style="list-style-type: none"> <li><b>RED Path</b> conditions exist, F-0.2 Core Cooling.</li> </ol> <p><b>OR</b></p> <ol style="list-style-type: none"> <li><b>RED Path</b> conditions exist, F-0.3 Heat Sink.</li> </ol> </li> </ol>	<p><b>MA3</b> Automatic or manual trip fails <span style="border: 1px solid black; padding: 0 2px;">1</span><span style="border: 1px solid black; padding: 0 2px;">2</span> to shutdown the reactor, and subsequent manual actions taken at the reactor control consoles are not successful in shutting down the reactor.</p> <p><b>Emergency Action Level (EAL):</b></p> <p><b>Note:</b> A manual action is any operator action, or set of actions, which causes the control rods to be rapidly inserted into the core, and does not include manually driving in control rods or implementation of boron injection strategies.</p> <ol style="list-style-type: none"> <li>Automatic or Manual Trip did <b>not</b> shutdown the reactor as indicated by Reactor Power <math>\geq 5\%</math>.</li> </ol> <p><b>AND</b></p> <ol style="list-style-type: none"> <li>Manual actions taken at the reactor control console are <b>not</b> successful in shutting down the reactor as indicated by Reactor Power <math>\geq 5\%</math>.</li> </ol>	<p><b>MU3</b> Automatic or manual trip fails <span style="border: 1px solid black; padding: 0 2px;">1</span><span style="border: 1px solid black; padding: 0 2px;">2</span> to shutdown the reactor.</p> <p><b>Emergency Action Level (EAL):</b></p> <p><b>Note:</b> A manual action is any operator action, or set of actions, which causes the control rods to be rapidly inserted into the core, and does not include manually driving in control rods or implementation of boron injection strategies.</p> <ol style="list-style-type: none"> <li> <ol style="list-style-type: none"> <li>Automatic Trip did not shutdown the reactor as indicated by Reactor Power <math>\geq 5\%</math>.</li> </ol> <p><b>AND</b></p> <ol style="list-style-type: none"> <li>Subsequent manual action taken at the reactor control console is successful in shutting down the reactor as indicated by Reactor Power <math>&lt;5\%</math>.</li> </ol> <p><b>OR</b></p> <ol style="list-style-type: none"> <li>Manual Trip did not shutdown the reactor as indicated by Reactor Power <math>\geq 5\%</math>.</li> </ol> <p><b>AND</b></p> <ol style="list-style-type: none"> <li><b>EITHER</b> of the following:                                     <ol style="list-style-type: none"> <li>Subsequent manual action taken at the reactor control console is successful in shutting down the reactor as indicated by Reactor Power <math>&lt;5\%</math>.</li> </ol> <p><b>OR</b></p> <ol style="list-style-type: none"> <li>Subsequent Automatic Trip is successful in shutting down the reactor as indicated by Reactor Power <math>&lt;5\%</math>.</li> </ol> </li> </ol> </li> </ol>				
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Mode: 1 – Power Operations 2 – Startup 3 – Hot Standby 4 – Hot Shutdown 5 – Cold Shutdown 6 – Refueling D - Defueled

GENERAL EMERGENCY		SITE AREA EMERGENCY		ALERT		UNUSUAL EVENT		
System Malfunction								
Hazard affects Safety System					<p><b>MA5</b> Hazardous event affecting a <input type="checkbox"/>1<input type="checkbox"/>2<input type="checkbox"/>3<input type="checkbox"/>4 SAFETY SYSTEM required for the current operating mode.</p> <p><b>Emergency Action Level (EAL):</b></p> <p><b>Note:</b> If it is determined that the conditions of MA5 are not met then assess the event via HU3, HU4, or HU6.</p> <p>1. The occurrence of <b>ANY</b> of the following hazardous events:</p> <ul style="list-style-type: none"> <li>• Seismic event (earthquake)</li> <li>• Internal or external flooding event</li> <li>• High winds or tornado strike</li> <li>• FIRE</li> <li>• EXPLOSION</li> <li>• Other events with similar hazard characteristics as determined by the Shift Manager</li> </ul> <p><b>AND</b></p> <p>2. <b>EITHER</b> of the following:</p> <p>a. Event damage has caused indications of degraded performance in at least one train of a SAFETY SYSTEM required by Technical Specifications for the current operating mode.</p> <p><b>OR</b></p> <p>b. The event has caused <b>VISIBLE DAMAGE</b> to a SAFETY SYSTEM component or structure required by Technical Specifications for the current operating mode.</p>			
	RCS Leak							<p><b>MU6</b> RCS leakage for 15 minutes <input type="checkbox"/>1<input type="checkbox"/>2<input type="checkbox"/>3<input type="checkbox"/>4 or longer.</p> <p><b>Emergency Action Level (EAL):</b></p> <p><b>Note:</b> The Emergency Director should declare the event promptly upon determining that the applicable time has been exceeded, or will likely be exceeded.</p> <p>1. RCS unidentified or pressure boundary leakage <b>&gt; 10 gpm</b> for <b>≥ 15 minutes</b>.</p> <p><b>OR</b></p> <p>2. RCS identified leakage <b>&gt;25 gpm</b> for <b>≥ 15 minutes</b>.</p> <p><b>OR</b></p> <p>3. Leakage from the RCS to a location outside containment <b>&gt;25 gpm</b> for <b>≥ 15 minutes</b>.</p>

Mode: 1 – Power Operations 2 – Startup 3 – Hot Standby 4 – Hot Shutdown 5 – Cold Shutdown 6 – Refueling D - Defueled

GENERAL EMERGENCY	SITE AREA EMERGENCY	ALERT	UNUSUAL EVENT
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**System Malfunction**

<b>Communications</b>			<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th colspan="4">Table M3 – Communications Capability</th> </tr> <tr> <th>System</th> <th>Onsite</th> <th>Offsite</th> <th>NRC</th> </tr> </thead> <tbody> <tr> <td>Radios/Walkie Talkies</td> <td style="text-align:center;">X</td> <td></td> <td></td> </tr> <tr> <td>Plant Page System</td> <td style="text-align:center;">X</td> <td></td> <td></td> </tr> <tr> <td>Direct Dial POTS Lines (Blue Phones) System</td> <td style="text-align:center;">X</td> <td style="text-align:center;">X</td> <td style="text-align:center;">X</td> </tr> <tr> <td>Commercial Phone System</td> <td style="text-align:center;">X</td> <td style="text-align:center;">X</td> <td style="text-align:center;">X</td> </tr> <tr> <td>FTS 2001 telephone system (ENS,HPN)</td> <td></td> <td style="text-align:center;">X</td> <td style="text-align:center;">X</td> </tr> <tr> <td>Control Room Hard Wired Satellite Phone</td> <td></td> <td style="text-align:center;">X</td> <td style="text-align:center;">X</td> </tr> <tr> <td>Control Room Emergency Cell Phone</td> <td></td> <td style="text-align:center;">X</td> <td style="text-align:center;">X</td> </tr> <tr> <td>RECS</td> <td></td> <td style="text-align:center;">X</td> <td></td> </tr> </tbody> </table>	Table M3 – Communications Capability				System	Onsite	Offsite	NRC	Radios/Walkie Talkies	X			Plant Page System	X			Direct Dial POTS Lines (Blue Phones) System	X	X	X	Commercial Phone System	X	X	X	FTS 2001 telephone system (ENS,HPN)		X	X	Control Room Hard Wired Satellite Phone		X	X	Control Room Emergency Cell Phone		X	X	RECS		X		<p><b>MU7</b> Loss of all onsite or offsite communications capabilities. <span style="float:right;">1 2 3 4</span></p> <p><b>Emergency Action Level (EAL):</b></p> <ol style="list-style-type: none"> <li>1. Loss of <b>ALL</b> Table M3 <b>Onsite</b> communications capability affecting the ability to perform routine operations.</li> </ol> <p style="text-align:center;"><b>OR</b></p> <ol style="list-style-type: none"> <li>2. Loss of <b>ALL</b> Table M3 <b>Offsite</b> communications capability affecting the ability to perform offsite notifications.</li> </ol> <p style="text-align:center;"><b>OR</b></p> <ol style="list-style-type: none"> <li>3. Loss of <b>ALL</b> Table M3 <b>NRC</b> communications capability affecting the ability to perform NRC notifications.</li> </ol>
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<b>Containment</b>				<p><b>MU8</b> Failure to isolate containment or loss of containment pressure control. <span style="float:right;">1 2 3 4</span></p> <p><b>Emergency Action Level (EAL):</b></p> <ol style="list-style-type: none"> <li>1.             <ol style="list-style-type: none"> <li>a. Failure of containment to isolate when required by an actuation signal.</li> </ol> <p style="text-align:center;"><b>AND</b></p> <ol style="list-style-type: none"> <li>b. <b>ANY</b> required penetration remains open &gt; <b>15 minutes</b> after the actuation signal.</li> </ol> </li> </ol> <p style="text-align:center;"><b>OR</b></p> <ol style="list-style-type: none"> <li>2.             <ol style="list-style-type: none"> <li>a. Containment pressure <math>\geq</math> <b>28 psig.</b></li> </ol> <p style="text-align:center;"><b>AND</b></p> <ol style="list-style-type: none"> <li>b. <b>Either</b> of the following conditions for <math>\geq</math> <b>15 minutes</b>:                 <ul style="list-style-type: none"> <li>• &lt; 2 CRFC units operating</li> <li>• &lt; 1 CS pump operating</li> </ul> </li> </ol> </li> </ol>
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Mode: 1 – Power Operations    2 – Startup    3 – Hot Standby    4 – Hot Shutdown    5 – Cold Shutdown    6 – Refueling    D - Defueled

