

EAL Identifier	GENERAL EMERGENCY						SITE AREA EMERGENCY						ALERT						UNUSUAL EVENT																																																																															
	1	2	3	4	5	D	1	2	3	4	5	D	1	2	3	4	5	D	1	2	3	4	5	D																																																																										
R Abnorm. Rad Release / Rad Effluent	<b>1 Offsite Rad Conditions</b> RG1.1 ANY gaseous monitor reading > Table R-1 column "GE" for > 15 min. (Note 1) • Do not delay declaration awaiting dose assessment results • If dose assessment results are available, declaration should be based on dose assessment instead of radiation monitor values (see EAL RG1.2) RG1.2 Dose assessment using actual meteorology indicates doses > 1,000 mrem TEDE or 5,000 mrem thyroid CDE at or beyond the site boundary RG1.3 Field survey results indicate closed window dose rates > 1,000 mrem/hr expected to continue for > 60 min. at or beyond the site boundary OR Analysis of field survey samples indicate thyroid CDE > 5,000 mrem for 1 hr of inhalation at or beyond the site boundary						<b>RS1.1</b> ANY gaseous monitor reading > Table R-1 column "SAE" for > 15 min. (Note 1) • Do not delay declaration awaiting dose assessment results • If dose assessment results are available, declaration should be based on dose assessment instead of radiation monitor values (see EAL RS1.2) <b>RS1.2</b> Dose assessment using actual meteorology indicates doses > 100 mrem TEDE or 500 mrem thyroid CDE at or beyond the site boundary <b>RS1.3</b> Field survey results indicate closed window dose rates > 100 mrem/hr expected to continue for > 60 min. at or beyond the site boundary OR Analysis of field survey samples indicate thyroid CDE > 500 mrem for 1 hr of inhalation at or beyond the site boundary						<b>RA1.1</b> ANY gaseous monitor reading > Table R-1 column "Alert" for > 15 min. (Note 2) <b>RA1.2</b> Confirmed sample analyses for gaseous or liquid releases indicate concentrations or release rates > 200 x P-9 limits for > 15 min. (Note 2) <b>RA1.3</b> Confirmed sample analyses for gaseous or liquid releases indicate concentrations or release rates > 2 x P-9 limits for > 60 min. (Note 2)						<b>RU1.1</b> ANY gaseous or liquid monitor reading > Table R-1 column "UE" for > 60 min. (Note 2) <b>RU1.2</b> Confirmed sample analyses for gaseous or liquid releases indicate concentrations or release rates > 2 x P-9 limits for > 60 min. (Note 2)																																																																															
	<b>2 Onsite Rad Conditions &amp; Spent Fuel Events</b> <b>Table R-1 Effluent Monitor Classification Thresholds</b> <table border="1"> <thead> <tr> <th>Monitor</th> <th>GE</th> <th>SAE</th> <th>ALERT</th> <th>UE</th> </tr> </thead> <tbody> <tr> <td>CNMT Vent Noble Gas (R-12)</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> <td>7.4E+0 cpm w/ 1 fan, 8.1E+0 cpm w/ 2 fans</td> </tr> <tr> <td>CNMT Vent Noble Gas H Range (R-12A77)</td> <td>1.8E+2 µCi/cc</td> <td>1.8E+1 µCi/cc</td> <td>1.8E+0 µCi/cc</td> <td>N/A</td> </tr> <tr> <td>Plant Vent Noble Gas (R-14)</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> <td>6.0E+5 cpm</td> </tr> <tr> <td>Plant Vent Noble Gas H Range (R-14A77)</td> <td>2.1E+1 µCi/cc</td> <td>2.1E+0 µCi/cc</td> <td>2.1E-1 µCi/cc</td> <td>N/A</td> </tr> <tr> <td>Air Ejector Noble Gas (R-15)</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> <td>6.3E+5 cpm</td> </tr> <tr> <td>Air Ejector Noble Gas H Range (R-15A)</td> <td>5.7E+2 µCi/cc</td> <td>5.7E+1 µCi/cc</td> <td>5.7E+0 µCi/cc</td> <td>N/A</td> </tr> <tr> <td>Main Steam Line (R-31R32)</td> <td>5.0E+3 mR/hr</td> <td>5.0E+2 mR/hr</td> <td>5.0E+1 mR/hr</td> <td>8.0E+0 mR/hr</td> </tr> <tr> <td>1 Safety</td> <td>2.3E+3 mR/hr</td> <td>2.3E+2 mR/hr</td> <td>2.3E+1 mR/hr</td> <td>3.7E+0 mR/hr</td> </tr> <tr> <td>2 Safety</td> <td>1.1E+3 mR/hr</td> <td>1.1E+2 mR/hr</td> <td>1.1E+1 mR/hr</td> <td>N/A</td> </tr> <tr> <td>3 Safety</td> <td>7.7E+2 mR/hr</td> <td>7.7E+1 mR/hr</td> <td>7.7E+0 mR/hr</td> <td>N/A</td> </tr> <tr> <td>4 