# Emergency Action Levels – Modes 1, 2, 3 or 4

## R – Abnorm. Rad Levels / Rad Effluents

### 1 – Offsite Rad Conditions

**General Emergency**

**RG1.1** [Modes 1 2 3 4 5 6 D]

**ANY** radiation 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** [Modes 1 2 3 4 5 6 D]

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** [Modes 1 2 3 4 5 6 D]

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**
Analyses of field survey samples indicate thyroid CDE > 5,000 mRem for 1 hr of inhalation at or beyond the site boundary (Note 1)

**Site Area Emergency**

**RS1.1** [Modes 1 2 3 4 5 6 D]

**ANY** radiation 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)

**RS1.2** [Modes 1 2 3 4 5 6 D]

Dose assessment using actual meteorology indicates doses > 100 mRem TEDE or 500 mRem thyroid CDE at or beyond the site boundary

**RS1.3** [Modes 1 2 3 4 5 6 D]

Field survey results indicate closed window dose rates > 100 mRem/hr expected to continue for ≥ 60 min. at or beyond the site boundary
**OR**
Analyses of field survey samples indicate thyroid CDE > 500 mRem for 1 hr of inhalation at or beyond the site boundary (Note 1)

**Alert**

**RA1.1** [Modes 1 2 3 4 5 6 D]

**ANY** gaseous monitor reading > Table R-1 column "Alert" for ≥ 15 min. (Note 2)

**RA1.2** [Modes 1 2 3 4 5 6 D]

Liquid monitor reading > Table R-1 column "Alert" for ≥ 15 min. (Note 2)

**RA1.3** [Modes 1 2 3 4 5 6 D]

Confirmed sample analyses for gaseous or liquid releases indicate concentrations or release rates > 200 x ODCM limits for ≥ 15 min. (Note 2)

**Unusual Event**

**RU1.1** [Modes 1 2 3 4 5 6 D]

**ANY** gaseous monitor reading > Table R-1 column "UE" for ≥ 60 min. (Note 2)

**RU1.2** [Modes 1 2 3 4 5 6 D]

Liquid monitor reading > Table R-1 column "UE" for ≥ 60 min. (Note 2)

**RU1.3** [Modes 1 2 3 4 5 6 D]

Confirmed sample analyses for gaseous or liquid releases indicate concentrations or release rates > 2 x ODCM limits for ≥ 60 min. (Note 2)

### 2 – Onsite Rad Conditions & Spent Fuel Events

**Alert**

**RA2.1** [Modes 1 2 3 4 5 6 D]

Alarm on **ANY** of the following radiation monitors due to damage to irradiated fuel or loss of water level:
- Fuel Handling Area Vent (RI-5420)
- SFP Area RM-320 EL-69 (RI-7024)
- Spent Fuel Handling Machine (RI-7025)
- Unit 1/2 CNTMT EL-69 (RI-5316A/B/C/D)

**RA2.2** [Modes 1 2 3 4 5 6 D]

A water level drop in a reactor refueling pathway that will result in irradiated fuel becoming uncovered

**Unusual Event**

**RU2.1** [Modes 1 2 3 4 5 6 D]

UNPLANNED water level drop in a reactor refueling pathway as indicated by **ANY** of the following (Note 3):
- Inability to restore and maintain SFP level > Technical Specification limit (65 ft 7 in)
- Inability to restore and maintain RFP level > Technical Specification limit (56 ft 8.5 in)
- Report of visual observation of an uncontrolled drop in water level in the RFP or SFP

**AND**
Area radiation monitor reading rise on **ANY** of the following:
- SFP Area RM-320 EL-69 (RI-7024)
- Spent Fuel Handling Machine (RI-7025)
- Unit 1/2 CNTMT EL-69 (RI-5316A/B/C/D)

**RU2.2** [Modes 1 2 3 4 5 6 D]

UNPLANNED area radiation readings increases by a factor of 1,000 over NORMAL LEVELS