GENERAL EMERGENCY		SITE AREA EMERGENCY		ALERT		UNUSUAL EVENT	
<b>Hazards and Other conditions Affecting Plant Safety</b>							
Hostile Action		<b>HS1</b> HOSTILE ACTION within the PROTECTED AREA <span style="float: right;">1 2 3 4 5 6 D</span>  <u>Emergency Action Level (EAL):</u> A notification from the Security Force that a HOSTILE ACTION is occurring or has occurred within the PROTECTED AREA.	<b>HA1</b> HOSTILE ACTION within the OWNER CONTROLLED AREA or airborne attack threat within 30 minutes. <span style="float: right;">1 2 3 4 5 6 D</span>  <u>Emergency Action Level (EAL):</u> 1. A validated notification from NRC of an aircraft attack threat < <b>30 minutes</b> from the site. <b>OR</b> 2. Notification by the Security Force that a HOSTILE ACTION is occurring or has occurred within the OWNER CONTROLLED AREA.	<b>HU1</b> Confirmed SECURITY CONDITION or threat. <span style="float: right;">1 2 3 4 5 6 D</span>  <u>Emergency Action Levels (EAL):</u> 1. Notification of a credible security threat directed at the site as determined per SY-AA-101-132, Security Assessment and Response to Unusual Activities. <b>OR</b> 2. A validated notification from the NRC providing information of an aircraft threat. <b>OR</b> 3. Notification by the Security Force of a SECURITY CONDITION that does <u>not</u> involve a HOSTILE ACTION.			
	<table border="1" style="width: 100%;"> <tr> <th style="text-align: center;">Table H1 – Safety Functions</th> </tr> <tr> <td> <ul style="list-style-type: none"> <li>• Reactivity Control (ability to shut down the reactor and keep it shutdown)</li> <li>• Core Cooling (ability to cool the core)</li> <li>• RCS Heat Removal (ability to maintain heat sink)</li> </ul> </td> </tr> </table>	Table H1 – Safety Functions	<ul style="list-style-type: none"> <li>• Reactivity Control (ability to shut down the reactor and keep it shutdown)</li> <li>• Core Cooling (ability to cool the core)</li> <li>• RCS Heat Removal (ability to maintain heat sink)</li> </ul>	<b>HS2</b> Inability to control a key safety function from outside the Control Room <span style="float: right;">1 2 3 4 5 6 D</span>  <u>Emergency Action Level (EAL):</u> <b>Note:</b> The Emergency Director should declare the event promptly upon determining that the applicable time has been exceeded, or will likely be exceeded. 1. A Control Room evacuation has resulted in plant control being transferred from the Control Room to alternate locations per AP-CR.1 or the ER-FIRE series. <b>AND</b> 2. Control of <b>ANY</b> Table H1 key safety function is <u>not</u> reestablished in <b>≤ 35 minutes</b> .	<b>HA2</b> Control Room evacuation resulting in transfer of plant control to alternate locations <span style="float: right;">1 2 3 4 5 6 D</span>  <u>Emergency Action Level (EAL):</u> A Control Room evacuation has resulted in plant control being transferred from the Control Room to alternate locations per AP-CR.1 or the ER-FIRE series.		
Table H1 – Safety Functions							
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Mode: 1 – Power Operations    2 – Startup    3 – Hot Standby    4 – Hot Shutdown    5 – Cold Shutdown    6 – Refueling    D - Defueled



GENERAL EMERGENCY	SITE AREA EMERGENCY	ALERT	UNUSUAL EVENT
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Hazards and Other conditions Affecting Plant Safety

<b>Fire</b>				<p><b>HU3</b> FIRE potentially degrading the level of safety of the plant. <span style="float: right;">1 2 3 4 5 6 D</span></p> <p><b>Emergency Action Level (EAL):</b></p> <p><b>Note:</b></p> <ul style="list-style-type: none"> <li>• The Emergency Director should declare the event promptly upon determining that the applicable time has been exceeded, or will likely be exceeded.</li> <li>• Potential escalation of the emergency classification level would be via IC CA2 or MA5</li> </ul> <p>1. A FIRE in <b>ANY</b> Table H2 area is <b>not</b> extinguished in <b>&lt; 15 minutes</b> of <b>ANY</b> of the following FIRE detection indications:</p> <ul style="list-style-type: none"> <li>• Report from the field (i.e., visual observation)</li> <li>• Receipt of multiple (more than 1) fire alarms or indications</li> <li>• Field verification of a single fire alarm</li> </ul> <p><b>OR</b></p> <p>2. a. Receipt of a single fire alarm in <b>ANY</b> Table H2 area (i.e., no other indications of a FIRE).</p> <p style="padding-left: 20px;"><b>AND</b></p> <p style="padding-left: 20px;">b. The existence of a FIRE is <b>not</b> verified in <b>&lt; 30 minutes</b> of alarm receipt.</p> <p><b>OR</b></p> <p>3. A FIRE within the plant PROTECTED AREA not extinguished in <b>&lt; 60 minutes</b> of the initial report, alarm or indication.</p> <p><b>OR</b></p> <p>4. A FIRE within the plant PROTECTED AREA that requires firefighting support by an offsite fire response agency to extinguish.</p>
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Table H2 – Vital Areas
<ul style="list-style-type: none"> <li>• Reactor Containment Building</li> <li>• Auxiliary Building</li> <li>• Control Building</li> <li>• Intermediate Building</li> <li>• Emergency Diesel Buildings</li> <li>• SAFW Building</li> <li>• Screenhouse</li> <li>• Cable Tunnel</li> <li>• Battery Rooms</li> </ul>

Mode: 1 – Power Operations    2 – Startup    3 – Hot Standby    4 – Hot Shutdown    5 – Cold Shutdown    6 – Refueling    D - Defueled

GENERAL EMERGENCY		SITE AREA EMERGENCY			ALERT		UNUSUAL EVENT	
Hazards and Other conditions Affecting Plant Safety								
Earthquake								<p><b>HU4</b> Seismic event greater than OBE levels <input type="checkbox"/>1<input checked="" type="checkbox"/>2<input type="checkbox"/>3<input type="checkbox"/>4<input type="checkbox"/>5<input type="checkbox"/>6<input type="checkbox"/>D</p> <p><b>Emergency Action Level (EAL):</b></p> <p><b>Note:</b> <b>Potential</b> escalation of the emergency classification level would be via IC CA2 or MA5</p> <p>For emergency classification if EAL #2 first three bullets are not able to be confirmed, then the occurrence of a seismic event is confirmed in manner deemed appropriate by the Shift Manager or Emergency Director in <b>≤ 15 mins</b> of the event.</p> <p>1. Control Room personnel feel an actual or potential seismic event.</p> <p><b>AND</b></p> <p>2. <b>ANY</b> one of the following confirmed in <b>≤ 15 mins</b> of the event:</p> <ul style="list-style-type: none"> <li>• The earthquake resulted in Modified Mercalli Intensity (MMI) <b>≥ VI</b> and occurred <b>≤ 3.5 miles</b> of the plant.</li> <li>• The earthquake was magnitude <b>≥ 6.0</b></li> <li>• The earthquake was magnitude <b>≥ 5.0</b> and occurred <b>≤ 125 miles</b> of the plant.</li> <li>• If the above bullets are not able to be confirmed, then the occurrence of a seismic event is confirmed in manner deemed appropriate by the Shift Manager or Emergency Director.</li> </ul>

