

MILLSTONE UNIT 2 EMERGENCY ACTION LEVELS

10/11/00
APPROVAL DATE

12/21/00
EFFECTIVE DATE

GENERAL EMERGENCY ALPHA
 GENERAL EMERGENCY BRAVO
 SITE AREA EMERGENCY CHARLIE-TWO
 ALERT CHARLIE-ONE
 UNUSUAL EVENT DELTA-TWO
 UNUSUAL EVENT DELTA-ONE

BARRIER FAILURE		LOSS OF POWER		EQUIPMENT FAILURE		OFFSITE RELEASES		CLASSIFICATION																					
B1 ALL THREE BARRIERS Mode 1, 2, 3, 4 See Barrier Failure Reference Table	B2 ANY TWO BARRIERS Mode 1, 2, 3, 4 See Barrier Failure Reference Table	B3 FUEL CLAD OR RCS BARRIER Mode 1, 2, 3, 4 See Barrier Failure Reference Table	B4 STEAM LINE BREAK Mode 1, 2, 3, 4 Unisolable Steam Line Break Outside CTMT	B5 CTMT BARRIER Mode 1, 2, 3, 4 See Barrier Failure Reference Table	B6 RCS LEAKAGE Mode 1, 2, 3, 4 Pressure Boundary Leakage > 10 GPM Unidentified Leakage > 10 GPM Identified Leakage > 25 GPM	B7 FUEL CLAD DEGRADATION Mode ALL 1. RCS Activity > 60 µCi/gm I-131 DEQ 2. Dose Rate at One Foot from Unpressurized RCS Sample ≥ 2 mR/hr/ml	PG1 STATION BLACKOUT Mode 1, 2, 3, 4 Loss of Voltage on Buses 24C AND 24D AND ANY of the Following: - Restoration of power to ALL of the following within 15 minutes likely within 1 hour - Loss of all commercial feedwater heaters supported by the plant - Loss of all feedwater capability indicated by flow water level in the RPWHs AND base quality / Turbine Feedwater Flow	PS1 STATION BLACKOUT Mode 1, 2, 3, 4 Loss of Voltage on Buses 24C AND 24D > 15 Minutes	PS2 LOSS OF DC Mode 1, 2, 3, 4 Loss of Voltage on DC Buses 201A AND 201B > 15 Minutes	PA1 STATION BLACKOUT Mode 5, 6 Loss of Voltage on Buses 24C AND 24D > 15 Minutes	PA2 SINGLE AC POWER SOURCE Mode 1, 2, 3, 4 Only One AC Power Source Available to Supply Buses 24C AND/OR 24D > 15 Minutes Such That Loss of That Power Source Would Result in a Station Blackout (Unit 1 Bus 14H CANNOT be Credited)	EA1 AUTOMATIC R _x TRIP FAILURE Mode 1, 2 Failure of Automatic Reactor Trip AND Manual Trip Was Successful	EA2 INABILITY TO MAINTAIN COLD S/D Mode 5, 6 1. Uncontrolled RCS Temperature Increase > 10°F That Results in RCS Temperature > 200°F 2. Inadvertent Criticality	EA3 LOSS OF ANNUNCIATORS/ TRANSIENT Mode 1, 2, 3, 4 Loss of Most (75%) MCB Annunciators > 15 Minutes AND EITHER of the Following: • Significant Transient in Progress • Loss of SPDS AND ICC Instrumentation	EA4 LOSS OF ANNUNCIATORS/ TRANSIENT Mode 1, 2, 3, 4 Loss of Most (75%) MCB Annunciators AND BOTH of the Following: • Significant Transient in Progress • Loss of SPDS AND ICC Instrumentation	EA5 SHUTDOWN LCO EXCEEDED Mode 1, 2, 3, 4 Unit NOT Brought To Required Mode Within Applicable LCO Action Statement Time Limits	EG1 ATWS/INADEQUATE COOLING Mode 1 Functional Recovery, Reactivity Control, Trip Status AND EITHER of the Following: - Loss of Shutdown Cooling by Spent Fuel Pool Heat Removal - RCS Boron Concentration < Minimum Required - Loss of Turbine Feedwater > 800 GPM	ES1 ATWS Mode 1 Manual Reactor Trip Attempted At Point COOL AND Reactor is NOT Shutdown	ES2 INABILITY TO MAINTAIN HOT S/D Mode 1, 2, 3, 4 1. No RCS Heat Removal Method Meets SFSC Criteria > 15 Minutes AND Shutdown Cooling is NOT In Service 2. RCS Boron Capable Unable to Eliminate Inadvertent Criticality	ES3 IN-VESSEL FUEL UNCOVERY Mode 5, 6 Shutdown Cooling Has Been Lost AND ANY of the Following Conditions Exist: • Alternate Methods for Restoring RCS Inventory are NOT Effective • BVLMS Reading > 0.7 • Core Exit TC Temperature Readings Indicate Superheat	ES4 LOSS OF ANNUNCIATORS/ TRANSIENT Mode 1, 2, 3, 4 Loss of Most (75%) MCB Annunciators AND BOTH of the Following: • Significant Transient in Progress • Loss of SPDS AND ICC Instrumentation	OG1 OFFSITE DOSE Mode ALL 1. MP2 Kaman Vent Monitor Reading ≥ 0.02 µCi/cc for > 15 Minutes 2. MP1 Kaman HI-Range Stack Monitor Reading ≥ 0.07 µCi/cc for > 15 Minutes 3. MSL Monitor (RM-4299A/B/C) Reading ≥ 0.03 R/hr for > 15 Minutes 4. Measured Plume Dose Rate Onsite ≥ 5 mR/hr for > 15 Minutes 5. Rad Assessment Determines Integrated Dose Offsite ≥ 0.005 Rem TEDE OR ≥ 0.025 Rem CDE Thyroid	OS1 OFFSITE DOSE Mode ALL 1. MP2 Kaman Vent Monitor Reading ≥ 0.02 µCi/cc for > 15 Minutes 2. MP1 Kaman HI-Range Stack Monitor Reading ≥ 0.07 µCi/cc for > 15 Minutes 3. MSL Monitor (RM-4299A/B/C) Reading ≥ 0.03 R/hr for > 15 Minutes 4. Measured Plume Dose Rate Onsite ≥ 5 mR/hr for > 15 Minutes 5. Rad Assessment Determines Integrated Dose Offsite ≥ 0.005 Rem TEDE OR ≥ 0.025 Rem CDE Thyroid	OA1 OFFSITE DOSE Mode ALL 1. MP2 Kaman Vent Monitor Reading ≥ 0.02 µCi/cc for > 15 Minutes 2. MP1 Kaman HI-Range Stack Monitor Reading ≥ 0.07 µCi/cc for > 15 Minutes 3. MSL Monitor (RM-4299A/B/C) Reading ≥ 0.03 R/hr for > 15 Minutes 4. Measured Plume Dose Rate Onsite ≥ 5 mR/hr for > 15 Minutes 5. Rad Assessment Determines Integrated Dose Offsite ≥ 0.005 Rem TEDE OR ≥ 0.025 Rem CDE Thyroid	OU1 UNPLANNED RELEASE Mode ALL Effluent Monitors in Alarm OR Unplanned, Unmonitored or Uncontrolled Offsite Release AND DELTA-TWO Posture Code Limits as Determined from EPI-FAP06, "Classification and PARS." Note: Effluent Monitors Indicate Release Above Alarm Setpoint Continuing > 60 minutes AND Reliability Evaluations NOT Complete	GENERAL EMERGENCY ALPHA BRAVO Events in Progress or Have Occurred Which Involve Actual or Potential Substantial Degradation of the Level of Safety of the Plant	SITE AREA EMERGENCY CHARLIE-TWO Events in Progress or Have Occurred Which Involve Actual or Likely Major Failures of Plant Functions Needed for Protection of the Public	ALERT CHARLIE-ONE Events in Progress or Have Occurred Which Involve an Actual or Potential Substantial Degradation of the Level of Safety of the Plant	UNUSUAL EVENT DELTA-TWO OR DELTA-ONE Events in Progress or Have Occurred Which Indicate a Potential Degradation of the Level of Safety of the Plant

