ATTACHMENT 5
STP EAL Wall Board (for information only)

STP EAL Wall Board

"S" System Malfunction (Mode 1, 2, 3, 4) ------- AND ------- "F" Fission Product Barriers (Mode 1, 2, 3, 4)

S System Malfunction

	General Emergency	Site Area Emergency	Alert	Unusual Event
AC Power	**SG1** Prolonged loss of all offsite and all onsite AC power to emergency buses. **Emergency Action Level** 1.a. Loss of **ALL** offsite and **ALL** onsite AC power to 4160V AC ESF Buses. **AND** b. **EITHER** of the following: • Restoration of at least one 4160V AC ESF bus in less than 4 hours is not likely. • Core Cooling – Red entry conditions met **Modes: 1,2,3,4**	**SS1** Loss of All offsite and All onsite AC power to emergency buses for 15 minutes or longer. **Emergency Action Level** 1. Loss of **ALL** offsite and **ALL** onsite AC power to **ALL** three 4160V AC ESF Buses for 15 minutes or longer. **Modes: 1,2,3,4**	**SA1** Loss of all but one AC power source to emergency buses for 15 minutes or longer. **Emergency Action Level** 1. a. AC power capability to **ALL** three 4160V AC ESF Buses is reduced to a single power source for 15 minutes or longer. **AND** b. Any additional single power source failure will result in a loss of **ALL** AC power to SAFETY SYSTEMS. **Modes: 1,2,3,4**	**SU1** Loss of **ALL** offsite AC power capability to emergency buses for 15 minutes or longer. **Emergency Action Level** 1. Loss of **ALL** offsite AC power capability to **ALL** three 4160V AC ESF Buses for 15 minutes or longer. **Modes: 1,2,3,4**
Control room Indications		**Table S1: Plant Parameters** • Reactor Power • RCS Level • RCS Pressure • Core Exit Temperature • Levels in at least two steam generators • Steam Generator Auxiliary Feed Water Flow	**SA2** UNPLANNED loss of Control Room indications for 15 minutes or longer with a significant transient in progress. **Emergency Action Level** 1. a. An UNPLANNED event results in the inability to monitor one or more of the following parameters in Table S1 from within the Control Room for 15 minutes or longer. **AND** b. **ANY** of the following transient events in progress. • Automatic or manual runback greater than 25% thermal reactor power • Electrical load rejection greater than 25% full electrical load • Reactor trip • ECCS (SI) actuation **Modes: 1,2,3,4**	**SU2** UNPLANNED loss of Control Room indications for 15 minutes or longer. **Emergency Action Level** 1. An UNPLANNED event results in the inability to monitor one or more of the following parameters in Table S1 from within the Control Room for 15 minutes or longer: **Modes: 1,2,3,4**
Coolant Activity				**SU3** Reactor coolant activity greater than Technical Specification allowable limits. **Emergency Action Levels: (1 or 2)** 1. Failed Fuel Monitor RT-8039 reading greater than 30 $\mu Ci/cm^3$. 2. Sample analysis indicates that a reactor coolant activity value is greater than an allowable limit specified in Technical Specifications: • Greater than 1 µCi/gm Dose Equivalent I-131 • Greater than 100/ Ē µCi/gm gross activity **Modes: 1,2,3,4**
RCS Leakage				**SU4** RCS leakage for 15 minutes or longer. **Emergency Action Levels: (1 or 2 or 3)** 1. RCS unidentified or pressure boundary leakage greater than 10 gpm for 15 minutes or longer. 2. RCS identified leakage greater than 25 gpm for 15 minutes or longer. 3. Leakage from the RCS greater than 150 gallons per day through any one steam generator. **Modes: 1,2,3,4**