Mode: 1 – Power Operations 2 – Startup 3 – Hot Standby 4 – Hot Shutdown 5 – Cold Shutdown 6 – Refueling D - Defueled

HOT MATRIX

HOT MATRIX

GENERAL EMERGENCY		SITE AREA EMERGENCY		ALERT		UNUSUAL EVENT								
Hazards and Other conditions Affecting Plant Safety														
Toxic Gas		<table border="1"> <thead> <tr> <th colspan="2">Table H3 Areas with Entry Related Mode Applicability</th> </tr> <tr> <th>Area</th> <th>Entry Related Mode Applicability</th> </tr> </thead> <tbody> <tr> <td>Auxiliary Building Top Floor</td> <td rowspan="3">Mode 3, 4 and 5</td> </tr> <tr> <td>Auxiliary Building Middle Level</td> </tr> <tr> <td>Auxiliary Building Basement</td> </tr> </tbody> </table>		Table H3 Areas with Entry Related Mode Applicability		Area	Entry Related Mode Applicability	Auxiliary Building Top Floor	Mode 3, 4 and 5	Auxiliary Building Middle Level	Auxiliary Building Basement	<p><b>HA5</b> Gaseous release impeding access to <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> equipment necessary for normal plant operations, cooldown or shutdown.</p> <p><b>Emergency Action Level (EAL):</b></p> <p><b>Note:</b> If the equipment in the listed room or area was already inoperable, or out of service before the event occurred then no emergency classification is warranted.</p> <ol style="list-style-type: none"> <li>Release of a toxic, corrosive, asphyxiant or flammable gas in <b>ANY</b> Table H3 area.</li> </ol> <p><b>AND</b></p> <ol style="list-style-type: none"> <li>Entry into the room or area is prohibited or impeded.</li> </ol>		
	Table H3 Areas with Entry Related Mode Applicability													
Area	Entry Related Mode Applicability													
Auxiliary Building Top Floor	Mode 3, 4 and 5													
Auxiliary Building Middle Level														
Auxiliary Building Basement														
Hazardous Event					<p><b>HU6</b> Hazardous Event <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p><b>Emergency Action Level (EAL):</b></p> <p><b>Note:</b> EAL #4 does not apply to routine traffic impediments such as fog, snow, ice, or vehicle breakdowns or accidents.</p> <p>Potential escalation of the emergency classification level would be via IC CA2 or MA5</p> <ol style="list-style-type: none"> <li>Tornado strike within the PROTECTED AREA.</li> </ol> <p><b>OR</b></p> <ol style="list-style-type: none"> <li>Internal room or area flooding of a magnitude sufficient to require manual or automatic electrical isolation of a SAFETY SYSTEM component required by Technical Specifications for the current operating mode.</li> </ol> <p><b>OR</b></p> <ol style="list-style-type: none"> <li>Movement of personnel within the PROTECTED AREA is impeded due to an offsite event involving hazardous materials (e.g., an offsite chemical spill or toxic gas release).</li> </ol> <p><b>OR</b></p> <ol style="list-style-type: none"> <li>A hazardous event that results in on-site conditions sufficient to prohibit the plant staff from accessing the site via personal vehicles.</li> </ol> <p><b>OR</b></p> <ol style="list-style-type: none"> <li>Lake Level <math>\geq</math> 252 ft.</li> </ol> <p><b>OR</b></p> <ol style="list-style-type: none"> <li>Screenhouse suction bay water level &lt; 19 ft. or &lt; 17.5 ft. by manual measurement.</li> </ol>									

Mode: 1 – Power Operations 2 – Startup 3 – Hot Standby 4 – Hot Shutdown 5 – Cold Shutdown 6 – Refueling D - Defueled

GENERAL EMERGENCY		SITE AREA EMERGENCY		ALERT		UNUSUAL EVENT		
<b>Hazards and Other conditions Affecting Plant Safety</b>								
<b>Emergency Director Judgment</b>	<p><b>HG7</b> Other conditions exist which in the <input type="checkbox"/>1<input type="checkbox"/>2<input type="checkbox"/>3<input type="checkbox"/>4<input type="checkbox"/>5<input type="checkbox"/>6<input type="checkbox"/>D judgment of the Emergency Director warrant declaration of a General Emergency.</p> <p><b>Emergency Action Level (EAL):</b> Other conditions exist which in the judgment of the Emergency Director indicate that events are in progress or have occurred which involve actual or IMMINENT substantial core degradation or melting with potential for loss of containment integrity or HOSTILE ACTION that results in an actual loss of physical control of the facility. Releases can be reasonably expected to exceed EPA Protective Action Guideline exposure levels offsite for more than the immediate site area.</p>	<p><b>HS7</b> Other conditions exist which in the <input type="checkbox"/>1<input type="checkbox"/>2<input type="checkbox"/>3<input type="checkbox"/>4<input type="checkbox"/>5<input type="checkbox"/>6<input type="checkbox"/>D judgment of the Emergency Director warrant declaration of a Site Area Emergency.</p> <p><b>Emergency Action Level (EAL):</b> Other conditions exist which in the judgment of the Emergency Director indicate that events are in progress or have occurred which involve actual or likely major failures of plant functions needed for protection of the public or HOSTILE ACTION that results in intentional damage or malicious acts, (1) toward site personnel or equipment that could lead to the likely failure of or, (2) that prevent effective access to equipment needed for the protection of the public. Any releases are not expected to result in exposure levels which exceed EPA Protective Action Guideline exposure levels beyond the site boundary.</p>	<p><b>HA7</b> Other conditions exist which in the <input type="checkbox"/>1<input type="checkbox"/>2<input type="checkbox"/>3<input type="checkbox"/>4<input type="checkbox"/>5<input type="checkbox"/>6<input type="checkbox"/>D judgment of the Emergency Director warrant declaration of an Alert.</p> <p><b>Emergency Action Level (EAL):</b> Other conditions exist which, in the judgment of the Emergency Director, indicate that events are in progress or have occurred which involve an actual or potential substantial degradation of the level of safety of the plant or a security event that involves probable life threatening risk to site personnel or damage to site equipment because of HOSTILE ACTION. Any releases are expected to be limited to small fractions of the EPA Protective Action Guideline exposure levels.</p>	<p><b>HU7</b> Other conditions exist which in the <input type="checkbox"/>1<input type="checkbox"/>2<input type="checkbox"/>3<input type="checkbox"/>4<input type="checkbox"/>5<input type="checkbox"/>6<input type="checkbox"/>D judgment of the Emergency Director warrant declaration of an Unusual Event.</p> <p><b>Emergency Action Level (EAL):</b> Other conditions exist which in the judgment of the Emergency Director indicate that events are in progress or have occurred which indicate a potential degradation of the level of safety of the plant or indicate a security threat to facility protection has been initiated. No releases of radioactive material requiring offsite response or monitoring are expected unless further degradation of safety systems occurs.</p>				

Mode: 1 – Power Operations 2 – Startup 3 – Hot Standby 4 – Hot Shutdown 5 – Cold Shutdown 6 – Refueling D - Defueled

**HOT MATRIX**

**HOT MATRIX**

GENERAL EMERGENCY		SITE AREA EMERGENCY			ALERT		UNUSUAL EVENT	
<b>ISFSI Malfunction</b>								
<b>ISFSI</b>								<p><b>E-HU1</b> Damage to a loaded cask CONFINEMENT BOUNDARY. <span style="border: 1px solid black; padding: 0 2px;">1</span><span style="border: 1px solid black; padding: 0 2px;">2</span><span style="border: 1px solid black; padding: 0 2px;">3</span><span style="border: 1px solid black; padding: 0 2px;">4</span><span style="border: 1px solid black; padding: 0 2px;">5</span><span style="border: 1px solid black; padding: 0 2px;">6</span><span style="border: 1px solid black; padding: 0 2px;">D</span></p> <p><b>Emergency Action Level (EAL):</b></p> <p>Damage to a loaded cask CONFINEMENT BOUNDARY as indicated by an on-contact radiation reading:</p> <ul style="list-style-type: none"> <li>• &gt; <b>1600 mRem/hr</b> on the Horizontal Storage Module (HSM) front surface</li> </ul> <p style="text-align: center;"><b>OR</b></p> <ul style="list-style-type: none"> <li>• &gt; <b>400 mRem/hr</b> on the Horizontal Storage Module (HSM) door centerline</li> </ul> <p style="text-align: center;"><b>OR</b></p> <ul style="list-style-type: none"> <li>• &gt; <b>16 mRem/hr</b> on the end shield wall exterior</li> </ul>