Safety</td> <td>5.7E+2 mR/hr</td> <td>5.7E+1 mR/hr</td> <td>5.7E+0 mR/hr</td> <td>N/A</td> </tr> <tr> <td>Liquid Radioactive Effluent (R-18)</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> <td>3.6E+5 cpm with no isolation</td> </tr> <tr> <td>SFP I/O Effluent (R-20A) (R-20B)</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> <td>4.0E+4 cpm</td> </tr> <tr> <td>Turbine Bldg Fr Drains (R-21)</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> <td>5.0E+4 cpm with no isolation</td> </tr> <tr> <td>H-Cone Waste (R-22)</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> <td>9.2E+4 cpm with no isolation</td> </tr> </tbody> </table>						Monitor	GE	SAE	ALERT	UE	CNMT Vent Noble Gas (R-12)	N/A	N/A	N/A	7.4E+0 cpm w/ 1 fan, 8.1E+0 cpm w/ 2 fans	CNMT Vent Noble Gas H Range (R-12A77)	1.8E+2 µCi/cc	1.8E+1 µCi/cc	1.8E+0 µCi/cc	N/A	Plant Vent Noble Gas (R-14)	N/A	N/A	N/A	6.0E+5 cpm	Plant Vent Noble Gas H Range (R-14A77)	2.1E+1 µCi/cc	2.1E+0 µCi/cc	2.1E-1 µCi/cc	N/A	Air Ejector Noble Gas (R-15)	N/A	N/A	N/A	6.3E+5 cpm	Air Ejector Noble Gas H Range (R-15A)	5.7E+2 µCi/cc	5.7E+1 µCi/cc	5.7E+0 µCi/cc	N/A	Main Steam Line (R-31R32)	5.0E+3 mR/hr	5.0E+2 mR/hr	5.0E+1 mR/hr	8.0E+0 mR/hr	1 Safety	2.3E+3 mR/hr	2.3E+2 mR/hr	2.3E+1 mR/hr	3.7E+0 mR/hr	2 Safety	1.1E+3 mR/hr	1.1E+2 mR/hr	1.1E+1 mR/hr	N/A	3 Safety	7.7E+2 mR/hr	7.7E+1 mR/hr	7.7E+0 mR/hr	N/A	4 Safety	5.7E+2 mR/hr	5.7E+1 mR/hr	5.7E+0 mR/hr	N/A	Liquid Radioactive Effluent (R-18)	N/A	N/A	N/A	3.6E+5 cpm with no isolation	SFP I/O Effluent (R-20A) (R-20B)	N/A	N/A	N/A	4.0E+4 cpm	Turbine Bldg Fr Drains (R-21)	N/A	N/A	N/A	5.0E+4 cpm with no isolation	H-Cone Waste (R-22)	N/A	N/A	N/A	9.2E+4 cpm with no isolation	<b>RA2.1</b> Alarm on ANY of the following radiation monitors due to damage to irradiated fuel or loss of water level: • R-12 Containment Vent Noble Gas • R-14 Plant Vent Noble Gas • R-2 Containment • R-5 Spent Fuel Pool <b>RA2.2</b> A water level drop in a reactor refueling pathway that will result in irradiated fuel becoming uncovered <b>RA3.1</b> Dose rates > 15 mrem/hr in EITHER of the following areas requiring continuous occupancy to maintain plant safety functions: Control Room (R-1) OR CAS						<b>RU2.1</b> Unplanned water level drop in a reactor refueling pathway as indicated by alarm to restore and maintain level > SFP low water level alarm setpoint (Note 3) AND Area radiation monitor reading rise on EITHER: R-2 Containment OR R-5 Spent Fuel Pool <b>RU2.2</b> Unplanned area radiation reading increases by a factor of 1,000 over normal levels					
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<b>3 CR/CAS Rad</b> <b>Table H-1 Safe Shutdown Areas</b> <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 Building(s)</li> <li>SAFW Building</li> <li>Screenhouse</li> <li>Cable Tunnel</li> <li>Battery Rooms</li> </ul>						<b>HA1.1</b> EITHER: Confirmation of an earthquake of an intensity > 0.08 g per RE-SC 4 Earthquake Emergency Plan OR Control Room indication of degraded performance of ANY safety-related structure, system, or component AND Earthquake confirmed by EITHER: Earthquake felt in plant OR National Earthquake Information Center (Note 6) <b>HA1.2</b> Tornado striking or sustained high winds > 75 mph resulting in EITHER: Visible damage to ANY safety-related structure, system, or component within ANY Table H-1 area OR Control Room indication of degraded performance of ANY safety-related structure, system, or component within ANY Table H-1 area <b>HA1.3</b> Internal flooding in ANY Table H-1 area resulting in EITHER: An electrical shock hazard that precludes access to operate or monitor ANY safety-related structure, system, or component within ANY Table H-1 area OR Control Room indication of degraded performance of ANY safety-related structure, system, or component within ANY Table H-1 area <b>HA1.4</b> Turbine failure-generated projectiles resulting in EITHER: Visible damage to or penetration of ANY safety-related structure, system, or component within ANY Table H-1 area OR Control Room indication