RPS Failure		**SS5** Inability to shutdown the reactor causing a challenge to core cooling or RCS heat removal. **Emergency Action Level** 1. a. An automatic or manual trip did not shutdown the reactor. **AND** b. All manual actions to shutdown the reactor have been unsuccessful. **AND** c. **EITHER** of the following conditions exist: • Core Cooling – Red entry conditions met • Heat Sink- Red entry conditions met **Modes: 1,2**	**SA5** Automatic or manual trip fails to shutdown the reactor, and subsequent manual actions taken at the reactor control panels are not successful in shutting down the reactor. **Emergency Action Level** 1. a. An automatic or manual trip did not shutdown the reactor. **AND** b. Manual actions taken at the reactor control panels are not successful in shutting down the reactor. **Modes: 1,2**	**SU5** Automatic or manual trip fails to shutdown the reactor. **Emergency Action Levels: (1 or 2)** 1. a. An automatic trip did not shutdown the reactor. **AND** b. A subsequent manual action taken at the reactor control panels is successful in shutting down the reactor. 2. a. A manual trip did not shutdown the reactor. **AND** b. **EITHER** of the following: (1) A subsequent manual action taken at the reactor control panels is successful in shutting down the reactor. **OR** (2) A subsequent automatic trip is successful in shutting down the reactor. **Modes: 1,2**
Comm.		**Table S2: Communications Methods** METHOD / EAL-1 ONSITE / EAL-2 ORO / EAL-3 NRC • Plant PA system: X • Plant Radios: X • Plant telephone system: X, X, X • Satellite phones: X, X • Direct line to Bay City: X, X • Microwave Lines to Houston: X, X • Security radio to Matagorda County: X • Dedicated Ring-down lines: X • ENS line: X		**SU6** Loss of **ALL** onsite or offsite communications capabilities. **Emergency Action Levels: (1 or 2 or 3)** 1. Loss of **ALL** of the following Onsite communication methods in Table S2. 2. Loss of **ALL** of the following Offsite Response Organization (ORO) communications methods in Table S2. 3. Loss of **ALL** of the following NRC communications methods in Table S2. **Modes: 1,2,3,4**
Containment Isolation				**SU7** Failure to isolate containment or loss of containment pressure control. **Emergency Action Levels: (1 or 2)** 1. a. Failure of containment to isolate when required by an actuation signal. **AND** b. **ALL** required penetrations are not isolated within 15 minutes of the actuation signal. 2. a. Containment pressure greater than 9.5 psig. **AND** b. No Containment Spray train is operating per design for 15 minutes or longer. **Modes: 1,2,3,4**
DC Power	**SG8** Loss of all AC and Vital DC power sources for 15 minutes or longer. **Emergency Action Level** 1. a. Loss of **ALL** offsite and **ALL** onsite AC power to 4160V AC ESF buses for 15 minutes or longer. **AND** b. Indicated voltage is less than 105.5 VDC on **ALL** Class 1E 125 VDC battery buses for 15 minutes or longer. **Modes: 1,2,3,4**	**SS8** Loss of all Vital DC power for 15 minutes or longer. **Emergency Action Level** 1. Indicated voltage is less than 105.5 VDC on **ALL** Class 1E 125 VDC battery buses for 15 minutes or longer. **Modes: 1,2,3,4**		
Hazards			**SA9** Hazardous event affecting a SAFETY SYSTEM needed for the current operating mode. **Emergency Action Level** 1. a. The occurrence of **ANY** of the following hazardous events in Table S3. **AND** b. **EITHER** of the following: (1) Event damage has caused indications of degraded performance in at least one train of a SAFETY SYSTEM needed for the current operating mode. **OR** (2) The event has caused VISIBLE DAMAGE to a SAFETY SYSTEM component or structure needed for the current operating mode. **Modes: 1,2,3,4**	**Table S3: Hazardous Events** • Seismic event (earthquake) • Internal or external flooding event • High winds or tornado strike • FIRE • EXPLOSION • Predicted or actual breach of Main Cooling Reservoir retaining dike along North Wall. • Other events with similar hazard characteristics as determined by the Shift Manager

Fission Product Barrier Matrix

F Fission Product Barriers

FG1 – GENERAL EMERGENCY: Loss of **ANY** two barriers and Loss **OR** Potential Loss of the third barrier. **Modes: 1,2,3,4**