Mode: 1 – Power Operations    2 – Startup    3 – Hot Standby    4 – Hot Shutdown    5 – Cold Shutdown    6 – Refueling    D - Defueled

**HOT MATRIX**

**HOT MATRIX**

COLD SHUTDOWN/REFUELING MATRIX

COLD SHUTDOWN/REFUELING MATRIX

GENERAL EMERGENCY	SITE AREA EMERGENCY	ALERT	UNUSUAL EVENT
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**Abnormal Rad Levels / Radiological Effluents**

Radiological Effluents	<p><b>RG1</b> Release of gaseous radioactivity <span style="float: right;">1 2 3 4 5 6 D</span> resulting in offsite dose greater than 1000 mRem TEDE or 5000 mRem thyroid CDE.  <b>Emergency Action Level (EAL):</b>  <b>Notes:</b></p> <ul style="list-style-type: none"> <li>The Emergency Director should declare the event promptly upon determining that the applicable time has been exceeded, or will likely be exceeded.</li> <li>If an ongoing release is detected and the release start time is unknown, assume that the release duration has exceeded 15 minutes.</li> <li>Classification based on effluent monitor readings assumes that a release path to the environment is established. If the effluent flow past an effluent monitor is known to have stopped due to actions to isolate the release path, then the effluent monitor reading is no longer valid for classification purposes.</li> <li>The pre-calculated effluent monitor values presented in EAL #1 should be used for emergency classification assessments until the results from a dose assessment using actual meteorology are available.</li> </ul> <ol style="list-style-type: none"> <li>Reading on <b>ANY</b> Table R1 Effluent Monitor &gt; <b>Table R1 column GE value</b> for <b>≥ 15 minutes</b>.  <b>OR</b></li> <li>Dose assessment using actual meteorology indicates doses at or beyond the site boundary of <b>EITHER</b>:             <ol style="list-style-type: none"> <li>&gt; <b>1000 mRem TEDE</b></li> <li>&gt; <b>5000 mRem Thyroid CDE</b></li> </ol> <b>OR</b></li> <li>Field survey results at or beyond the site boundary indicate <b>EITHER</b>:             <ol style="list-style-type: none"> <li>Gamma (closed window) dose rates &gt;<b>1000 mR/hr</b> are expected to continue for <b>≥ 60 minutes</b>.  <b>OR</b></li> <li>Analyses of field survey samples indicate &gt; <b>5000 mRem Thyroid CDE</b> for <b>60 minutes</b> of inhalation.</li> </ol> </li> </ol>	<p><b>RS1</b> Release of gaseous radioactivity <span style="float: right;">1 2 3 4 5 6 D</span> resulting in offsite dose greater than 100 mRem TEDE or 500 mRem thyroid CDE.  <b>Emergency Action Level (EAL):</b>  <b>Notes:</b></p> <ul style="list-style-type: none"> <li>The Emergency Director should declare the event promptly upon determining that the applicable time has been exceeded, or will likely be exceeded.</li> <li>If an ongoing release is detected and the release start time is unknown, assume that the release duration has exceeded 15 minutes.</li> <li>Classification based on effluent monitor readings assumes that a release path to the environment is established. If the effluent flow past an effluent monitor is known to have stopped due to actions to isolate the release path, then the effluent monitor reading is no longer valid for classification purposes.</li> <li>The pre-calculated effluent monitor values presented in EAL #1 should be used for emergency classification assessments until the results from a dose assessment using actual meteorology are available.</li> </ul> <ol style="list-style-type: none"> <li>Reading on <b>ANY</b> Table R1 Effluent Monitor &gt; <b>Table R1 column SAE value</b> for <b>≥ 15 minutes</b>.  <b>OR</b></li> <li>Dose assessment using actual meteorology indicates doses at or beyond the site boundary of <b>EITHER</b>:             <ol style="list-style-type: none"> <li>&gt; <b>100 mRem TEDE</b></li> <li>&gt; <b>500 mRem Thyroid CDE</b></li> </ol> <b>OR</b></li> <li>Field survey results at or beyond the site boundary indicate <b>EITHER</b>:             <ol style="list-style-type: none"> <li>Gamma (closed window) dose rates &gt;<b>100 mR/hr</b> are expected to continue for <b>≥ 60 minutes</b>.  <b>OR</b></li> <li>Analyses of field survey samples indicate &gt; <b>500 mRem Thyroid CDE</b> for <b>60 minutes</b> of inhalation.</li> </ol> </li> </ol>	<p><b>RA1</b> Release of gaseous or liquid <span style="float: right;">1 2 3 4 5 6 D</span> radioactivity resulting in offsite dose greater than 10 mRem TEDE or 50 mRem thyroid CDE.  <b>Emergency Action Level (EAL):</b>  <b>Notes:</b></p> <ul style="list-style-type: none"> <li>The Emergency Director should declare the event promptly upon determining that the applicable time has been exceeded, or will likely be exceeded.</li> <li>If an ongoing release is detected and the release start time is unknown, assume that the release duration has exceeded 15 minutes.</li> <li>Classification based on effluent monitor readings assumes that a release path to the environment is established. If the effluent flow past an effluent monitor is known to have stopped due to actions to isolate the release path, then the effluent monitor reading is no longer valid for classification purposes.</li> <li>The pre-calculated effluent monitor values presented in EAL #1 should be used for emergency classification assessments until the results from a dose assessment using actual meteorology are available.</li> </ul> <ol style="list-style-type: none"> <li>Reading on <b>ANY</b> Table R1 Effluent Monitor &gt; <b>Table R1 column Alert value</b> for <b>≥ 15 minutes</b>.  <b>OR</b></li> <li>Dose assessment using actual meteorology indicates doses at or beyond the site boundary of <b>EITHER</b>:             <ol style="list-style-type: none"> <li>&gt;<b>10mRem TEDE</b></li> <li>&gt; <b>50 mRem Thyroid CDE</b></li> </ol> <b>OR</b></li> <li>Analysis of a liquid effluent sample indicates a concentration or release rate that would result in doses greater than <b>EITHER</b> of the following at or beyond the site boundary             <ol style="list-style-type: none"> <li><b>10 mRem TEDE</b> for <b>60 minutes</b> of exposure  <b>OR</b></li> <li><b>50 mRem Thyroid CDE</b> for <b>60 minutes</b> of exposure  <b>OR</b></li> </ol> </li> <li>Field survey results at or beyond the site boundary indicate <b>EITHER</b>:             <ol style="list-style-type: none"> <li>Gamma (closed window) dose rates &gt; <b>10 mR/hr</b> are expected to continue for <b>≥ 60 minutes</b>.  <b>OR</b></li> <li>Analyses of field survey samples indicate &gt; <b>50 mRem Thyroid CDE</b> for <b>60 minutes</b> of inhalation.</li> </ol> </li> </ol>	<p><b>RU1</b> Release of gaseous or liquid <span style="float: right;">1 2 3 4 5 6 D</span> radioactivity greater than 2 times the ODCM limits for 60 minutes or longer.  <b>Emergency Action Level (EAL):</b>  <b>Notes:</b></p> <ul style="list-style-type: none"> <li>The Emergency Director should declare the event promptly upon determining that the applicable time has been exceeded, or will likely be exceeded.</li> <li>If an ongoing release is detected and the release start time is unknown, assume that the release duration has exceeded 60 minutes.</li> <li>Classification based on effluent monitor readings assumes that a release path to the environment is established. If the effluent flow past an effluent monitor is known to have stopped due to actions to isolate the release path, then the effluent monitor reading is no longer valid for classification purposes.</li> </ul> <ol style="list-style-type: none"> <li>Reading on <b>ANY</b> of the following effluent monitors &gt; <b>2 x the alarm set point</b> established by a current radioactive release discharge permit for <b>≥ 60 minutes</b>.             <ul style="list-style-type: none"> <li>Liquid Radwaste Effluent Monitor (R-18) with no isolation</li> <li>Discharge Permit specified monitor</li> </ul> <b>OR</b></li> <li>Reading on <b>ANY</b> Table R1 effluent monitors &gt; <b>Table R1 column UE value</b> for <b>≥ 60 minutes</b>.  <b>OR</b></li> <li>Confirmed sample analyses for gaseous or liquid releases indicate concentrations or release rates &gt; <b>2 x ODCM Limit</b> with a release duration of <b>≥ 60 minutes</b>.</li> </ol>
	<p>Mode:            1 – Power Operations            2 – Startup            3 – Hot Standby            4 – Hot Shutdown            5 – Cold Shutdown            6 – Refueling            D – Defueled</p>			

