

		GENERAL EMERGENCY								SITE AREA EMERGENCY								ALERT								UNUSUAL EVENT								
R	1	Offsite Rad Conditions	RG1.1 1 2 3 4 5 D								RS1.1 1 2 3 4 5 D								RA1.1 1 2 3 4 5 D								RU1.1 1 2 3 4 5 D							
			ANY monitor reading > Table R-1 "GE" column 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)								ANY monitor reading > Table R-1 "SAE" column 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)								ANY gaseous monitor reading > Table R-1 "Alert" column for ≥ 15 min. (Note 2)								ANY gaseous monitors > Table R-1 "UE" column for ≥ 60 min. (Note 2)							
			Dose assessment using actual meteorology indicates doses > 1,000 mRem TEDE or 5,000 mRem thyroid CDE at or beyond the SITE BOUNDARY								Dose assessment using actual meteorology indicates doses > 100 mRem TEDE or 500 mRem thyroid CDE at or beyond the SITE BOUNDARY								None								None							
2	Onsite Rad Conditions & Spent Fuel Events	RG1.2 1 2 3 4 5 D								RS1.2 1 2 3 4 5 D								RA1.2 1 2 3 4 5 D								RU1.2 1 2 3 4 5 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 (Note 1) 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)								Field survey results indicate closed window dose rates > 100 mRem/hr expected to continue for ≥ 60 min. at or beyond the SITE BOUNDARY (Note 1) OR Analyses of field survey samples indicate thyroid CDE > 500 mRem for 1 hr of inhalation at or beyond the SITE BOUNDARY (Note 1)								None								None								
		RG1.3 1 2 3 4 5 D								RS1.3 1 2 3 4 5 D								RA1.3 1 2 3 4 5 D								RU1.3 1 2 3 4 5 D								
3	CR/CAS Rad	None								None								None								None								
		None								None								None								None								
		None								None								None								None								
H	Hazards & Other Conditions Affecting Plant Safety	Table H-1 Safe Shutdown Areas								Table H-1 Safe Shutdown Areas								Table H-1 Safe Shutdown Areas								Table H-1 Safe Shutdown Areas								
		• Reactor Building (including Primary Containment) • Control Room • Diesel Generator Engine and Board Rooms • Standby Switchgear and Battery Rooms • HPCS Switchgear and Battery Rooms • Remote Shutdown Rooms • Control Building HVAC Rooms • Service Water Pump Rooms • Electrical Protection Assembly Room • PGCC Relay Room								• Reactor Building (including Primary Containment) • Control Room • Diesel Generator Engine and Board Rooms • Standby Switchgear and Battery Rooms • HPCS Switchgear and Battery Rooms • Remote Shutdown Rooms • Control Building HVAC Rooms • Service Water Pump Rooms • Electrical Protection Assembly Room • PGCC Relay Room								• Reactor Building (including Primary Containment) • Control Room • Diesel Generator Engine and Board Rooms • Standby Switchgear and Battery Rooms • HPCS Switchgear and Battery Rooms • Remote Shutdown Rooms • Control Building HVAC Rooms • Service Water Pump Rooms • Electrical Protection Assembly Room • PGCC Relay Room								• Reactor Building (including Primary Containment) • Control Room • Diesel Generator Engine and Board Rooms • Standby Switchgear and Battery Rooms • HPCS Switchgear and Battery Rooms • Remote Shutdown Rooms • Control Building HVAC Rooms • Service Water Pump Rooms • Electrical Protection Assembly Room • PGCC Relay Room								
		Notes								Notes								Notes								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								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								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								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.								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.								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.								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 4, 5 or D, consider classification under EALS CUS.1, CUS.2 or CUS.3								3. If loss of water level in the refueling pathway occurs while in Mode 4, 5 or D, consider classification under EALS CUS.1, CUS.2 or CUS.3								3. If loss of water level in the refueling pathway occurs while in Mode 4, 5 or D, consider classification under EALS CUS.1, CUS.2 or CUS.3								3. If loss of water level in the refueling pathway occurs while in Mode 4, 5 or D, consider classification under EALS CUS.1, CUS.2 or CUS.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.								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.								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.								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.								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.								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.								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.								
		None								None								None								None								
		None								None								None								None								
2	Fire or Explosion	None								None								None								None								