FS1- SITE AREA EMERGENCY: Loss **OR** Potential Loss of **ANY** two barriers. **Modes: 1,2,3,4**

FA1- ALERT: **ANY** Loss **OR ANY** Potential Loss of **EITHER** the Fuel Clad **OR** RCS barrier. **Modes: 1,2,3,4**

Sub-Category	Fuel Clad Barrier		RCS Barrier		Containment Barrier	
	LOSS	POTENTIAL LOSS	LOSS	POTENTIAL LOSS	LOSS	POTENTIAL LOSS
1. RCS or SG Tube Leakage	Not Applicable	A. Core Cooling - Orange entry conditions met	A. An automatic **OR** manual ECCS (SI) actuation is required by **EITHER** of the following: 1. UNISOLABLE RCS leakage **OR** 2. SG tube RUPTURE.	A. Operation of a standby charging pump is required by **EITHER** of the following: 1. UNISOLABLE RCS leakage **OR** 2. SG tube leakage. **OR** 3. Integrity – Red entry conditions met	A. A Leaking **OR** RUPTURED SG is FAULTED outside of containment.	Not Applicable
2. Inadequate Heat Removal	A. Core Cooling - Red entry conditions met	A. Core Cooling - Orange entry conditions met **OR** B. Heat Sink - Red entry conditions met	Not Applicable	A. Heat Sink - Red entry conditions met.	Not Applicable	A. Core Cooling – Red entry conditions met for 15 minutes **OR** longer
3. RCS Activity/ Containment Radiation	A. 1. RCB Rad Monitor RT-8050 or RT-8051 greater than 140 R/hr **OR** 2. HATCH MONITOR greater than 300 mR/hr **OR** B. Sample analysis indicates that reactor coolant activity is greater than 300 µCi/gm dose equivalent I-131.	Not Applicable	A. RCB Rad Monitor RT-8050 or RT-8051 greater than 2 R/hr	Not Applicable	Not Applicable	A. 1. RCB Rad Monitor RT-8050 or RT-8051 greater than 550 R/hr **OR** 2. HATCH MONITOR greater than 1,200 mR/hr
4. Containment Integrity or Bypass	Not Applicable	Not Applicable	Not Applicable	Not Applicable	A. Containment isolation is required **AND EITHER** of the following: 1. Containment integrity has been lost based on Emergency Director judgment. **OR** 2. UNISOLABLE pathway from the containment to the environment exists **OR** B. Indications of RCS leakage outside of containment.	A. Containment - Red entry conditions met **OR** B. Explosive mixture exists inside containment (H_2 > 4%) **OR** C. 1. Containment pressure greater than 9.5 psig **AND** 2. Less than one full train of Containment Spray is operating per design for 15 minutes or longer.
5. Other Indications	N/A	N/A	N/A	N/A	N/A	N/A
6. Emergency Director Judgment	A. **ANY** condition in the opinion of the Emergency Director that indicates Loss of the Fuel Clad Barrier.	A. **ANY** condition in the opinion of the Emergency Director that indicates Potential Loss of the Fuel Clad Barrier.	A. **ANY** condition in the opinion of the Emergency Director that indicates Loss of the RCS Barrier.	A. **ANY** condition in the opinion of the Emergency Director that indicates Potential Loss of the RCS Barrier.	A. **ANY** condition in the opinion of the Emergency Director that indicates Loss of the Containment Barrier.	A. **ANY** condition in the opinion of the Emergency Director that indicates Potential Loss of the Containment Barrier.