Monitor	General Emergency (GE)	Site Area Emergency (SAE)	Alert	Monitor	Unusual Event (UE)
CNMT Vent Noble Gas High Range (R-12A)	2.56 E +01µCi/cc	2.56 E +00µCi/cc	2.56 E -01µCi/cc	CNMT Vent Noble Gas High Range (R-12A)	N/A
Plant Vent Noble Gas High Range (R-14A)	1.41 E +02µCi/cc	1.41 E +01µCi/cc	1.41 E +00µCi/cc	Plant Vent Noble Gas High Range (R-14A)	3.63 E -01uCi/cc
Air Ejector Noble Gas High Range (R-48)	2.17 E +03µCi/cc	2.17 E +02µCi/cc	2.17 E +01µCi/cc	Air Ejector and Gland Steam Exhaust Monitor (R-15)	2.29 E +06 cpm

COLD SHUTDOWN/REFUELING MATRIX

COLD SHUTDOWN/REFUELING MATRIX

**GENERAL EMERGENCY      SITE AREA EMERGENCY      ALERT      UNUSUAL EVENT**

**Abnormal Rad Levels / Radiological Effluents**

**RG2** Spent fuel pool level cannot be 123456D restored to at least 251.67 ft. for 60 minutes or longer.

**Emergency Action Level (EAL):**

**Note:** The Emergency Director should declare the General Emergency promptly upon determining that the applicable time has been exceeded, or will likely be exceeded.

Spent fuel pool level cannot be restored to at least **251.67 ft.** as indicated on **EITHER** LI-310 or LI-311 for **≥ 60 minutes.**

Table R2 Fuel Handling Radiation Monitors	
• R-2 Containment (Mode 6 and D)	
• R-5 Spent Fuel Pool (All Modes)	

**RS2** Spent fuel pool level at 123456D 251.67 ft.

**Emergency Action Level (EAL):**

Lowering of spent fuel pool level to **251.67 ft.** as indicated on **EITHER** LI-310 or LI-311.

Table R3 Areas Requiring Continuous Occupancy	
• Main Control Room – R-1	
• Central Alarm Station – (by survey)	

Table R4 Areas with Entry-Related Mode Applicability	
Area	Entry-Related Mode Applicability
Auxiliary Building Top Floor	Mode 3, 4, and 5
Auxiliary Building Middle Level	
Auxiliary Building Basement	

**RA2** Significant lowering of water 123456D level above, or damage to, irradiated fuel.

**Emergency Action Level (EAL):**

- Uncovery of irradiated fuel in the REFUELING PATHWAY.

**OR**

- Damage to irradiated fuel resulting in a release of radioactivity from the fuel as indicated by **ANY** Table R2 Radiation Monitor Alarm.

**OR**

- Lowering of spent fuel pool level to **257.25 ft.** as indicated on **EITHER** LI-310 or LI-311.

**RA3** Radiation levels that impede 123456D access to equipment necessary for normal plant operations, cooldown or shutdown.

**Emergency Action Level (EAL):**

**Note:** If the equipment in the I rooms or areas listed in Table R4 was already inoperable, or out of service, before the event occurred, then no emergency classification is warranted

- Dose rate > **15 mR/hr** in **ANY** of the areas contained in Table R3.

**OR**

- UNPLANNED event results in radiation levels that prevent or significantly impede access to **ANY** of the plant rooms or areas contained in Table R4.

**RU2** UNPLANNED loss of water 123456D level above irradiated fuel.

**Emergency Action Level (EAL):**

- UNPLANNED water level drop in the REFUELING PATHWAY as indicated by **ANY** of the following:
    - Refueling Cavity water level <**23 ft** above the Reactor Flange

**OR**

- Spent Fuel Pool water level < **23 ft.** (Equivalent to < **274.50 feet** on **EITHER** LI-310 or LI-311) above the fuel

**OR**

- Indication or report of a drop in water level in the REFUELING PATHWAY.

**AND**

- UNPLANNED Area Radiation Monitor reading rise on **ANY** radiation monitors in Table R2.

Radiological Effluents

Mode: 1 – Power Operations    2 – Startup    3 – Hot Standby    4 – Hot Shutdown    5 – Cold Shutdown    6 – Refueling    D - Defueled

COLD SHUTDOWN/REFUELING MATRIX

COLD SHUTDOWN/REFUELING MATRIX

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COLD SHUTDOWN/REFUELING MATRIX

GENERAL EMERGENCY		SITE AREA EMERGENCY		ALERT		UNUSUAL EVENT	
<b>Cold Shutdown / Refueling System Malfunctions</b>							
Loss of AC Power				<p><b>CA1</b> Loss of all offsite and all onsite AC power <span style="border: 1px solid black; padding: 0 2px;">5</span><span style="border: 1px solid black; padding: 0 2px;">6</span><span style="border: 1px solid black; padding: 0 2px;">D</span> to emergency buses for 15 minutes or longer.</p> <p><b>Emergency Action Level (EAL):</b></p> <p><b>Note:</b> The Emergency Director should declare the event promptly upon determining that the applicable time has been exceeded, or will likely be exceeded.</p> <p>1. Loss of <b>ALL</b> offsite and <b>ALL</b> onsite AC power to 480V safeguards buses 14 and 16.</p> <p><b>AND</b></p> <p>2. Failure to restore power to 480V safeguards bus 14 or 16 in <b>&lt; 15 minutes</b> from the time of loss of both offsite and onsite AC power.</p>		<p><b>CU1</b> Loss of all but one AC power source <span style="border: 1px solid black; padding: 0 2px;">5</span><span style="border: 1px solid black; padding: 0 2px;">6</span><span style="border: 1px solid black; padding: 0 2px;">D</span> to emergency buses for 15 minutes or longer.</p> <p><b>Emergency Action Level (EAL):</b></p> <p><b>Note:</b> The Emergency Director should declare the event promptly upon determining that the applicable time has been exceeded, or will likely be exceeded.</p> <p>1. AC power capability to 480V safeguards buses 14 and 16 reduced to only one of the following power sources for <b>≥ 15 minutes</b>.</p> <ul style="list-style-type: none"> <li>• Station Auxiliary Transformer 12A</li> <li>• Station Auxiliary Transformer 12B</li> <li>• Unit Auxiliary Transformer 11 backfeed</li> <li>• Emergency Diesel Generator EDG 1A</li> <li>• Emergency Diesel Generator EDG 1B</li> </ul> <p><b>AND</b></p> <p>2. Any additional single power source failure will result in a loss of <b>ALL</b> AC power to SAFETY SYSTEMS powered from 480V safeguards buses 14 and 16.</p>	
				<p><b>CA2</b> Hazardous event affecting a SAFETY SYSTEM required for the current operating mode. <span style="border: 1px solid black; padding: 0 2px;">5</span><span style="border: 1px solid black; padding: 0 2px;">6</span></p> <p><b>Emergency Action Level (EAL):</b></p> <p><b>Note:</b> If it is determined that the conditions of CA2 are not met then assess the event via HU3, HU4, or HU6.</p> <p>1. The occurrence of <b>ANY</b> of the following hazardous events:</p> <ul style="list-style-type: none"> <li>• Seismic event (earthquake)</li> <li>• Internal or external flooding event</li> <li>• High winds or tornado strike</li> <li>• FIRE</li> <li>• EXPLOSION</li> <li>• Other events with similar hazard characteristics as determined by the Shift Manager</li> </ul> <p><b>AND</b></p> <p>2. <b>EITHER</b> of the following:</p> <p>a. Event damage has caused indications of degraded performance in at least one train of a SAFETY SYSTEM required by Technical Specifications for the current operating mode.</p> <p><b>OR</b></p> <p>b. The event has caused <b>VISIBLE DAMAGE</b> to a SAFETY SYSTEM component or structure required by Technical Specifications for the current operating mode.</p>			

