Northeast Nuclear Energy

Rope Ferry Rd. (Route 156), Waterford, CT 06385

Millstone Nuclear Power Station Northeast Nuclear Energy Company P.O. Box 128 Waterford, CT 06385-0128 (860) 447-1791 Fax (860) 444-4277

The Northeast Utilities System MAR 2 3 2001

> Docket Nos. 50-245 50-336 50-423 B18353

RE: 10 CFR 50, Appendix E 10 CFR 50.47(b)(5)

U.S. Nuclear Regulatory Commission Attention: Document Control Desk Washington, DC 20555

Millstone Nuclear Power Station, Unit Nos. 1, 2, and 3 Revised Emergency Plan Procedures

The purpose of this letter is to inform the Nuclear Regulatory Commission that the following Emergency Plan Procedures have been implemented:

- MP-26-EPI-FAP06-002, "Millstone Unit 2 Emergency Action Levels," Major Revision 1
- MP-26-EPI-FAP06-003, "Millstone Unit 3 Emergency Action Levels," Major Revision 1
- MP-26-EPI-FAP10, "Dose Assessment," Major Revision 1. Attachment 3 contains a complete copy of Major Revision 1 to MP-26-EPI-FAP10, which includes all the previously approved but undistributed changes associated with Major Revision 0, Minor Revision 2 to MP-26-EPI-FAP10.
- MP-26-EPI-FAP10-001, "IDA Data Input Information," Major Revision 0, Minor Revision 1
- MP-26-EPI-FAP10-002, "MIDAS Data Input Information," Major Revision 0, Minor Revision 1
- MP-26-EPI-FAP10-004, "Thyroid CDE Calculation Based on Field Air Sample Worksheet," Major Revision 0, Minor Revision 1
- MP-26-EPI-FAP10-005, "Unit 1 Dose Calculation for Fuel Handling Accident," Major Revision 0

Koy5

U.S. Nuclear Regulatory Commission B18353/Page 2

- MP-26-EPI-FAP11, "Core Damage Assessment," Major Revision 1
- MP-26-EPI-FAP11-010, "Unit 2 Vent and Containment Air Sample Worksheet," Major Revision 0, Minor Revision 1
- MP-26-EPI-FAP11-012, "Unit 3 Vent and Containment Air Sample Worksheet," Major Revision 0, Minor Revision 1
- MP-26-EPI-FAP15-006, "OFIS Instruction," Major Revision 0, Minor Revision 1
- MP-26-EPI-FAP15-007, "Critical Parameter Data Sheet MP1," Major Revision 0, Minor Revision 1
- MP-26-EPI-FAP15-008, "Critical Parameter Data Sheet MP2," Major Revision 0, Minor Revision 1
- MP-26-EPI-FAP15-009, "Critical Parameter Data Sheet MP3," Major Revision 0, Minor Revision 1

There are no regulatory commitments contained within this letter.

If you have any additional questions concerning this submittal, please contact Mr. David A. Smith at (860) 437-5840.

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY

Robert G. Lizotte / / / Master Process Owner - Assessment

Attachments (14)

- cc: H. J. Miller, Region I Administrator (2 copies) R. J. Conte, Chief, Operational Safety Branch, Region I
- cc: w/o attachments
 - J. B. Hickman, NRC Project Manager, Millstone Unit No. 1
 - P. C. Cataldo, Resident Inspector, Millstone Unit No. 2
 - D. S. Collins, NRC Project Manager, Millstone Unit No. 2
 - S. R. Jones, Senior Resident Inspector, Millstone Unit No. 2
 - V. Nerses, NRC Senior Project Manager, Millstone Unit No. 3
 - A. C. Cerne, Senior Resident Inspector, Millstone Unit No. 3

Docket Nos. 50-245 50-336 50-423 B18353

Attachment 1

Millstone Nuclear Power Station, Unit Nos. 1, 2, and 3

Emergency Plan Procedures

Emergency Procedures Implementing (EPI) Functional Administrative Procedure (FAP) MP-26-EPI-FAP06-002, "Millstone Unit 2 Emergency Action Levels," Major Revision 1