Modes: 1—Power Operations 2—Startup 3—Hot Standby 5—Cold Shutdown 6—Refueling D—Defueled

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"C" Cold Shutdown/Refueling System Malfunctions (Mode 5, 6, D)

	General Emergency	Site Area Emergency	Alert	Unusual Event
LOCA	**CG1** Loss of RCS inventory affecting fuel clad integrity with containment challenged. **Emergency Action Level** 1. a. RCS level cannot be monitored for 30 minutes or longer. **AND** b. Core uncovery is indicated by **ANY** of the following: • Reactor Containment Building 68'-0" Area Radiation Monitors RE-8055 or RE-8099 reading greater than 9,000 mR/hr • Erratic source range monitor indication • UNPLANNED rise in any of the following sump or tank levels in Table C2 of sufficient magnitude to indicate core uncovery. **AND** c. ANY indication from Table C1. **Modes: 5,6**	**CS1** Loss of RCS inventory affecting core decay heat removal capability. **Emergency Action Levels: (1 or 2)** 1. a. CONTAINMENT CLOSURE not established. **AND** b. RCS level less than 33% of plenum. 2. a. RCS level cannot be monitored for 30 minutes or longer. **AND** b. Core uncovery as indicated by **ANY** of the following: • Reactor Containment Building 68'-0" Area Radiation Monitors RE-8055 or RE-8099 reading greater than 9,000 mR/hr • Erratic source range monitor indication • UNPLANNED rise in any of the following sump or tank levels in Table C2 of sufficient magnitude to indicate core uncovery. **Modes: 5,6**	**CA1** Loss of RCS inventory. **Emergency Action Levels: (1 or 2)** 1. Loss of RCS inventory as indicated by level less than 32 ft. 9 inch (+ 6 inches above hot leg centerline). 2. a. RCS level cannot be monitored for 15 minutes or longer. **AND** b. UNPLANNED rise in **ANY** of the following sump or tank levels in Table C2 due to a loss of RCS inventory. **Modes: 5,6**	**CU1** UNPLANNED loss of RCS inventory for 15 minutes or longer. **Emergency Action Levels: (1 or 2)** 1. UNPLANNED loss of reactor coolant results in RCS level below the Reactor Vessel Flange for 15 minutes or longer. 2. a. RCS level cannot be monitored. **AND** b. UNPLANNED rise in **ANY** of the following sump or tank levels in Table C2. **Modes 5,6**
AC Power	**Table C1: Containment Challenge** • CONTAINMENT CLOSURE not established within 30 minutes OR • ≥ 4% hydrogen exists inside containment OR • UNPLANNED rise in containment pressure	**Table C2: RCS Leakage** • Containment Normal Sump • Pressurizer Relief Tank (PRT) • Reactor Coolant Drain Tank (RCDT) • MAB Sumps 1 thru 4 • Containment Penetration Area Sump • SIS/CSS Pump Compartment Sump	**CA2** Loss of **ALL** offsite and **ALL** onsite AC power to emergency buses for 15 minutes or longer. **Emergency Action Level** 1. Loss of **ALL** offsite **AND ALL** onsite AC Power to **ALL** three 4160V AC ESF Busses for 15 minutes or longer. **Modes: 5,6,D**	**CU2** Loss of **ALL** but one AC power source to emergency buses for 15 minutes or longer. **Emergency Action Level** 1. a. AC power capability to **ALL** three 4160V AC ESF Buses is reduced to a single power source for 15 minutes or longer. **AND** b. **ANY** additional single power source failure will result in loss of **ALL** AC power to SAFETY SYSTEMS. **Modes 5,6,D**