of degraded performance of ANY safety-related structure, system, or component within ANY Table H-1 area <b>HA1.5</b> Lake level > 253 ft OR Screen House Suction Bay water level < 16 ft or < 14.5 ft by manual level measurement <b>HA1.6</b> Vehicle crash resulting in EITHER: Visible damage to ANY safety-related structure, system, or component within ANY Table H-1 area OR Control Room indication of degraded performance of ANY safety-related structure, system, or component within ANY Table H-1 area						<b>HU1.1</b> Seismic event identified by ANY two of the following: • Red LED event indicator on Kinematics ETNA Digital Recorder indicates seismic event detected • Earthquake felt onsite • National Earthquake Information Center (Note 6) <b>HU1.2</b> Tornado striking within Protected Area boundary OR Sustained high winds > 75 mph <b>HU1.3</b> Internal flooding that has the potential to affect ANY safety-related structure, system, or component required by Technical Specifications for the current operating mode in ANY Table H-1 area <b>HU1.4</b> Turbine failure resulting in casing penetration or damage to turbine or generator seals <b>HU1.5</b> Deer Creek flooding over entrance road bridge hand rail OR Lake level > 252 ft OR Screen House Suction Bay water level < 17 ft or < 15.5 ft by manual level measurement																																																																																						
H Hazards & Other Conditions Affecting Plant Safety	<b>1 Natural or Destructive Phenomena</b>						<b>2 Fire or Explosion</b>						<b>3 Hazardous Gas</b>						<b>4 Security</b>						<b>5 Control Room Evacuation</b>						<b>6 Judgment</b>																																																																			
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	<b>HG4.1</b> A hostile action has occurred such that plant personnel are unable to operate equipment required to maintain safety functions <b>HG4.2</b> A hostile action has caused failure of Spent Fuel Cooling systems AND Imminent fuel damage is likely						<b>HS4.1</b> A hostile action is occurring or has occurred within the Protected Area as reported by Security Shift Supervision						<b>HA4.1</b> A hostile action is occurring or has occurred within the Owner Controlled Area as reported by Security Shift Supervision OR A validated notification from NRC of an airliner attack threat within 30 min. of the site						<b>HU4.1</b> A security condition that does not involve a hostile action as reported by Security Shift Supervision OR A credible site-specific security threat notification OR A validated notification from NRC providing information of an aircraft threat						<b>HSS.1</b> Control Room evacuation has been initiated AND Control of the plant cannot be established within 30 min.						<b>HAS.1</b> Control Room evacuation has been initiated						None																																																													
	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 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 (1,000 mrem TEDE or 5,000 mrem thyroid CDE) or more than the immediate site area						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) lowered 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 (1,000 mrem TEDE or 5,000 mrem thyroid CDE) beyond the site boundary						Other conditions exist which in the judgment of the Emergency Director indicate that events are in progress or have occurred which involve 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 (1,000 mrem TEDE or 5,000 mrem thyroid CDE)						Other conditions exist which in the judgment of the Emergency Director indicate that events are in progress or have occurred which involve actual or potential substantial 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						None						None																																																																			
	None						None						None						None						None						None																																																																			
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**Notes**