MILLSTONE UNIT 2 EMERGENCY ACTION LEVELS

BARRIER FAILURE	LOSS OF POWER	EQ
1 ALL THREE BARRIERS Mode 1, 2, 3, 4 See Barrier Failure Reference Table	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 AT LEAST One Vital Bus is NOT Likely Within Four Hours • Core Exit Thermocouple Readings indicate Superheat • Inadequate SG Heat Removal Capability as Indicated by SG Water Level ≤ 10% in BOTH SGs AND Inadequate Terry Turbline Feedwater Flow	EG1 ATWS/ Functional Reco EITHER of the R • RCS Heat Re SFSC Criteri • Core Exit TC
ANY TWO BARRIERS Mode 1, 2, 3, 4 See Barrier Failure Reference Table	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	ES1 Manua Reactor Trip NOT Shutdown ES2 INABILIT 1 No RCS heat Re Shutdown Cool 2 RCS Boration C ES3 IN-VES Shutdown Coolin
1 FUEL CLAD OR RCS BARRIER Mode 1, 2, 3, 4	PA1 STATION BLACKOUT Mode 5, 6	Conditions Exist Alternate Matho RVLMS Readin Core Exit TC Te ES4 LOSS OF A Loss of Most (75%) Significant Tran Loss of SPDS A EA1 AUTOM Failure of Automa
See Barrier Failure Reference Table 2 STEAM LINE BREAK Mode 1, 2, 3, 4 Unisolable Steam Line Break Outside CTMT	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)	EA2 INABIL 1. Uncontrolled in RCS Temp 2. Inadvertent C EA3 LOSS Loss of Most (75 EITHER of the Fo • Significant Tr • Loss of SPD:
U1 CTMT BARRIER Mode 1, 2, 3, 4 See Barrier Failure Reference Table U2 RCS LEAKAGE Mode 1, 2, 3, 4 Pressure Boundary Leakage > 10 GPM Unidentified Leakage > 10 GPM Identified Leakage > 25 GPM U3 FUEL CLAD DEGRADATION Mode ALL 1. RCS Activity > 60 μCi/gm I-131 DEQ Dose Rate at One Foot from Unpressurized RCS Sample ≥ 2 mR/hr/ml	PU1 LOSS OF OFFSITE POWER Mode ALL Buses 24C AND 24D Are Powered from Emergency Generators AND Offsite Power NOT Restored Within 15 Minutes PU2 LOSS OF DC Mode 5, 6 Loss of Voltage on DC Buses 201A AND 201B > 15 Minutes	EU1 LOSS O 1. Loss of Shutdor Water Level < 3