Maintain Shutdown			**CA3** Inability to maintain the plant in cold shutdown. **Emergency Action Levels: (1 or 2)** 1. UNPLANNED rise in RCS temperature greater than 200 °F (Tavg) for greater than the duration specified in Table C3. 2. UNPLANNED RCS pressure rise greater than 10 psig. (This EAL does not apply during water-solid plant conditions.) **Modes: 5,6**	**CU3** UNPLANNED rise in RCS temperature. **Emergency Action Levels: (1 or 2)** 1. UNPLANNED rise in RCS temperature to greater than 200 °F (Tavg). 2. Loss of **ALL** RCS temperature and RCS level indication for 15 minutes or longer. **Modes: 5,6**
DC				**CU4** Loss of Vital DC power for 15 minutes or longer. **Emergency Action Level** 1. Indicated voltage is less than 105.5 VDC on required Class 1E 125 VDC battery buses for 15 minutes or longer. **Modes 5,6**
Communications	**Table C4: Communications Methods** METHOD / EAL-1 ONSITE / EAL-2 ORO / EAL-3 NRC • Plant PA system: X • Plant Radios: X • Plant telephone system: X / X / X • Satellite phones: X / X • Direct line from Control Rooms to Bay City: X / X • Microwave Lines to Houston: X / X • Security radio to Matagorda County: X • Dedicated Ring-down lines: X • ENS line: X		**Table C3: RCS Heat-up Duration Threshold** RCS Status / CONTAINMENT CLOSURE Status / Heat-up Duration Intact (but not at reduced inventory) / Not applicable / 60 minutes* Not intact (or at reduced inventory) / Established / 20 minutes* Not intact (or at reduced inventory) / Not Established / 0 minutes * If an RCS heat removal system is in operation within this time frame and RCS temperature is being reduced, the EAL is not applicable.	**CU5** Loss of **ALL** onsite or offsite communications capabilities. **Emergency Action Levels: (1 or 2 or 3)** 1. Loss of **ALL** of the following Onsite communication methods identified in Table C4. 2. Loss of **ALL** of the following Offsite Response Organization communications methods identified in Table C4. 3. Loss of **ALL** of the following NRC communications methods identified in Table C4. **Modes: 5,6,D**
Hazards		**Table C5: Hazardous Events** • Seismic event (earthquake) • Internal or external flooding event • High winds or tornado strike • FIRE • EXPLOSION • Predicted or actual breach of Main Cooling Reservoir retaining dike along the North Wall. • Other events with similar hazard characteristics as determined by the Shift Manager	**CA6** Hazardous event affecting a SAFETY SYSTEM needed for the current operating mode. **Emergency Action Level** 1. a. The occurrence of **ANY** of the following hazardous events in Table C5 **AND** b. **EITHER** of the following: (1) Event damage has caused indications of degraded performance in at least one train of a SAFETY SYSTEM needed for the current operating mode. **OR** (2) The event has caused VISIBLE DAMAGE to a SAFETY SYSTEM component or structure needed for the current operating mode. **Modes: 5.6**	