### Table R-1 Effluent Monitor Classification Thresholds

| | Monitor | GE | SAE | ALERT | UE |
|---|---|---|---|---|---|
| GASEOUS | WRNGM (RIC-5415) | 3.2E+09 µCi/sec | 3.2E+08 µCi/sec | 3.2E+07 µCi/sec | 3.2E+05 µCi/sec |
| GASEOUS | Main Steam Effluent (RI-5421, RI-5422) | 40.0 rem/hr | 4.0 rem/hr | 0.40 rem/hr | N/A |
| GASEOUS | Main Vent (RI-5415) | N/A | N/A | N/A | 2.0E+05 cpm |
| GASEOUS | Waste Processing (RI-5410) | N/A | N/A | N/A | 4.0E+05 cpm |
| GASEOUS | Fuel Handling Area Vent (RI-5420) | N/A | N/A | N/A | 3.4E+05 cpm |
| LIQUID | Liquid Waste Disch* (RE-2201) | N/A | N/A | off-scale hi | 8.4E+05 cpm |

* with effluent discharge **not** isolated

### 3 – CR/CAS/SAS Rad

**Alert**

**RA3.1** [Modes 1 2 3 4 5 6 D]

Dose rates > 15 mRem/hr in **ANY** of the following areas requiring continuous occupancy to maintain plant safety functions:
- Control Room
- CAS
- SAS

## H – Hazards & Other Conditions Affecting Plant Safety

### 1 – Natural or Destructive Phenomena

**Alert**

**HA1.1** [Modes 1 2 3 4 5 6 D]

**EITHER**:
Seismic Acceleration Recorder (0-YRC-001) Event Indicator indicates seismic event > OBE (0.08 g horizontal, 0.053g vertical)
**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 7)

**HA1.2** [Modes 1 2 3 4 5 6 D]

Tornado striking or sustained high winds > 45 m/sec (100 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

**HA1.3** [Modes 1 2 3 4 5 6 D]

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

**HA1.4** [Modes 1 2 3 4 5 6 D]

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

**HA1.5** [Modes 1 2 3 4 5 6 D]

Bay water level ≥ top of the traveling screen cover housing
**OR**
Bay water level or inside travelling screen water level < 16.0 ft below intake concrete level (-72.0 in. Mean Sea Level)

**HA1.6** [Modes 1 2 3 4 5 6 D]

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

**Unusual Event**

**HU1.1** [Modes 1 2 3 4 5 6 D]

Seismic event identified by **ANY two** of the following:
- Seismic Acceleration Recorder (0-YRC-001) Event Indicator alarms indicate seismic event detected
- Earthquake felt in plant
- National Earthquake Information Center (Note 7)

**HU1.2** [Modes 1 2 3 4 5 6 D]

Tornado striking within PROTECTED AREA boundary
**OR**
Sustained high winds > 45 m/sec (100 mph)

**HU1.3** [Modes 1 2 3 4 5 6 D]

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

**HU1.4** [Modes 1 2 3 4 5 6 D]

Turbine failure resulting in casing penetration or damage to turbine or generator seals

**HU1.5** [Modes 1 2 3 4 5 6 D]

Bay water level ≥ bottom of the traveling screen cover housing (+ 10 ft Mean Sea Level)
**OR**
Bay water level < 13.6 ft below intake concrete level (- 43.2 in. Mean Sea Level)

### Table H-1 Safe Shutdown Areas

- Control Room
- Containment
- Auxiliary Building
- Diesel Generator Rooms
- Intake Structure
- 1A/0C DG Buildings
- RWT
- RWT Rooms
- CST No. 12
- FOST No. 21
- Auxiliary Feed Pump Rooms

### Notes

1. 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
2. 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.
3. 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
4. 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.
5. 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 shutdown beyond that already allowed by Technical Specifications at the time of the event.
6. The lowest RVLMS indication is the 10 in. alarm, which is 10 in. above top of active fuel. Therefore, this indicator should only be used when a valid RFP/RCS level indication is **not** available.
7. The NEIC 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 Calvert Cliffs Nuclear Power Plant. Provide the analyst with the following CCNPP coordinates: **38° 25' 39.7" north latitude, 76° 26' 45" west longitude**.
8. High temperature in Containment may induce a current error in the Mineral Insulated (MI) cable running through Containment to the meter. The CHRRM 1(2)-RI-5317 A&B may **not** detect this value (6 R/hr) under these conditions. When Containment temperature reaches 300°F, the meter will indicate approximately 40 R/hr for a few minutes then drop to approximately 10 R/hr after three hours. This information is to provide guidance on determining the validity of the readings under the specified high temperature conditions.

