

	GENERAL EMERGENCY	SITE AREA EMERGENCY	ALERT	UNUSUAL EVENT
R Abnorm. Rad Levels / Rad Effluent	1 Rad Effluent	RG1 Release of gaseous radioactivity resulting in offsite dose greater than 1,000 mrem TEDE or 5,000 mrem thyroid CDE 1 2 3 4 5 DEF	RA1 Release of gaseous or liquid radioactivity resulting in offsite dose greater than 100 mrem TEDE or 500 mrem thyroid CDE 1 2 3 4 5 DEF	RU1 Release of gaseous or liquid radioactivity greater than 2 times the ODCM limits for 60 minutes or longer 1 2 3 4 5 DEF
	2 Irradiated Fuel Event	RG2 Spent fuel pool level cannot be restored to at least the top of the fuel 1 2 3 4 5 DEF	RA2 Significant lowering of water level above, or damage to, irradiated fuel 1 2 3 4 5 DEF	RU2 UNPLANNED loss of water level above irradiated fuel 1 2 3 4 5 DEF
	3 Area Rad Levels	RG3 Field survey results indicate EITHER of the following at or beyond the SITE BOUNDARY: - Closed window dose rates > 1000 mR/hr expected to continue for > 60 min. - Analyses of field survey samples indicate thyroid CDE > 5000 mrem for 60 min. of inhalation. (Notes 1, 2)	RA3 Radiation levels that IMPEDE access to equipment necessary for normal plant operations, cooldown or shutdown 1 2 3 4 5 DEF	RU3 UNPLANNED water level drop in the REFUELING PATHWAY as indicated by low water level alarm (A-04-B-8) or indication AND UNPLANNED rise in area radiation levels as indicated by any of the following radiation monitor indications: - ARM Channel 26 New Fuel Vault - ARM Channel 27 North of Fuel Pool - ARM Channel 28 Reactor and Fuel Pool - ARM Channel 29 Cask Wash Area
S System Malfunc.	1 Security	HG1 Hostile Action resulting in loss of physical control of the facility 1 2 3 4 5 DEF	HA1 Hostile action within the owner controlled area or airborne attack threat within 30 minutes 1 2 3 4 5 DEF	HU1 Confirmed SECURITY CONDITION or threat 1 2 3 4 5 DEF
	2 Seismic Event	None	None	HU2 Seismic event greater than OBE levels 1 2 3 4 5 DEF
	3 Natural or Technical Hazard	None	None	HU3 Natural or Technological Hazard 1 2 3 4 5 DEF
H Hazards	4 Fire	None	None	HU4 FIRE potentially degrading the level of safety of the plant 1 2 3 4 5 DEF
	5 Hazardous Gases	None	None	HU5 Intake Canal water level > +19 ft. Mean Sea Level OR Intake Canal water level < -7.75 ft. Mean Sea Level
	6 Control Room Evacuation	None	None	HU6 FIRE in the plant PROTECTED AREA not extinguished within 60 min. of the initial report, alarm or indication (Note 1)
E ISFSI	7 SEC Judgment	HG7 Other conditions exist which in the judgment of the Site Emergency Coordinator warrant declaration of a General Emergency 1 2 3 4 5 DEF	HA7 Other conditions exist which in the judgment of the Site Emergency Coordinator warrant declaration of an Alert 1 2 3 4 5 DEF	HU7 Other conditions exist which in the judgment of the Site Emergency Coordinator 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.
	8 Fission Product Barriers	None	None	HU8 Damage to a loaded cask CONFINEMENT BOUNDARY 1 2 3 4 5 DEF
	9 Modes	None	None	None

	GENERAL EMERGENCY	SITE AREA EMERGENCY	ALERT	UNUSUAL EVENT
S System Malfunc.	1 Loss of Emer. AC Power	SG1 Prolonged loss of all offsite and all onsite AC power to emergency buses OR loss of all emergency AC and vital DC power sources for 15 minutes or longer 1 2 3	SA1 Loss of all but one AC power source to emergency buses for 15 minutes or longer 1 2 3	SU1 Loss of all offsite AC power capability to emergency buses for 15 minutes or longer 1 2 3
	2 Loss of Vital DC Power	None	None	None
	3 Loss of CR Indications	None	None	None
F Fission Product Barriers	4 RCS Activity	None	None	None
	5 RCS Leakage	None	None	None
	6 RPS Failure	None	None	None
F Fission Product Barriers	7 Loss of Comm.	None	None	None
	8 Hazardous Event	None	None	None
	9 Modes	None	None	None

	Fuel Clad Barrier		Reactor Coolant System Barrier		Containment Barrier	
	Loss	Potential Loss	Loss	Potential Loss	Loss	Potential Loss
A. RPV Water Level	1. Entry to SAMG-01 required	1. RPV level cannot be restored and maintained > TAF or cannot be determined	1. RPV level cannot be restored and maintained > TAF or cannot be determined	None	None	1. Entry to SAMG-01 required
B. RCS Leak Rate	None	None	1. UNISOLABLE break in any of the following: - Main steam line - HPCI steam line - RCS steam line - RWCU - Feedwater	1. UNISOLABLE primary system leakage that results in exceeding EITHER of the following: - One or more Secondary Containment area radiation Maximum Normal Operating Limits (OEOP-03-SCCP Table 3) - One or more Secondary Containment area temperature Maximum Normal Operating Limits (OEOP-03-SCCP Table 1)	1. UNISOLABLE primary system leakage that results in exceeding EITHER of the following: - One or more Secondary Containment area radiation Maximum Normal Operating Limits (OEOP-03-SCCP Table 3) - One or more Secondary Containment area temperature Maximum Normal Operating Limits (OEOP-03-SCCP Table 1)	None
C. PC Conditions	None	None	1. Primary Containment pressure > 1.7 psig due to RCS leakage	None	1. UNPLANNED rapid drop in Primary Containment pressure following Primary Containment pressure rise	1. Primary Containment pressure > 62 psig 2. Deflagration concentrations exist inside PC (H2 > 6% and O2 > 5%) 3. Heat Capacity Temperature Limit (HCTL) exceeded
D. PC Rad / RCS Activity	1. Drywell radiation > 2,000 R/hr 2. Primary coolant activity > 300 µCi/gm I-131 dose equivalent	None	1. Drywell radiation > 27 R/hr with reactor shutdown	None	None	1. Drywell radiation > 20,000 R/hr
E. PC Integrity or Bypass	None	None	None	None	1. UNISOLABLE direct downstream pathway to the environment exists after Primary Containment isolation signal	None
F. SEC Judgment	1. Any condition in the opinion of the Site Emergency Coordinator that indicates loss of the Fuel Clad barrier	1. Any condition in the opinion of the Site Emergency Coordinator that indicates loss of the RCS barrier	1. Any condition in the opinion of the Site Emergency Coordinator that indicates loss of the RCS barrier	1. Any condition in the opinion of the Site Emergency Coordinator that indicates loss of the RCS barrier	1. Any condition in the opinion of the Site Emergency Coordinator that indicates loss of the Containment barrier	1. Any condition in the opinion of the Site Emergency Coordinator that indicates potential loss of the Containment barrier

Modes: 1 Power Operations, 2 Startup, 3 Hot Shutdown, 4 Cold Shutdown, 5 Refuel, DEF Defueled

DUKE ENERGY  
Brunswick Nuclear Plant  
Initial Emergency Actions  
OPEP-02.1, Rev. 6 Draft A

EAL-1 MODES 1, 2 & 3

DOL