		None								None								None								None								
		None								None								None								None								
		None								None								None								None								
		None								None								None								None								
		None								None								None								None								
		None								None								None								None								
		None								None								None								None								
		None								None								None								None								
		None								None								None								None								
3	Hazardous Gas	None								None								None								None								
		None								None								None								None								
		None								None								None								None								
		None								None								None								None								
		None								None								None								None								
		None								None								None								None								
		None								None								None								None								
		None								None								None								None								
		None								None								None								None								
		None								None								None								None								
4	Security	HG4.1 1 2 3 4 5 D								HS4.1 1 2 3 4 5 D								HA4.1 1 2 3 4 5 D								HU4.1 1 2 3 4 5 D								
		A HOSTILE ACTION has occurred such that plant personnel are unable to operate equipment required to maintain safety functions								A HOSTILE ACTION is occurring or has occurred within the PROTECTED AREA as reported by the Security Site Supervisor								A HOSTILE ACTION is occurring or has occurred within the Owner Controlled Area as reported by the Security Site Supervisor								A SECURITY CONDITION that does not involve a HOSTILE ACTION as reported by the Security Site Supervisor								
		HG4.2 1 2 3 4 5 D								HS4.2 1 2 3 4 5 D								HA4.2 1 2 3 4 5 D								HU4.2 1 2 3 4 5 D								
		A HOSTILE ACTION has caused failure of Spent Fuel Cooling systems								A validated notification from NRC of an AIRLINER attack threat within 30 min. of the site								A validated notification from NRC of an AIRLINER attack threat within 30 min. of the site								A validated notification from NRC providing information of an aircraft threat								
		AND								Control Room evacuation has been initiated								Control Room evacuation has been initiated								Recommendation by local, county or state officials to evacuate or shelter site personnel based on an offsite event								
		IMMINENT fuel damage is likely								Control of the plant cannot be established within 15 min.								Control of the plant cannot be established within 15 min.								Recommendation by local, county or state officials to evacuate or shelter site personnel based on an offsite event								
		None								None								None								None								
		None								None								None								None								
		None								None								None								None								
		None								None								None								None								
5	Control Room Evacuation	None								None								None								None								
		None								None								None								None								
		None								None								None								None								
		None								None								None								None								
		None								None								None								None								
		None								None								None								None								
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		None								None								None								None								
		None								None								None								None								
		None								None								None								None								
6	Judgment	HG6.1 1 2 3 4 5 D								HS6.1 1 2 3 4 5 D								HA6.1 1 2 3 4 5 D								HU6.1 1 2 3 4 5 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 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) offsite for 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 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) 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 likely major failures of plant functions needed for protection of the public 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 likely major failures of plant functions needed for protection of the public 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)								
		None								None								None								None								
		None								None								None								None								
		None								None								None								None								
		None								None								None								None								
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		None								None								None								None								
		None								None								None								None								
		None								None								None								None								
E	ISFSI	None								None								None								None								
		None								None								None								None								
		None								None								None								None								
		None								None								None								None								
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		None								None								None								None								
		None								None								None								None								
		None								None								None								None								
		None								None								None								None								