Mode: 1 – Power Operations 2 – Startup 3 – Hot Standby 4 – Hot Shutdown 5 – Cold Shutdown 6 – Refueling D - Defueled

COLD SHUTDOWN/REFUELING MATRIX

COLD SHUTDOWN/REFUELING MATRIX



COLD SHUTDOWN/REFUELING MATRIX

COLD SHUTDOWN/REFUELING MATRIX

GENERAL EMERGENCY		SITE AREA EMERGENCY		ALERT			UNUSUAL EVENT	
<b>Cold Shutdown / Refueling System Malfunctions</b>								
DC Power							<b>CU3</b> Loss of Vital DC power for 15 minutes or longer. <span style="float:right">5 6</span> <b>Emergency Action Level (EAL):</b> <b>Note:</b> The Emergency Director should declare the event promptly upon determining that the applicable time has been exceeded, or will likely be exceeded. Voltage is < <b>110.6 VDC</b> on required unit 125 VDC buses 1A and 1B for <b>≥ 15 minutes</b> .	
							<b>CU4</b> Loss of all onsite or offsite communications capabilities. <span style="float:right">5 6 D</span> <b>Emergency Action Level (EAL):</b> <ol style="list-style-type: none"> <li>Loss of <b>ALL</b> Table C1 <b>Onsite</b> communications capability affecting the ability to perform routine operations.</li> <li>Loss of <b>ALL</b> Table C1 <b>Offsite</b> communications capability affecting the ability to perform offsite notifications.</li> <li>Loss of <b>ALL</b> Table C1 <b>NRC</b> communications capability affecting the ability to perform NRC notifications.</li> </ol>	
Communications								
Heat Sink								

**Table C1 – Communications Capability**

System	Onsite	Offsite	NRC
Radios/Walkie Talkies	X		
Plant Page System	X		
Direct Dial POTS Lines (Blue Phones) System	X	X	X
Commercial Phone System	X	X	X
FTS 2001 telephone system (ENS,HPN)		X	X
Control Room Hard Wired Satellite Phone		X	X
Control Room Emergency Cell Phone		X	X
RECS		X	

**Table C2 – RCS Heat-up Duration Thresholds**

RCS Status	Containment Closure Status	Heat-up Duration
Intact	Not Applicable	60 minutes*
OR	Established	20 minutes*
	Not Established	0 minutes

\* If an RCS heat removal system is in operation within this time frame and RCS temperature is being reduced, then EAL #1 is **not** applicable.

Mode: 1 – Power Operations 2 – Startup 3 – Hot Standby 4 – Hot Shutdown 5 – Cold Shutdown 6 – Refueling D - Defueled

COLD SHUTDOWN/REFUELING MATRIX

COLD SHUTDOWN/REFUELING MATRIX

GENERAL EMERGENCY		SITE AREA EMERGENCY		ALERT		UNUSUAL EVENT			
<b>Cold Shutdown / Refueling System Malfunctions</b>									
RCS Leakage / Inventory	<p><b>CG6</b> Loss of Reactor Vessel / RCS inventory <span style="border: 1px solid black; padding: 0 2px;">5</span><span style="border: 1px solid black; padding: 0 2px;">6</span> affecting fuel clad integrity with containment challenged.</p> <p><b>Emergency Action Level (EAL):</b></p> <p><b>Note:</b> The Emergency Director should declare the event promptly upon determining that the applicable time has been exceeded, or will likely be exceeded.</p> <p>1. a. Reactor Vessel / RCS level <b>cannot</b> be monitored for <b>≥ 30 minutes</b>.</p> <p><b>AND</b></p> <p>b. Core uncover is indicated by <b>ANY</b> of the following:</p> <ul style="list-style-type: none"> <li>• Table C3 indications of a sufficient magnitude to indicate core uncover.</li> <li><b>OR</b></li> <li>• Erratic Source Range Neutron Monitor indication.</li> <li><b>OR</b></li> <li>• Containment Radiation R-29 or R-30 <b>≥ 3 R/hr.</b></li> </ul> <p><b>AND</b></p> <p>c. Any Containment Challenge Indication (Table C4)</p>	<p><b>CS6</b> Loss of Reactor Vessel / RCS inventory <span style="border: 1px solid black; padding: 0 2px;">5</span><span style="border: 1px solid black; padding: 0 2px;">6</span> affecting core decay heat removal capability.</p> <p><b>Emergency Action Level (EAL):</b></p> <p><b>Note:</b> The Emergency Director should declare the event promptly upon determining that the applicable time has been exceeded, or will likely be exceeded.</p> <p>1. a. Reactor Vessel / RCS level <b>cannot</b> be monitored for <b>≥ 30 minutes</b>.</p> <p><b>AND</b></p> <p>b. Core uncover is indicated by <b>ANY</b> of the following:</p> <ul style="list-style-type: none"> <li>• Table C3 indications of a sufficient magnitude to indicate core uncover.</li> <li><b>OR</b></li> <li>• Erratic Source Range Neutron Monitor indication.</li> <li><b>OR</b></li> <li>• Containment Radiation R-29 or R-30 <b>≥ 3 R/hr.</b></li> </ul>	<p><b>CA6</b> Loss of Reactor Vessel / RCS inventory <span style="border: 1px solid black; padding: 0 2px;">5</span><span style="border: 1px solid black; padding: 0 2px;">6</span></p> <p><b>Emergency Action Level (EAL):</b></p> <p><b>Note:</b> The Emergency Director should declare the event promptly upon determining that the applicable time has been exceeded, or will likely be exceeded.</p> <p>1. Loss of Reactor Vessel / RCS inventory as indicated by RCS water level <b>&lt; 6 in.</b> on <b>Loop B indicator (LI432B) OR Loop A compensated indication (LI-432A corrected)</b>.</p> <p><b>OR</b></p> <p>2. a. Reactor Vessel / RCS level <b>cannot</b> be monitored for <b>≥ 15 minutes</b>.</p> <p><b>AND</b></p> <p>b. Loss of Reactor Vessel / RCS inventory per Table C3 indications.</p>	<p><b>CU6</b> UNPLANNED loss of Reactor Vessel / RCS inventory for 15 minutes or longer. <span style="border: 1px solid black; padding: 0 2px;">5</span><span style="border: 1px solid black; padding: 0 2px;">6</span></p> <p><b>Emergency Action Level (EAL):</b></p> <p><b>Note:</b> The Emergency Director should declare the event promptly upon determining that the applicable time has been exceeded, or will likely be exceeded.</p> <p>1. UNPLANNED loss of reactor coolant results in the inability to restore and maintain Reactor Vessel / RCS level to <b>&gt; procedurally established lower limit</b> for <b>≥15 minutes</b>.</p> <p><b>OR</b></p> <p>2. a. Reactor Vessel / RCS level <b>cannot</b> be monitored.</p> <p><b>AND</b></p> <p>b. Loss of Reactor Vessel / RCS inventory per Table C3 indications</p>					
	<table border="1" style="width: 100%;"> <thead> <tr> <th>Table C3 - Indications of RCS Leakage</th> </tr> </thead> <tbody> <tr> <td> <ul style="list-style-type: none"> <li>• UNPLANNED Containment Sump A level rise*</li> <li>• UNPLANNED Containment Sump B level rise*</li> <li>• UNPLANNED Auxiliary Bldg. Sump/Tank level rise*</li> <li>• UNPLANNED RCDT level rise*</li> <li>• UNPLANNED rise in RCS makeup</li> <li>• Observation of leakage or inventory loss</li> </ul> </td> </tr> <tr> <td> <p>*Rise in level is attributed to a loss of Reactor Vessel / RCS inventory.</p> </td> </tr> </tbody> </table>	Table C3 - Indications of RCS Leakage	<ul style="list-style-type: none"> <li>• UNPLANNED Containment Sump A level rise*</li> <li>• UNPLANNED Containment Sump B level rise*</li> <li>• UNPLANNED Auxiliary Bldg. Sump/Tank level rise*</li> <li>• UNPLANNED RCDT level rise*</li> <li>• UNPLANNED rise in RCS makeup</li> <li>• Observation of leakage or inventory loss</li> </ul>	<p>*Rise in level is attributed to a loss of Reactor Vessel / RCS inventory.</p>	<table border="1" style="width: 100%;"> <thead> <tr> <th>Table C4 – Containment Challenge Indications</th> </tr> </thead> <tbody> <tr> <td> <ul style="list-style-type: none"> <li>• Hydrogen Concentration in Containment <b>≥ 4%</b></li> <li>• UNPLANNED rise in containment pressure</li> <li>• CONTAINMENT CLOSURE <b>not</b> established*</li> </ul> </td> </tr> <tr> <td> <p>* If CONTAINMENT CLOSURE is re-established prior to exceeding the 30-minute time limit, then declaration of a General Emergency is <b>not</b> required.</p> </td> </tr> </tbody> </table>	Table C4 – Containment Challenge Indications	<ul style="list-style-type: none"> <li>• Hydrogen Concentration in Containment <b>≥ 4%</b></li> <li>• UNPLANNED rise in containment pressure</li> <li>• CONTAINMENT CLOSURE <b>not</b> established*</li> </ul>	<p>* If CONTAINMENT CLOSURE is re-established prior to exceeding the 30-minute time limit, then declaration of a General Emergency is <b>not</b> required.</p>	
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Mode: 1 – Power Operations 2 – Startup 3 – Hot Standby 4 – Hot Shutdown 5 – Cold Shutdown 6 – Refueling D - Defueled