### 2 – Fire or Explosion

**Alert**

**HA2.1** [Modes 1 2 3 4 5 6 D]

FIRE or EXPLOSION 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

**Unusual Event**

**HU2.1** [Modes 1 2 3 4 5 6 D]

FIRE **not** extinguished within 15 min. of Control Room notification or verification of a Control Room fire alarm in the North Service Building, Turbine Building, Butler Building* or **ANY** Table H-1 area (Note 4)

**HU2.2** [Modes 1 2 3 4 5 6 D]

EXPLOSION within the PROTECTED AREA

* Butler Building is only considered adjacent in Modes 5, 6 and D

### 3 – Hazardous Gas

**Alert**

**HA3.1** [Modes 1 2 3 4 5 6 D]

Access to **ANY** Table H-1 area is prohibited due to toxic, corrosive, asphyxiant or flammable gases which jeopardize operation of **ANY** SAFETY-RELATED STRUCTURE, SYSTEM, OR COMPONENT (Note 5)

**Unusual Event**

**HU3.1** [Modes 1 2 3 4 5 6 D]

Toxic, corrosive, asphyxiant or flammable gases in amounts that have or could adversely affect NORMAL PLANT OPERATIONS

**HU3.2** [Modes 1 2 3 4 5 6 D]

Recommendation by local, county or state officials to evacuate or shelter site personnel based on an offsite event

### 4 – Security

**General Emergency**

**HG4.1** [Modes 1 2 3 4 5 6 D]

A HOSTILE ACTION has occurred such that plant personnel are unable to operate equipment required to maintain **ANY** of the following safety function acceptance criteria:
- Reactivity control (RC)
- Vital Auxiliaries (VA)
- RCS pressure and inventory control (PIC)
- Core & RCS heat removal (HR)

**HG4.2** [Modes 1 2 3 4 5 6 D]

A HOSTILE ACTION has caused failure of Spent Fuel Cooling systems
**AND**
IMMINENT fuel damage is likely

**Site Area Emergency**

**HS4.1** [Modes 1 2 3 4 5 6 D]

A HOSTILE ACTION is occurring or has occurred within the PROTECTED AREA as reported by Security Shift Supervisor

**Alert**

**HA4.1** [Modes 1 2 3 4 5 6 D]

A HOSTILE ACTION is occurring or has occurred within the Owner Controlled Area as reported by Security Shift Supervisor
**OR**
A validated notification from NRC of an AIRLINER attack threat within 30 min. of the site

**Unusual Event**

**HU4.1** [Modes 1 2 3 4 5 6 D]

A SECURITY CONDITION that does **not** involve a HOSTILE ACTION as reported by Security Shift Supervisor
**OR**
A credible site-specific security threat notification
**OR**
A validated notification from NRC providing information of an aircraft threat

### 5 – Control Room Evacuation

**General Emergency:** None

**Site Area Emergency**

**HS5.1** [Modes 1 2 3 4 5 6 D]

Control Room evacuation has been initiated **AND EITHER**:
Inability to establish Auxiliary Feedwater to at least one steam generator within 30 min. (Note 4)
**OR**
Inability to establish reactor coolant make-up (charging pump flow) within 60 min. (Note 4)

**Alert**

**HA5.1** [Modes 1 2 3 4 5 6 D]

Control Room evacuation has been initiated

**Unusual Event:** None

### 6 – Judgment

**General Emergency**

**HG6.1** [Modes 1 2 3 4 5 6 D]

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 (1,000 mRem TEDE and 5,000 mRem thyroid CDE) offsite for more than the immediate site area.