Modes: 1—Power Operations 2—Startup 3—Hot Standby 5—Cold Shutdown 6—Refueling D—Defueled

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"H" Hazards and Other Conditions Affecting Plant Safety (Mode: ALL) ------ AND ------- "R" Abnormal Radiation Levels/Radiological Effluents (Mode: ALL)

	General Emergency	Site Area Emergency	Alert	Unusual Event
Security	**HG1** HOSTILE ACTION resulting in loss of physical control of the FACILITY. **Emergency Action Level** 1 a. A HOSTILE ACTION is occurring or has occurred within the PROTECTED AREA as reported by any of the following personnel in Table H1 **AND** b. **EITHER** of the following has occurred: (1) **ANY** of the following safety functions in Table H2 cannot be controlled or maintained. **OR** (2) Damage to spent fuel has occurred or is IMMINENT. **Modes: All**	**HS1** HOSTILE ACTION within the PROTECTED AREA. **Emergency Action Level** 1. A HOSTILE ACTION is occurring or has occurred within the PROTECTED AREA as reported by **ANY** of the following personnel in Table H1. **Modes: All**	**HA1** HOSTILE ACTION within the OWNER CONTROLLED AREA or airborne attack threat within 30 minutes. **Emergency Action Levels: (1 or 2)** 1. A HOSTILE ACTION is occurring or has occurred within the OWNER CONTROLLED AREA as reported by **ANY** of the following personnel in Table H1. 2. A validated notification from NRC of an aircraft attack threat within 30 minutes of the site. **Modes: All**	**HU1** Confirmed SECURITY CONDITION or threat. **Emergency Action Levels: (1 or 2 or 3)** 1. A SECURITY CONDITION that does not involve a HOSTILE ACTION as reported by **ANY** of the following personnel in Table H1. 2. Notification of a CREDIBLE SECURITY THREAT directed at the site. 3. A validated notification from the NRC providing information of an aircraft threat. **Modes: All**
Seismic		**Table H1: Security Supervision** • Security Force Supervisor • Acting Security Manager • Security Manager		**HU2** Seismic event greater than OBE levels. **Emergency Action Level** 1.a. EITHER of the following conditions exist: 1. "SEISMIC EVENT" alarm in Unit 1 Control Room **OR** 2. Control Room personnel feel an actual or potential seismic event. **AND** b. The occurrence of a seismic event is confirmed in manner deemed appropriate by the Shift Manager or Emergency Director. **Modes: All**
Hazards				**HU3** Hazardous event **Emergency Action Levels: (1 or 2 or 3 or 4 or 5)** 1. A tornado strike within the PROTECTED AREA. 2. Internal room or area flooding of a magnitude sufficient to require manual or automatic electrical isolation of a SAFETY SYSTEM component needed for the current operating mode. 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). 4. A hazardous event that results in onsite conditions sufficient to prohibit the plant staff from accessing the site via personal vehicles. 5. Predicted or actual breach of Main Cooling Reservoir dike along North Wall **Modes: All**
H **Hazards** **Fire**		**Table H2: Safety Functions** • Reactivity control • Core cooling • RCS heat removal	**Table H3: Plant Rooms/Areas** • Mechanical/Electrical Auxiliary Building (MEAB) • Fuel Handling Building (FHB) • Reactor Containment Building (RCB) • Essential Cooling Water Intake Structure (ECWIS) • Isolation Valve Cubicle (IVC) • Diesel Generator Building (DGB)	**HU4** FIRE potentially degrading the level of safety of the plant. **Emergency Action Levels: (1 or 2 or 3 or 4)** 1.a. A FIRE is NOT extinguished within 15-minutes of ANY of the following FIRE detection indications: • Report from the field (i.e., visual observation) • Receipt of multiple (more than 1) fire alarms or indications • Field verification of a single fire alarm **AND** b. The FIRE is located within **ANY** of the plant rooms or areas in Table H3. 2. Receipt of a single fire alarm (i.e., no other indications of a FIRE). **AND** b. The FIRE is located within **ANY** of the plant rooms or areas in Table H3. **AND** c. The existence of a FIRE is not verified within 30-minutes of alarm receipt. 3. A FIRE within the plant PROTECTED AREA not extinguished within 60-minutes of the initial report, alarm or indication. 4. A FIRE within the plant PROTECTED AREA that requires firefighting support by an offsite fire response agency to extinguish. **Modes: All**