COLD SHUTDOWN/REFUELING MATRIX

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GENERAL EMERGENCY		SITE AREA EMERGENCY		ALERT		UNUSUAL EVENT	
Hazards and Other conditions Affecting Plant Safety							
Hostile Action		<p><b>HS1</b> HOSTILE ACTION within the PROTECTED AREA 1 2 3 4 5 6 D</p> <p><b>Emergency Action Level (EAL):</b> A notification from the Security Force that a HOSTILE ACTION is occurring or has occurred within the PROTECTED AREA.</p>	<p><b>HA1</b> HOSTILE ACTION within the OWNER CONTROLLED AREA or airborne attack threat within 30 minutes. 1 2 3 4 5 6 D</p> <p><b>Emergency Action Level (EAL):</b></p> <ol style="list-style-type: none"> <li>A validated notification from NRC of an aircraft attack threat &lt; 30 minutes from the site.</li> </ol> <p><b>OR</b></p> <ol style="list-style-type: none"> <li>Notification by the Security Force that a HOSTILE ACTION is occurring or has occurred within the OWNER CONTROLLED AREA.</li> </ol>	<p><b>HU1</b> Confirmed SECURITY CONDITION or threat. 1 2 3 4 5 6 D</p> <p><b>Emergency Action Level (EAL):</b></p> <ol style="list-style-type: none"> <li>Notification of a credible security threat directed at the site as determined per SY-AA-101-132, Security Assessment and Response to Unusual Activities.</li> </ol> <p><b>OR</b></p> <ol style="list-style-type: none"> <li>A validated notification from the NRC providing information of an aircraft threat.</li> </ol> <p><b>OR</b></p> <ol style="list-style-type: none"> <li>Notification by the Security Force of a SECURITY CONDITION that does <u>not</u> involve a HOSTILE ACTION.</li> </ol>			
	<p><b>Table H1 – Safety Functions</b></p> <ul style="list-style-type: none"> <li>Reactivity Control (ability to shut down the reactor and keep it shutdown)</li> <li>Core Cooling (ability to cool the core)</li> <li>RCS Heat Removal (ability to maintain heat sink)</li> </ul>	<p><b>HS2</b> Inability to control a key safety function from outside the Control Room 1 2 3 4 5 6 D</p> <p><b>Emergency Action Level (EAL):</b></p> <p><b>Note:</b> The Emergency Director should declare the event promptly upon determining that the applicable time has been exceeded, or will likely be exceeded.</p> <ol style="list-style-type: none"> <li>A Control Room evacuation has resulted in plant control being transferred from the Control Room to alternate locations per AP-CR.1 or the ER-FIRE series.</li> </ol> <p><b>AND</b></p> <ol style="list-style-type: none"> <li>Control of <b>ANY</b> Table H1 key safety function is <u>not</u> reestablished in <b>≤ 35 minutes</b>.</li> </ol>	<p><b>HA2</b> Control Room evacuation resulting in transfer of plant control to alternate locations 1 2 3 4 5 6 D</p> <p><b>Emergency Action Level (EAL):</b></p> <p>A Control Room evacuation has resulted in plant control being transferred from the Control Room to alternate locations per AP-CR.1 or the ER-FIRE series.</p>				

Mode: 1 – Power Operations 2 – Startup 3 – Hot Standby 4 – Hot Shutdown 5 – Cold Shutdown 6 – Refueling D – Defueled

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GENERAL EMERGENCY	SITE AREA EMERGENCY	ALERT	UNUSUAL EVENT
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Hazards and Other conditions Affecting Plant Safety

Fire			<p><b>HU3</b> FIRE potentially degrading the level of safety of the plant. <span style="float: right;">1 2 3 4 5 6 D</span></p> <p><b>Emergency Action Level (EAL):</b></p> <p><b>Note:</b></p> <ul style="list-style-type: none"> <li>The Emergency Director should declare the event promptly upon determining that the applicable time has been exceeded, or will likely be exceeded.</li> <li>Potential escalation of the emergency classification level would be via IC CA2 or MA5</li> </ul> <ol style="list-style-type: none"> <li>A FIRE in <b>ANY</b> Table H2 area is <b>not</b> extinguished in <b>&lt; 15 minutes</b> of <b>ANY</b> of the following FIRE detection indications:             <ul style="list-style-type: none"> <li>Report from the field (i.e., visual observation)</li> <li>Receipt of multiple (more than 1) fire alarms or indications</li> <li>Field verification of a single fire alarm</li> </ul> <p><b>OR</b></p> <ol style="list-style-type: none"> <li>Receipt of a single fire alarm in <b>ANY</b> Table H2 area (i.e., no other indications of a FIRE).</li> </ol> <p><b>AND</b></p> <ol style="list-style-type: none"> <li>The existence of a FIRE is <b>not</b> verified in <b>&lt; 30 minutes</b> of alarm receipt.</li> </ol> <p><b>OR</b></p> <ol style="list-style-type: none"> <li>A FIRE within the plant PROTECTED AREA not extinguished in <b>&lt; 60 minutes</b> of the initial report, alarm or indication.</li> </ol> <p><b>OR</b></p> <ol style="list-style-type: none"> <li>A FIRE within the plant PROTECTED AREA that requires firefighting support by an offsite fire response agency to extinguish.</li> </ol> </li> </ol>
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Table H2 – Vital Areas
<ul style="list-style-type: none"> <li>Reactor Containment Building</li> <li>Auxiliary Building</li> <li>Control Building</li> <li>Intermediate Building</li> <li>Emergency Diesel Buildings</li> <li>SAFW Building</li> <li>Screenhouse</li> <li>Cable Tunnel</li> <li>Battery Rooms</li> </ul>

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GENERAL EMERGENCY		SITE AREA EMERGENCY			ALERT		UNUSUAL EVENT	
Hazards and Other conditions Affecting Plant Safety								
Earthquake							<p><b>HU4</b> Seismic event greater than OBE levels <input type="checkbox"/>1<input type="checkbox"/>2<input type="checkbox"/>3<input type="checkbox"/>4<input type="checkbox"/>5<input type="checkbox"/>6<input type="checkbox"/>D</p> <p><b>Emergency Action Level (EAL):</b></p> <p><b>Note:</b> Potential escalation of the emergency classification level would be via IC CA2 or MA5</p> <p>For emergency classification if EAL #2 first three bullets are not able to be confirmed, then the occurrence of a seismic event is confirmed in manner deemed appropriate by the Shift Manager or Emergency Director in <b>≤ 15 mins</b> of the event.</p> <p>1. Control Room personnel feel an actual or potential seismic event.</p> <p><b>AND</b></p> <p>2. <b>ANY</b> one of the following confirmed in <b>≤ 15 mins</b> of the event:</p> <ul style="list-style-type: none"> <li>The earthquake resulted in Modified Mercalli Intensity (MMI) <b>≥ VI</b> and occurred <b>≤ 3.5 miles</b> of the plant.</li> <li>The earthquake was magnitude <b>≥ 6.0</b></li> <li>The earthquake was magnitude <b>≥ 5.0</b> and occurred <b>≤ 125 miles</b> of the plant.</li> <li>If the above bullets are not able to be confirmed, then the occurrence of a seismic event is confirmed in manner deemed appropriate by the Shift Manager or Emergency Director.</li> </ul>	