**Site Area Emergency**

**HS6.1** [Modes 1 2 3 4 5 6 D]

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 (1,000 mRem TEDE and 5,000 mRem thyroid CDE) beyond the site boundary.

**Alert**

**HA6.1** [Modes 1 2 3 4 5 6 D]

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 (1,000 mRem TEDE and 5,000 mRem thyroid CDE)

**Unusual Event**

**HU6.1** [Modes 1 2 3 4 5 6 D]

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

## E – ISFSI

**General Emergency:** None

**Site Area Emergency:** None

**Alert:** None

**Unusual Event**

**EU1.1** [N/A]

Damage to a loaded cask CONFINEMENT BOUNDARY

## S – System Malfunct.

### 1 – Loss of AC Power

**General Emergency**

**SG1.1** [Modes 1 2 3 4]

Loss of **all** offsite and **all** onsite AC power, Table S-1, to 4kV vital buses 11(21) and 14(24)
**AND EITHER**:
Restoration of at least one 4 kV vital bus within 4 hours is **not** likely
**OR**
CET readings > 700°F

**Site Area Emergency**

**SS1.1** [Modes 1 2 3 4]

Loss of **all** offsite and **all** onsite AC power, Table S-1, to 4kV vital buses 11(21) and 14(24) for ≥ 15 min. (Note 4)

**Alert**

**SA1.1** [Modes 1 2 3 4]

AC power capability to 4kV vital buses 11(21) and 14(24) reduced to a single power source, Table S-1, for ≥ 15 min. (Note 4)
**AND**
**ANY** additional single power source failure will result in a complete loss of all 4 kV vital bus power

**Unusual Event**

**SU1.1** [Modes 1 2 3 4]

Loss of **all offsite** AC power, Table S-1, to 4 kV vital buses 11(21) and 14(24) for ≥ 15 min. (Note 4)

### Table S-1 AC Power Sources

| | Source |
|---|---|
| Onsite | 1(2)A DG |
| Onsite | 1(2)B DG |
| Onsite | 0C DG, if aligned |
| Offsite | 500kV transmission line 5051* |
| Offsite | 500kV transmission line 5052* |
| Offsite | 500kV transmission line 5072* |
| Offsite | SMECO line, if aligned |

* A credited 500kV line must have an independent 13kV service transformer

### 2 – Loss of DC Power

**General Emergency:** None

**Site Area Emergency**

**SS2.1** [Modes 1 2 3 4]

< 105 VDC on all 125 VDC buses (11, 12, 21 and 22) for ≥ 15 min. (Note 4)

**Alert:** None

### 3 – Criticality & RPS Failure

**General Emergency**

**SG3.1** [Mode 1]

An automatic reactor trip failed to shut down the reactor as indicated by reactor power > 5%
**AND**
**All** manual actions fail to shut down the reactor as indicated by reactor power > 5%
**AND**
**ANY** of the following exist or have occurred:
- CET readings > 700°F
- RCS pressure > PORV setpoint
- RCS subcooling < 25°F

**Site Area Emergency**

**SS3.1** [Mode 1]

An automatic reactor trip failed to shut down the reactor as indicated by reactor power > 5%
**AND**
Manual actions taken at the Control Room panels do **not** shut down the reactor as indicated by reactor power > 5%

**Alert**

**SA3.1** [Mode 1]

An automatic reactor trip failed to shut down the reactor
**AND**
Manual actions taken at the Control Room panels successfully shut down the reactor as indicated by reactor power ≤ 5%

**Unusual Event**

**SU3.1** [Modes 3 4]

An UNPLANNED sustained positive startup rate observed on nuclear instrumentation

### 4 – Inability to Reach Shutdown Conditions

**General Emergency:** None

**Site Area Emergency:** None

**Alert:** None

**Unusual Event**

**SU4.1** [Modes 1 2 3 4]

Plant is **not** brought to required operating mode within Technical Specifications LCO required action completion time