Toxic Gas			**HA5** Gaseous release impeding access to equipment necessary for normal plant operations, cooldown or shutdown. **Emergency Action Level** 1.a. Release of a toxic, corrosive, asphyxiant or flammable gas into any of the plant rooms or areas: • Mechanical/Electrical Auxiliary Building (MEAB) • Turbine Generator Building (TGB) • Isolation Valve Cubicle (IVC) • Fuel Handling Building (FHB) • Reactor Containment Building (RCB) **AND** b. Entry into the room or area is prohibited or impeded. **Modes: All**	
Control Room Evacuation		**HS6** Inability to control a key safety function from outside the Control Room. **Emergency Action Level** 1.a. An event has resulted in plant control being transferred from the Control Room to the Auxiliary Shutdown Panel (ASP). **AND** b. Control of **ANY** of the following key safety functions in Table H2 is not reestablished within 15 minutes. **Modes: All**	**HA6** Control Room evacuation resulting in transfer of plant control to alternate locations. **Emergency Action Level** 1. An event has resulted in plant control being transferred from the Control Room to the Auxiliary Shutdown Panel (ASP) **Modes: All**	
Judgment	**HG7** Other conditions exist which in the judgment of the Emergency Director warrant declaration of a GENERAL EMERGENCY. **Emergency Action Level** 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. **Modes: All**	**HS7** Other conditions exist which in the judgment of the Emergency Director warrant declaration of a SITE AREA EMERGENCY. **Emergency Action Level** 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. **Modes: All**	**HA7** Other conditions exist which in the judgment of the Emergency Director warrant declaration of an ALERT. **Emergency Action Level** 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. **Modes: All**	**HU7** Other conditions exist which in the judgment of the Emergency Director warrant declaration of an UNUSUAL EVENT. **Emergency Action Level** 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. **Modes: All**
Effluent Releases	**RG1** Release of gaseous radioactivity resulting in offsite dose greater than 1,000 mrem TEDE or 5,000 mrem THYROID CDE. **Emergency Action Levels: (1 or 2 or 3)** 1. Reading on **ANY** of the following radiation monitors greater than the values listed in Table R1 column "GE" for 15 minutes or longer. 2. Dose assessment using actual meteorology indicates doses greater than 1,000 mrem TEDE or 5,000 mrem THYROID CDE at or beyond the SITE BOUNDARY. 3. Field survey results indicate **EITHER** of the following at or beyond the SITE BOUNDARY: • Closed window dose rates greater than 1,000 mR/hr expected to continue for 60 minutes or longer. • Analyses of field survey samples indicate THYROID CDE greater than 5,000 mrem for one hour of inhalation. **Modes: All**	**RS1** Release of gaseous radioactivity resulting in offsite dose greater than 100 mrem TEDE or 500 mrem THYROID CDE. **Emergency Action Levels: (1 or 2 or 3)** 1. Reading on **ANY** of the following radiation monitors greater than the values listed in Table R1 column "SAE" for 15 minutes or longer. 2. Dose assessment using actual meteorology indicates doses greater than 100 mrem TEDE or 500 mrem THYROID CDE at or beyond the SITE BOUNDARY. 3. Field survey results indicate **EITHER** of the following at or beyond the SITE BOUNDARY: • Closed window dose rates greater than 100 mR/hr expected to continue for 60 minutes or longer. • Analyses of field survey samples indicate THYROID CDE greater than 500 mrem for one hour of inhalation. **Modes: All**	**RA1** Release of gaseous radioactivity resulting in offsite dose greater than 10 mrem TEDE or 50 mrem THYROID CDE. **Emergency Action Levels: (1 or 2 or 3)** 1. Reading on **ANY** of the following radiation monitors greater than the values listed in Table R1column "ALERT" for 15 minutes or longer. 2. Dose assessment using actual meteorology indicates doses greater than 10 mrem TEDE or 50 mrem THYROID CDE at or beyond the SITE BOUNDARY. 3. Field survey results indicate **EITHER** of the following at or beyond the SITE BOUNDARY: • Closed window dose rates greater than 10 mR/hr expected to continue for 60 minutes or longer. • Analyses of field survey samples indicate THYROID CDE greater than 50 mrem for one hour of inhalation. **Modes: All**	**RU1** Release of gaseous or liquid radioactivity greater than 2 times the ODCM limits for 60 minutes or longer. **Emergency Action Levels: (1 or 2 or 3)** 1. Reading on **ANY** of the following radiation monitors greater than the values listed in Table R1column "UE" for 60 minutes or longer. 2. Reading on gaseous effluent radiation monitor RT-8010B greater than 2 times the alarm setpoint established by a current radioactivity discharge permit for 60 minutes or longer. 3. Sample analysis for a gaseous or liquid release indicates a concentration or release rate greater than 2 times the ODCM limits for 60 minutes or longer. **Modes: All**