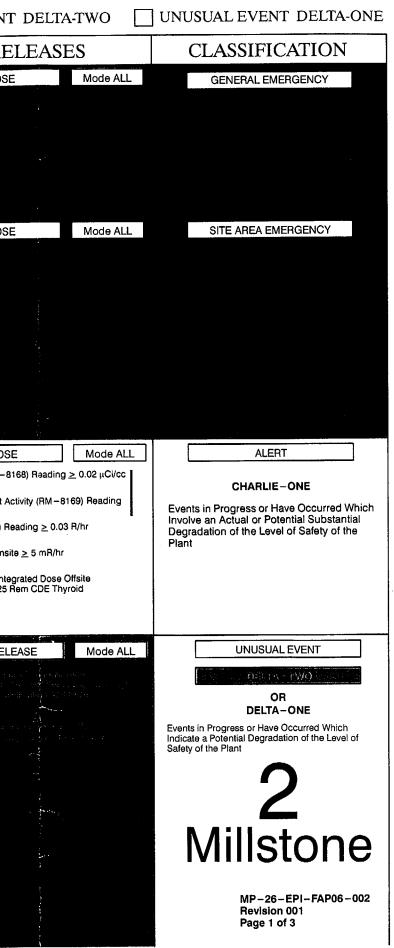
02/27/01

10/25/00 APPROVAL DATE EFFECTIVE DATE ENCY UNUSUAL EVENT DELTA-ONE ALERT CHARLIE-ONE UNUSUAL EVENT DELTA-TWO CLASSIFICATION EQUIPMENT FAILURE **OFFSITE RELEASES** OG1 OFFSITE DOSE Mode ALL GENERAL EMERGENCY ATWS/INADEQUATE COOLING Mode 1 MP2 Kaman Vent Monitor (RM-8168) Reading ≥ 2 nCi/cc ALPHA for > 15 Minutes MP2 WRGM Site Stack Effluent Activity (RM-8169) Reading ≥ 30 µCl/cc for > 15 Minutes S Heat Removal by Steam Generator Heat Removal MSL Monitor (RM-4299/A/B/C) Reading ≥ 2 R/hr for > 15 Minutes Events in Progress or Have Occurred Measured Plume Dose Rate OnSite ≥ 1,000 mR/hr Which Involve Actual or Imminent Exit TC Temperature Readings > 800 F Substantial Core Degradation or Melting Rad Assessment Determines Integrated Dose Offsite ≥ 1 Rem TEDE OR ≥ 5 Rem CDE Thyrold With Potential for Loss of Containment Mode 1 ATWS Mode ALL OS1 OFFSITE DOSE SITE AREA EMERGENCY Trip Attempted At Panel C04 AND Reactor INABILITY TO MAINTAIN HOT S/D Mode 1, 2, 3, 4 CHARLIE-TWO S heat Removal Method Meets SFSC Onteria > 15 Minutes AND wn Cooling is NOT in Service Events in Progress or Have Occurred Which oration Capability Unable to Eliminate Inadvertent Criticality Involve Actual or Likely Major Failures of IN-VESSEL FUEL UNCOVERY Mode 5, 6 Plant Functions Needed for Protection of Measured Plume Dose Rate Onsite ≥ 50 mR/hr Cooling Has Been Lost AND ANY of the Following te Methods for Restoring RCS Inventory are NOT Effective LOSS OF ANNUNCIATORS/TRANSIENT Mode 1, 2, 3, 4 st (75%) MCB Annunciators AND BOTH of the Following Mode ALL ALERT OA1 OFFSITE DOSE AUTOMATIC Rx TRIP FAILURE Mode 1, 2 MP2 Kaman Vent Monitor (RM+8168) Reading $\geq 0.02~\mu\text{Ci/cc}$ for > 15 Minutes of Automatic Reactor Trip AND Manual Trip Was Successful CHARLIE-ONE INABILITY TO MAINTAIN COLD S/D Mode 5, 6 MP2 WRGM Site Stack Effluent Activity (RM-8169) Reading Events in Progress or Have Occurred Which \geq 1 µCi/cc for > 15 Minutes controlled RCS Temperature Increase > 10°F That Results Involve an Actual or Potential Substantial MSL Monitor (RM-4299A/B/C) Reading ≥ 0.03 R/hr ICS Temperature > 200°F Degradation of the Level of Safety of the for > 15 Minutes Plant dvertent Criticality Measured Plume Dose Rate Onsite ≥ 5 mR/hr LOSS OF ANNUNCIATORS/ Mode 1, 2, 3, 4 for > 15 Minutes TRANSIENT Rad Assessment Determines Integrated Dose Offsite \geq 0.005 Rem TEDE OR \geq 0.025 Rem CDE Thyroid. f Most (75%) MCB Annunciators > 15 Minutes AND R of the Following: nificant Transient in Progress ss of SPDS AND ICC Instrumentation LOSS OF COLD S/D FUNCTION Mode 5, 6 OU1 UNPLANNED RELEASE Mode ALL UNUSUAL EVENT ater Level < 35 Ft., 6 In. Iffuent Monitors in Alarm OR Unplanned, Unmonitored or ncontrolled Offsite Release AND DELTA-TWO Posture Code Limits s Determined from EPI – FAPO6, "Classification and PARs," DELTA-TWO controlled RCS Temperature Increase > 10°F CS Boron Concentration < Minimum Required OR eeded. DELTA-ONE REFUEL/SPENT FUEL POOL LEVEL Mode 6 ote: Effluent Monitors Indicate Release Above Alarm Setpoint Continuing > 60 minutes and Reportability Evaluations NOT Complete Events in Progress or Have Occurred Which Indicate a Potential Degradation of the Level of Safety of the Plant Incontrolled Spent Fuel Pool Water Level Decrease Causing loss of Cooling Suction Flow ncontrolled Refuel Pool Water Level Decrease Requiring intainment Evacuation AND All Spent Fuel Assemblies in Safe orage Locations LOSS OF ANNUNCIATORS Mode 1, 2, 3, 4 f Most (75%) MCB Annunciators > 15 Minutes AND SPDS OR Millstone strumentation Available LOSS OF COMMUNICATIONS Mode ALL oss of ALL Onsite Electronic Communications Methods loss of ALL Electronic Communications Methods With Government Agencies MP-26-EPI-FAP06-002 **Revision 001** SHUTDOWN LCO EXCEEDED Mode 1, 2, 3, 4 Page 1 of 3 OT Brought To Required Mode Within Applicable LCO Action C01