Modes:

1

Power Operation

2

Startup

3

Hot Shutdown

4

Cold Shutdown

5

Refuel

D

Defueled

Constellation Energy

Nine Mile Point Nuclear Station Unit 2

Attachment 1
EAL Matrix Unit 2
Page 1 of 2

Approved: _____

Director, Emergency Planning

Date: _____

		GENERAL EMERGENCY	SITE AREA EMERGENCY	ALERT	UNUSUAL EVENT	
S	1	Loss of AC Power	SG1.1 1 2 3 Loss of all offsite and all onsite AC power, Table S-1, to 4.16 KV emergency buses 2ENS'SWG101 and 2ENS'SWG103 AND EITHER: • Restoration of 4.16 KV emergency bus 2ENS'SWG101 or 2ENS'SWG103 within 4 hours is not likely OR • RPV water level cannot be restored and maintained above -14 in. or RPV water level cannot be determined	SS1.1 1 2 3 Loss of all offsite and all onsite AC power, Table S-1, to 4.16 KV emergency buses 2ENS'SWG101 and 2ENS'SWG103 and 2ENS'SWG103 for ≥ 15 min. (Note 4)	SA1.1 1 2 3 AC power capability to 4.16 KV emergency buses 2ENS'SWG101 and 2ENS'SWG103 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 loss of all power to 4.16 KV emergency buses 2ENS'SWG101 and 2ENS'SWG103	SU1.1 1 2 3 Loss of all offsite AC power, Table S-1, to 4.16 KV emergency buses 2ENS'SWG101 and 2ENS'SWG103
		2	Loss of DC Power	SS2.1 1 2 3 < 105 VDC on both 2BYS'SWG002A and 2BYS'SWG002B for ≥ 15 min. (Note 4)	SA2.1 1 2 3 None	SU2.1 1 2 3 None
	3	Criticality & RPS Failure	SG3.1 1 2 An automatic scram fails to shut down the reactor as indicated by reactor power > 4% AND All manual actions fail to shut down the reactor as indicated by reactor power > 4% AND EITHER of the following exist or have occurred: • RPV water level cannot be restored and maintained above -39 in. or RPV water level cannot be determined OR • Suppression pool temperature and RPV pressure cannot be maintained below the Heat Capacity Temperature Limit (N2-EOP-PC Figure M)	SS3.1 1 2 An automatic scram failed to shut down the reactor as indicated by reactor power > 4% AND Manual actions taken at the reactor control console (mode switch in shutdown, manual scram push buttons and ARI) failed to shut down the reactor as indicated by reactor power > 4%	SA3.1 1 2 An automatic scram failed to shut down the reactor AND Manual actions taken at the reactor control console (mode switch in shutdown, manual scram push buttons or ARI) successfully shut down the reactor as indicated by reactor power ≤ 4%	SU3.1 1 2 3 An UNPLANNED sustained positive period observed on nuclear instrumentation
		4	Inability to Reach or Maintain Shutdown Conditions	SS4.1 1 2 3 None	SA4.1 1 2 3 None	SU4.1 1 2 3 Plant is not brought to required operating mode within Technical Specifications LCO required action completion time
	5	Inst.	Table S-2 Significant Transients • Automatic turbine runback > 25% thermal reactor power • Electric load rejection > 25% full electrical load • Reactor scram • ECCS injection • Thermal power oscillations > 10%	SS5.1 1 2 3 Loss of > approximately 75% of annunciation or indication on all of the following Control Room panels for ≥ 15 min. (Note 4): • 2CEC*PNL601 • 2CEC*PNL602 • 2CEC*PNL603 • 2CEC*PNL603 • 2CEC*PNL851 • 2CEC*PNL852 AND A significant transient is in progress, Table S-2 AND Compensatory indications are unavailable (Plant Computer, SPDS)	SA5.1 1 2 3 UNPLANNED loss of > approximately 75% of annunciation or indication on all of the following Control Room panels for ≥ 15 min. (Note 4): • 2CEC*PNL601 • 2CEC*PNL602 • 2CEC*PNL603 • 2CEC*PNL603 • 2CEC*PNL851 • 2CEC*PNL852 AND EITHER: • A significant transient is in progress, Table S-2 OR • Compensatory indications are unavailable (Plant Process Computer, SPDS)	SU5.1 1 2 3 UNPLANNED loss of > approximately 75% of annunciation or indication on all of the following Control Room panels for ≥ 15 min. (Note 4): • 2CEC*PNL601 • 2CEC*PNL602 • 2CEC*PNL603 • 2CEC*PNL603 • 2CEC*PNL851 • 2CEC*PNL852
	6	Comm.	None	None	None	SU6.1 1 2 3 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
		7	Fuel Clad Degradation	None	None	SU7.1 1 2 3 Reactor coolant activity > 4 µCi/gm I-131 Equivalent
	8	RCS Leakage	None	None	None	SU7.2 1 2 3 Offgas radiation DRMS high (red) alarm for ≥ 15 min.
			None	None	None	SU8.1 1 2 3 Unidentified or reactor coolant pressure boundary leakage > 10 gpm OR Identified reactor coolant leakage > 25 gpm
F	Fission Product Barrier Degradation	FG1.1 1 2 3 Loss of ANY two fission product barriers AND Loss or potential loss of third fission product barrier (Table F-1)	FS1.1 1 2 3 Loss or potential loss of ANY two fission product barriers (Table F-1)	FA1.1 1 2 3 ANY loss or ANY potential loss of EITHER Fuel Clad barrier OR RCS barrier (Table F-1)	FU1.1 1 2 3 ANY loss or ANY potential loss of Containment barrier (Table F-1)	
		None	None	None	None	
	A	RPV Water Level	None	None	None	
		Primary Containment Pressure / Temperature	None	None	None	
	C	Isolation	None	None	None	
		Rad	None	None	None	
	D	Rad	None	None	None	
		Judgment	None	None	None	
	E	ISFSI	None	None	None	
		None	None	None	None	