R **Abnormal Rad Levels Effluents** **Spent Fuel Pool**	**RG2** Spent fuel pool level cannot be restored to at least 40'- 4" for 60 minutes or longer. NOTE *This EAL-1 is not applicable until the enhanced SFP level instrumentation is available for use.* **Emergency Action Level** 1. Spent fuel pool level cannot be restored to at least 40'- 4" for 60 minutes or longer. Modes: All	**RS2** Spent fuel pool level at 40'- 4" or lower. NOTE *EAL-1 is not applicable until the enhanced SFP level instrumentation is available for use.* **Emergency Action Level** 1. Lowering of spent fuel pool level to 40'- 4" or lower. Modes: All	**RA2** Significant lowering of water level above, or damage to, irradiated fuel. **Emergency Action Levels: (1 or 2 or 3)** 1. Uncovery of irradiated fuel in the REFUELING PATHWAY. 2.a Damage to irradiated fuel resulting in a release of radioactivity from the fuel as indicated by **ANY** of the following **FHB** radiation monitor readings: • ARM (68' FHB), RE-8090 greater than 1,500 mR/hr • FHB Exhaust, RT-8035 or RT-8036 greater than 1.00 E-1 µCi/cm³ **OR** b. Damage to irradiated fuel resulting in a release of radioactivity from the fuel as indicated by **ANY** of the following **RCB** radiation monitor readings (Mode 5 or 6 only): • ARMs (68' RCB), RE-8055 or RE-8055 greater than 850 mR/hr NOTE *This EAL-3 is not applicable until the enhanced SFP level instrumentation is available for use.* 3. Lowering of spent fuel pool level to 49'-10" or lower.	**RU2** UNPLANNED loss of water level above irradiated fuel. **Emergency Action Level** 1.a UNPLANNED water level drop in the REFUELING PATHWAY as indicated by ANY of the following: (1) Annunciator alarm on lampbox 22M02 Window F-5 "SFP WATER LVL HI/LO" **OR** (2) Visual Observation **OR** (3) Both of the following with spent fuel in the ICSA: (a) Annunciator alarm on lampbox 22M02 Window F-6 "SFP Trouble" (Mode 5 or 6 only) **AND** (b) Plant Computer point FCLC1420 "REFLNG CAV LVL IN CNTMT" (ICSA Water Level HI/LO) is in alarm (Mode 5 or 6 only). **AND** b. UNPLANNED rise in area radiation levels on **ANY** of the following area radiation monitors: • RE-8055 (68' RCB) Mode 5 or 6 only • RE-8099 (68' RCB) Mode 5 or 6 only • RE-8090 (68' FHB) **Modes: All**
Abnormal Rad Levels	**Table R1: Effluent Monitors** Release Point / Monitor / GE / SAE / ALERT / UE GAS — Unit Vent: RT-8010B: 1.50 E+08 µCi/sec / 1.50 E+07 µCi/sec / 1.50 E+06 µCi/sec / 1.40 E+05 µCi/sec GAS — Steam Lines: RT-8046 thru 8049: 4.00 E+02 µCi/cm³ / 4.00 E+01 µCi/cm³ / 4.00 E+00 µCi/cm³ / 5.00 E-02 µCi/cm³		**RA3** Radiation levels that impede access to equipment necessary for normal plant operations, cooldown or shutdown. **Emergency Action Levels: (1 or 2)** 1. Dose rate greater than 15 mR/hr in **ANY** of the following areas: • Control Room ARM (RE-8066) • Central Alarm Station (CAS) by radiation survey 2. An UNPLANNED event results in radiation levels that prohibit or impede access to any of the following plant rooms or areas: • Mechanical/Electrical Auxiliary Building (MEAB) • Turbine Generator Building (TGB) • Isolation Valve Cubicle (IVC) • Fuel Handling Building (FHB) • Reactor Containment Building (RCB) **Modes: All**	
ISFSI				**E-HU1** Damage to a loaded cask CONFINEMENT BOUNDARY. **Emergency Action Level** 1. Damage to a loaded cask CONFINEMENT BOUNDARY as indicated by an on-contact radiation reading greater than : a. 60 mrem/hr *(gamma + neutron)* on the top surface of the spent fuel cask **OR** b. 600 mrem/hr *(gamma + neutron)* on the side surface of the spent fuel cask **OR** c. 7,000mrem/hr (*gamma + neutron*) on the side surface of the transfer cask. **Modes: All**

Modes: 1—Power Operations 2—Startup 3—Hot Standby 5—Cold Shutdown 6—Refueling D—Defueled