### 5 – Inst.

**Site Area Emergency**

**SS5.1** [Modes 1 2 3 4]

Loss of greater than approximately 75% of safety system annunciation or indication on Control Room panels for ≥ 15 min. (Note 4)
**AND**
A significant transient is in progress, Table S-2
**AND**
Compensatory indications are unavailable (Plant Computer, SPDS)

**Alert**

**SA5.1** [Modes 1 2 3 4]

UNPLANNED loss of greater than approximately 75% of safety system annunciation or indication on Control Room panels for ≥ 15 min. (Note 4)
**AND EITHER**:
A significant transient is in progress, Table S-2
**OR**
Compensatory indications are unavailable (Plant Computer, SPDS)

**Unusual Event**

**SU5.1** [Modes 1 2 3 4]

UNPLANNED loss of greater than approximately 75% of safety system annunciation or indication on Control Room panels for ≥ 15 min. (Note 4)

### Table S-2 Significant Transients

- Automatic turbine runback > 25% thermal power
- Electric load rejection > 25% full electrical load
- Reactor trip
- Safety Injection actuation

### 6 – Comm.

**Unusual Event**

**SU6.1** [Modes 1 2 3 4]

Loss of **all** Table S-3 onsite (internal) communication methods affecting the ability to perform routine operations
**OR**
Loss of **all** Table S-3 offsite (external) communication methods affecting the ability to perform offsite notifications to any agency

### Table S-3 Communications Systems

| System | Onsite (internal) | Offsite (external) |
|---|---|---|
| Commercial phone system | X | X |
| Plant page system | X | |
| Microwave telephone (Hot-Lines) (EOB) | X | X |
| Dedicated offsite agency telephone system | | X |
| FTS 2001 telephone system | | X |
| CCNPP Radio System | X | X |
| Satellite Phone System | | X |
| Cellular Phone System | X | X |

### 7 – Fuel Clad Degradation

**General Emergency:** None

**Unusual Event**

**SU7.1** [Modes 1 2 3 4]

Coolant activity > **ANY** of the following:
- Dose equivalent I-131 0.5 µCi/gm for 100 hrs. continuous
- Dose equivalent I-131 acceptable region of T.S. Fig. 3.4.15-1
- Dose equivalent I-131 137.5 µCi/gm
- Gross activity 100/E-bar µCi/gm

**SU7.2** [Modes 1 2 3 4]

Letdown Monitor (RY-202-1) high alarm (≥ 1E+06 cpm)

### 8 – RCS Leakage

**General Emergency:** None

**Unusual Event**

**SU8.1** [Modes 1 2 3 4]

Unidentified or pressure boundary leakage > 10 gpm for ≥ 15 min. (Note 4)
**OR**
Identified leakage > 25 gpm for ≥ 15 min. (Note 4)

## F – Fission Product Barrier Degradation

**General Emergency**

**FG1.1** [Modes 1 2 3 4]

Loss of **ANY** two barriers
**AND**
Loss or potential loss of third barrier (Table F-1)

**Site Area Emergency**

**FS1.1** [Modes 1 2 3 4]

Loss or potential loss of **ANY** two barriers (Table F-1)