- The ED should not wait until the applicable time has elapsed, but should declare the event as soon as it is determined that the condition will likely exceed the applicable time.
- The ED should not wait until the applicable time has elapsed, but should declare the event as soon as it is determined that the release duration has exceeded, or will likely exceed, the applicable time. In the absence of data to the contrary, assume that the release duration has exceeded the applicable time if an ongoing release is detected and the release start time is unknown.
- If loss of water level in the refueling pathway occurs while in Mode 5, 6, or D, consider classification under EALs CU3.1, CU3.2, or CU3.3.
- The ED should not wait until the applicable time has elapsed, but should declare the event as soon as it is determined that the condition has exceeded, or will likely exceed, the applicable time.
- If the equipment in the stated area was already inoperable, or out of service, before the event occurred, then EAL HA3.1 should not be declared as it will have no adverse impact on the ability of the plant to safely operate or safely shut down beyond that already allowed by Technical Specifications at the time of the event.
- The NRC can be contacted by calling (303) 273-8500. Select option #1 and inform the analyst you wish to confirm recent seismic activity in the vicinity of Glena Nuclear Power Plant. Provide the analyst with the following Omega coordinates: 43° 16.7' north latitude, 77° 18.7' west longitude.

**Table C-1 AC Power Sources**

Onsite	Offsite
• EDG 1A (Safeguard train A, Buses 14 & 18)	
• EDG 1B (Safeguard train B, Buses 16 & 17)	
• Station Auxiliary Transformer 12A	
• Station Auxiliary Transformer 12B	
• Unit Auxiliary Transformer 11 backfeed (if currently established)	

**Table C-2 RCS Leakage Indications**

• Containment Sump A
• Containment Sump B
• Auxiliary Building Sump Tank
• Reactor Coolant Drain Tank (RCDT)

**Table C-3 Containment Challenge Indications**

• Containment closure not established
• Hydrogen concentration in Containment > 4%
• Unplanned rise in Containment pressure

**Table C-4 RCS Reheat Duration Thresholds**

RCS Status	Containment Closure Status	Duration
Intact AND not reduced inventory	N/A	60 min.*
Not intact OR reduced inventory	Established	20 min.*
	Not established	0 min.

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

**Table C-5 Communications Systems**

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

**Modes:** 1 Power Operation, 2 Startup, 3 Hot Shutdown, 4 Hot Standby, 5 Cold Shutdown, 6 Refuel, D Defueled

**MODE 5, 6 or D**

Do2