Mode: 1 – Power Operations 2 – Startup

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GENERAL EMERGENCY		SITE AREA EMERGENCY		ALERT		UNUSUAL EVENT								
Hazards and Other conditions Affecting Plant Safety														
Toxic Gas		<table border="1"> <thead> <tr> <th colspan="2">Table H3 Areas with Entry Related Mode Applicability</th> </tr> <tr> <th>Area</th> <th>Entry Related Mode Applicability</th> </tr> </thead> <tbody> <tr> <td>Auxiliary Building Top Floor</td> <td rowspan="3">Mode 3, 4 and 5</td> </tr> <tr> <td>Auxiliary Building Middle Level</td> </tr> <tr> <td>Auxiliary Building Basement</td> </tr> </tbody> </table>		Table H3 Areas with Entry Related Mode Applicability		Area	Entry Related Mode Applicability	Auxiliary Building Top Floor	Mode 3, 4 and 5	Auxiliary Building Middle Level	Auxiliary Building Basement	<p><b>HA5</b> Gaseous release impeding access to <span style="border: 1px solid black; padding: 0 2px;">3</span><span style="border: 1px solid black; padding: 0 2px;">4</span><span style="border: 1px solid black; padding: 0 2px;">5</span> equipment necessary for normal plant operations, cooldown or shutdown.</p> <p><b>Emergency Action Level (EAL):</b></p> <p><b>Note:</b> If the equipment in the listed room or area was already inoperable or out of service, before the event occurred then no emergency classification is warranted.</p> <ol style="list-style-type: none"> <li>1. Release of a toxic, corrosive, asphyxiant or flammable gas in <b>ANY</b> Table H3 area.</li> </ol> <p><b>AND</b></p> <ol style="list-style-type: none"> <li>2. Entry into the room or area is prohibited or impeded.</li> </ol>		
	Table H3 Areas with Entry Related Mode Applicability													
Area	Entry Related Mode Applicability													
Auxiliary Building Top Floor	Mode 3, 4 and 5													
Auxiliary Building Middle Level														
Auxiliary Building Basement														
Hazardous Event						<p><b>HU6</b> Hazardous Event <span style="border: 1px solid black; padding: 0 2px;">1</span><span style="border: 1px solid black; padding: 0 2px;">2</span><span style="border: 1px solid black; padding: 0 2px;">3</span><span style="border: 1px solid black; padding: 0 2px;">4</span><span style="border: 1px solid black; padding: 0 2px;">5</span><span style="border: 1px solid black; padding: 0 2px;">6</span><span style="border: 1px solid black; padding: 0 2px;">D</span></p> <p><b>Emergency Action Level (EAL):</b></p> <p><b>Note:</b> EAL #4 does not apply to routine traffic impediments such as fog, snow, ice, or vehicle breakdowns or accidents.</p> <p>Potential escalation of the emergency classification level would be via IC CA2 or MA5</p> <ol style="list-style-type: none"> <li>1. Tornado strike within the PROTECTED AREA.</li> </ol> <p><b>OR</b></p> <ol style="list-style-type: none"> <li>2. Internal room or area flooding of a magnitude sufficient to require manual or automatic electrical isolation of a SAFETY SYSTEM component required by Technical Specifications for the current operating mode.</li> </ol> <p><b>OR</b></p> <ol style="list-style-type: none"> <li>3. Movement of personnel within the PROTECTED AREA is impeded due to an offsite event involving hazardous materials (e.g., an offsite chemical spill or toxic gas release).</li> </ol> <p><b>OR</b></p> <ol style="list-style-type: none"> <li>4. A hazardous event that results in on-site conditions sufficient to prohibit the plant staff from accessing the site via personal vehicles.</li> </ol> <p><b>OR</b></p> <ol style="list-style-type: none"> <li>5. Lake level <math>\geq</math> 252 ft.</li> </ol> <p><b>OR</b></p> <ol style="list-style-type: none"> <li>6. Screenhouse Suction Bay water level &lt; 19 ft. or &lt; 17.5 ft. by manual measurement.</li> </ol>								

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GENERAL EMERGENCY		SITE AREA EMERGENCY		ALERT		UNUSUAL EVENT		
<b>Hazards and Other conditions Affecting Plant Safety</b>								
Emergency Director Judgment	<p><b>HG7</b> Other conditions exist which in the <input type="checkbox"/>1<input type="checkbox"/>2<input type="checkbox"/>3<input type="checkbox"/>4<input type="checkbox"/>5<input type="checkbox"/>6<input type="checkbox"/>D judgment of the Emergency Director warrant declaration of a General Emergency.</p> <p><b>Emergency Action Level (EAL):</b> Other conditions exist which in the judgment of the Emergency Director indicate that events are in progress or have occurred which involve actual or IMMINENT substantial core degradation or melting with potential for loss of containment integrity or HOSTILE ACTION that results in an actual loss of physical control of the facility. Releases can be reasonably expected to exceed EPA Protective Action Guideline exposure levels offsite for more than the immediate site area.</p>	<p><b>HS7</b> Other conditions exist which in the <input type="checkbox"/>1<input type="checkbox"/>2<input type="checkbox"/>3<input type="checkbox"/>4<input type="checkbox"/>5<input type="checkbox"/>6<input type="checkbox"/>D judgment of the Emergency Director warrant declaration of a Site Area Emergency.</p> <p><b>Emergency Action Level (EAL):</b> Other conditions exist which in the judgment of the Emergency Director indicate that events are in progress or have occurred which involve actual or likely major failures of plant functions needed for protection of the public or HOSTILE ACTION that results in intentional damage or malicious acts, (1) toward site personnel or equipment that could lead to the likely failure of or, (2) that prevent effective access to equipment needed for the protection of the public. Any releases are not expected to result in exposure levels which exceed EPA Protective Action Guideline exposure levels beyond the site boundary.</p>	<p><b>HA7</b> Other conditions exist which in the <input type="checkbox"/>1<input type="checkbox"/>2<input type="checkbox"/>3<input type="checkbox"/>4<input type="checkbox"/>5<input type="checkbox"/>6<input type="checkbox"/>D judgment of the Emergency Director warrant declaration of an Alert.</p> <p><b>Emergency Action Level (EAL):</b> Other conditions exist which, in the judgment of the Emergency Director, indicate that events are in progress or have occurred which involve an actual or potential substantial degradation of the level of safety of the plant or a security event that involves probable life threatening risk to site personnel or damage to site equipment because of HOSTILE ACTION. Any releases are expected to be limited to small fractions of the EPA Protective Action Guideline exposure levels.</p>	<p><b>HU7</b> Other conditions exist which in the <input type="checkbox"/>1<input type="checkbox"/>2<input type="checkbox"/>3<input type="checkbox"/>4<input type="checkbox"/>5<input type="checkbox"/>6<input type="checkbox"/>D judgment of the Emergency Director warrant declaration of an Unusual Event.</p> <p><b>Emergency Action Level (EAL):</b> Other conditions exist which in the judgment of the Emergency Director indicate that events are in progress or have occurred which indicate a potential degradation of the level of safety of the plant or indicate a security threat to facility protection has been initiated. No releases of radioactive material requiring offsite response or monitoring are expected unless further degradation of safety systems occurs.</p>				

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GENERAL EMERGENCY		SITE AREA EMERGENCY			ALERT		UNUSUAL EVENT	
ISFSI Malfunction								
ISFSI							<p><b>E-HU1</b> Damage to a loaded cask CONFINEMENT BOUNDARY. <span style="border: 1px solid black; padding: 0 2px;">1</span><span style="border: 1px solid black; padding: 0 2px;">2</span><span style="border: 1px solid black; padding: 0 2px;">3</span><span style="border: 1px solid black; padding: 0 2px;">4</span><span style="border: 1px solid black; padding: 0 2px;">5</span><span style="border: 1px solid black; padding: 0 2px;">6</span><span style="border: 1px solid black; padding: 0 2px;">D</span></p> <p><b>Emergency Action Level (EAL):</b></p> <p>Damage to a loaded cask CONFINEMENT BOUNDARY as indicated by an on-contact radiation reading:</p> <ul style="list-style-type: none"> <li>• &gt; <b>1600 mRem/hr</b> on the Horizontal Storage Module (HSM) front surface</li> <li style="text-align: center;"><b>OR</b></li> <li>• &gt; <b>400 mRem/hr</b> on the Horizontal Storage Module (HSM) door centerline</li> <li style="text-align: center;"><b>OR</b></li> <li>• &gt; <b>16 mRem/hr</b> on the end shield wall exterior</li> </ul>	

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