Table S-1 AC Power Sources

Onsite

- 2EGS*EG1
- 2EGS*EG3

Offsite

- 2EGS*EG2 (with 2ENS'SWG102 cross-tied to 2ENS'SWG101 or 2ENS'SWG103)
- Reserve Transformer A
- Reserve Transformer B
- Aux Boiler Transformer

Table S-2 Significant Transients

- Automatic turbine runback > 25% thermal reactor power
- Electric load rejection > 25% full electrical load
- Reactor scram
- ECCS injection
- Thermal power oscillations > 10%

Table S-3 Communications Systems

System	Onsite (internal)	Offsite (external)
PBX (normal dial telephones)	X	X
Galectronics	X	X
Station radio (portable)	X	X
Control room installed satellite phones (non portable)		X
ENS		X
RECS		X

Table F-1 Fission Product Barrier Matrix

	Fuel Clad Barrier		Reactor Coolant System Barrier		Containment Barrier	
	Loss	Potential Loss	Loss	Potential Loss	Loss	Potential Loss
A	1. Primary Containment Flooding is required	1. RPV water level cannot be restored and maintained above -14 in. following depressurization of the RPV or RPV water level cannot be determined	1. RPV water level cannot be restored and maintained above -14 in. or RPV water level cannot be determined	None	None	1. Primary Containment Flooding is required
B	None	None	2. Primary Containment pressure > 1.68 psig due to RCS leakage	None	1. Primary Containment pressure rise followed by a rapid UNPLANNED drop in Primary Containment pressure	2. Primary Containment pressure > 45 psig and rising
C	None	None	3. Release pathway exists outside Primary Containment resulting from isolation failure in ANY of the following systems (excluding normal process system flowpaths from an UNISOLABLE system): <ul style="list-style-type: none">Main steam lineRCIC steam lineRWCUFeedwater	1. UNISOLABLE primary system leakage outside Primary Containment as indicated by exceeding EITHER: • RB area temperature above an isolation setpoint OR • RB area radiation above an alarm setpoint	3. Failure of all Primary Containment isolation valves in ANY one line to close following auto or manual initiation AND Direct downstream pathway outside Primary Containment and to the environment exists	4. Suppression pool temperature and RPV pressure cannot be maintained below the Heat Capacity Temperature Limit (N2-EOP-PC Figure M)
D	2. Drywell area radiation ≥ 3100 R/hr (3.1 E6 mRem/hr)	None	4. RPV blowdown is required	None	4. Intentional Primary Containment venting per EOPs	5. UNISOLABLE primary system leakage outside Primary Containment as indicated by exceeding EITHER: • RB area maximum safe temperature value (N2-EOP-SC Detail S) OR • RB area radiation > 6.00E+3 mR/hr
E	3. Reactor coolant activity > 300 µCi/gm I-131 Equivalent	None	5. Drywell area radiation > 41 R/hr (4.1 E4 mRem/hr)	None	5. UNISOLABLE primary system leakage outside Primary Containment as indicated by exceeding EITHER: • RB area maximum safe temperature value (N2-EOP-SC Detail S) OR • RB area radiation > 6.00E+3 mR/hr	6. Drywell area radiation > 6.0 E4 R/hr (6.0 E7 mRem/hr)
	4. ANY condition in the opinion of the Emergency Director that indicates loss of the Fuel Clad barrier	2. ANY condition in the opinion of the Emergency Director that indicates potential loss of the Fuel Clad barrier	6. ANY condition in the opinion of the Emergency Director that indicates loss of the Reactor Coolant System barrier	2. ANY condition in the opinion of the Emergency Director that indicates potential loss of the Reactor Coolant System barrier	6. ANY condition in the opinion of the Emergency Director that indicates loss of the Containment barrier	6. ANY condition in the opinion of the Emergency Director that indicates potential loss of the Containment barrier

EAL Identifier

XXX.X

Category (R, H, E, S, F, C) Sequential number within subcategory/classification

Emergency classification (G, S, A, U) Subcategory number (1 if no subcategory)

MODE 1, 2 or 3

D-07