**Alert**

**FA1.1** [Modes 1 2 3 4]

**ANY** loss or **ANY** potential loss of either Fuel Clad or RCS (Table F-1)

**Unusual Event**

**FU1.1** [Modes 1 2 3 4]

**ANY** loss or **ANY** potential loss of Containment (Table F-1)

### Table F-1 Fission Product Barrier Matrix

| | Fuel Clad Barrier – Loss | Fuel Clad Barrier – Potential Loss | Reactor Coolant System Barrier – Loss | Reactor Coolant System Barrier – Potential Loss | Containment Barrier – Loss | Containment Barrier – Potential Loss |
|---|---|---|---|---|---|---|
| **A** Core Cooling / Heat Removal | ☐ 1. CET readings > 1,200°F | ☐ 1. CET readings > 700°F<br>☐ 2. RCS heat removal **cannot** be established **AND EITHER**: RCS pressure > PORV setpoint **OR** RCS subcooling < 25°F | None | ☐ 1. OTCC flow established<br>☐ 2. RCS heat removal **cannot** be established **AND EITHER**: RCS pressure > PORV setpoint **OR** RCS subcooling < 25°F<br>☐ 3. Uncontrolled RCS cooldown and to left of Max Operating Pressure Curve (EOP Attachment 1, RCS Pressure Temperature Limits) | None | ☐ 1. CET readings cannot be restored < 1,200°F within 15 min.<br>☐ 2. CET readings > 700°F **AND** Reactor vessel water level **cannot** be restored > RVLMS 10 in. alarm within 15 min. |
| **B** Inventory | None | ☐ 3. RVLMS level < 10 in. alarm | ☐ 1. RCS leak rate > available makeup capacity as indicated by a loss of RCS subcooling (< 25°F)<br>☐ 2. RUPTURED S/G results in an ECCS (SIAS) actuation | ☐ 4. RCS leak rate > 50 gpm with letdown isolated | ☐ 1. A Containment pressure rise followed by a rapid unexplained drop in Containment pressure<br>☐ 2. Containment pressure or sump level response **not** consistent with LOCA conditions<br>☐ 3. RUPTURED S/G is also faulted outside of Containment<br>☐ 4. Primary-to-secondary leakrate > 10 gpm **AND** UNISOLABLE or prolonged steam release from affected S/G to the environment | ☐ 3. Containment pressure ≥ 50 psig and rising<br>☐ 4. Containment hydrogen concentration ≥ 4%<br>☐ 5. Containment pressure > 4.25 psig **AND cannot** meet **ANY** of the following conditions: • 2 Containment Spray Pumps Operating • 3 CACs Operating • 1 Containment Spray Pump and 2 CACs Operating |
| **C** Radiation / Coolant Activity | ☐ 2. Containment radiation monitor (5317A/B) reading > 3,500 R/hr<br>☐ 3. Post-accident sample dose rate ≥ 40 mRem/hr (1 ft from sample)<br>☐ 4. Coolant activity > 300 µCi/cc DEQ I-131 | None | ☐ 3. Containment radiation monitor (5317A/B) reading > 6 R/hr (Note 8) | None | None | ☐ 6. Containment radiation monitor (5317A/B) reading > 14,000 R/hr |
| **D** Isolation Status | None | None | None | None | ☐ 5. Failure of **all** valves in ANY **one** line to close **AND** Direct downstream pathway to the environment exists after Containment isolation signal | None |
| **E** Judgment | ☐ 5. **ANY** condition in the opinion of the Emergency Director that indicates loss of the fuel clad barrier | ☐ 4. **ANY** condition in the opinion of the Emergency Director that indicates potential loss of the fuel clad barrier | ☐ 4. **ANY** condition in the opinion of the Emergency Director that indicates loss of the RCS barrier | ☐ 5. **ANY** condition in the opinion of the Emergency Director that indicates potential loss of the RCS barrier | ☐ 6. **ANY** condition in the opinion of the Emergency Director that indicates loss of the Containment barrier | ☐ 7. **ANY** condition in the opinion of the Emergency Director that indicates potential loss of the Containment barrier |

## Current Classification

| Current Classification | EAL#: | Time Declared: |
|---|---|---|
| ☐ UNUSUAL EVENT | | |
| ☐ ALERT | | |
| ☐ SITE AREA EMERGENCY | | |
| ☐ GENERAL EMERGENCY | | |

## EAL Identifier

**XXX.X**

- Category (R, H, E, S, F, C)
- Emergency classification (G, S, A, U)
- Subcategory number (1 if no subcategory)
- Sequential number within subcategory/classification

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



# MODE 1, 2, 3 or 4


Prepared for Constellation by: Operations Support Services, Inc. - www.ossi-net.com (Draft D3 1/6/11)


D-01

D01