2 Millstone

NOTE: When two or more EALs apply, always choose the EAL of the highest incident classification; also, always read from top to bottom in each category.

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BARRIER FAILURE		LOSS OF POWER		EQUIPMENT FAILURE		OFFSITE RELEASES		CLASSIFICATION
BG1	ALL THREE BARRIERS Mode 1, 2, 3, 4	PG1	STATION BLACKOUT Mode 1, 2, 3, 4	EG1	ATWS/INADEQUATE COOLING Mode 1	OG1	OFFSITE DOSE Mode ALL	GENERAL EMERGENCY
BS1	ANY TWO BARRIERS Mode 1, 2, 3, 4	PS1	STATION BLACKOUT Mode 1, 2, 3, 4	ES1	ATWS Mode 1	OS1	OFFSITE DOSE Mode ALL	SITE AREA EMERGENCY
		PS2	LOSS OF DC Mode 1, 2, 3, 4	ES2	INABILITY TO MAINTAIN HOT S/D Mode 1, 2, 3, 4			
				ES3	IN-VESSEL FUEL UNCOVERY Mode 5, 6			
				ES4	LOSS OF ANNUNCIATORS/TRANSIENT Mode 1, 2, 3, 4			
		PA1	STATION BLACKOUT Mode 5, 6	EA1	AUTOMATIC Rx TRIP FAILURE Mode 1, 2	OA1	OFFSITE DOSE Mode ALL	ALERT
		PA2	SINGLE AC POWER SOURCE Mode 1, 2, 3, 4	EA2	INABILITY TO MAINTAIN COLD S/D Mode 5, 6			CHARLIE-ONE
BA2	STEAM LINE BREAK Mode 1, 2, 3, 4			EA3	LOSS OF ANNUNCIATORS/ TRANSIENT Mode 1, 2, 3, 4			Events in Progress or Have Occurred Which Involve an Actual or Potential Substantial Degradation of the Level of Safety of the Plant
BU1	CTMT BARRIER Mode 1, 2, 3, 4	PU1	LOSS OF OFFSITE POWER Mode ALL	EU1	LOSS OF COLD S/D FUNCTION Mode 5, 6	OU1	UNPLANNED RELEASE Mode ALL	UNUSUAL EVENT
		PU2	LOSS OF DC Mode 5, 6	EU2	REFUEL/SPENT FUEL POOL LEVEL Mode 6			DELTA-TWO
BU2	RCS LEAKAGE Mode 1, 2, 3, 4			EU3	LOSS OF ANNUNCIATORS Mode 1, 2, 3, 4			OR
				EU4	LOSS OF COMMUNICATIONS Mode ALL			DELTA-ONE
BU3	FUEL CLAD DEGRADATION Mode ALL			EU5	SHUTDOWN LCO EXCEEDED Mode 1, 2, 3, 4			Events in Progress or Have Occurred Which Indicate a Potential Degradation of the Level of Safety of the Plant

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