MILLSTONE	UNIT 2 EM	IERGEN	NCY ACTIO	N LEVEL	S		10/25/00 Approval date		
JENERAL EMERGEN	ICY ALPHA	ENERAL EM	ERGENCY BRAVO	SITE AREA E CHARLIE-TW		NCY	CHARLIE-ONE	U	JNUSUAL EVEN
BARRIER FA	ILURE		LOSS OF POWE	ER		EQUIPMENT FAI	LURE		OFFSITE RI
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 DOS
BS1 ANY TWO BARRIERS	Mode 1, 2, 3, 4	PS1 S	STATION BLACKOUT	Mode 1, 2, 3, 4	ES1	ATWS	Mode 1	OS1	OFFSITE DOS
BS1 ANY TWO BARRIERS	NOUE 1, 2, 3, 4				ES2	INABILITY TO MAINTAIN HOT S/D	Mode 1, 2, 3, 4		
		PS2	LOSS OF DC	Mode 1, 2, 3, 4					
					ES3	IN-VESSEL FUEL UNCOVERY	Mode 5, 6		
_					ES4	LOSS OF ANNUNCIATORS/TRANSIENT	Mode 1, 2, 3, 4		
BA1 FUEL CLAD OR RCS BARR	IER Mode 1, 2, 3, 4	PA1	STATION BLACKOUT	Mode 5, 6	EA1	AUTOMATIC Rx TRIP FAILURE	Mode 1, 2	OA1	OFFSITE DO
See Barrier Failure Refer	ence Table	Loss of Voltage	on Buses 24C AND 24D > 15	5 Minutes		of Automatic Reactor Trip AND Manu		for >	Kaman Vent Monitor (RM- • 15 Minutes
		PA2 SIN	GLE AC POWER SOURCE	Mode 1, 2, 3, 4	EA2	INABILITY TO MAINTAIN COLD S acontrolled RCS Temperature Increase		≥1	WRGM Site Stack Effluent μ Ci/cc for > 15 Minutes
BA2 STEAM LINE BREAK	Mode 1, 2, 3, 4	Only One AC Pc	wer Source Available to Sup 15 Minutes Such That Loss of	ply Buses 24C of That Power	in	RCS Temperature > 200°F advertent Criticality		for >	Monitor (RM-4299A/B/C)
Unisolable Steam Line B	reak Outside CTMT	Source Would R	esult in a Station Blackout (U	Jnit 1 Bus 14H	EA3	LOSS OF ANNUNCIATORS/	Mode 1, 2, 3, 4	for >	sured Plume Dose Rate On - 15 Minutes
		-	,			of Most (75%) MCB Annunciators > 1	5 Minutes AND	5. Rad <u>></u> 0.	Assessment Determines Int 005 Rem TEDE OR \geq 0.025
					• Si	R of the Following: Ignificant Transient in Progress			
					• Lo	LOSS OF COLD S/D FUNCTION	Mode 5, 6	OU1	UNPLANNED RE
BU1 CTMT BARRIER	Mode 1, 2, 3, 4		SS OF OFFSITE POWER	Mode ALL	1. Lo	ss of Shutdown Cooling > 15 Minutes AND ater Level < 35 Ft., 6 In.			ON DANAED THE
See Barrier Failure Refe		AND Offsite Pov	24D Are Powered from Eme wer NOT Restored Within 15	Argency Generators Minutes	2. Ur	acontrolled RCS Temperature Increase > 10 CS Boron Concentration < Minimum Requir		i El Jone Vices La sel composi	
BU2 RCS LEAKAGE	Mode 1, 2, 3, 4	PU2	LOSS OF DC	Mode 5, 6	EU2	REFUEL/SPENT FUEL POOL LEVE		digendien aus aussie	
 Pressure Boundary Leakage > 2. Unidentified Leakage > 10 GPM 		Loss of Voltage	on DC Buses 201A AND 20	1B > 15 Minutes	1. U	ncontrolled Spent Fuel Pool Water Level De oss of Cooling Suction Flow	crease Causing		
3. Identified Leakage > 25 GPM					C	ncontrolled Refuel Pool Water Level Decrea ontainment Evacuation AND All Spent Fuel	se Requiring Assemblies in Safe		
BU3 FUEL CLAD DEGRADATIC	N Mode ALL					torage Locations			
1. RCS Activity > 60 μCi/gm I-13						of Most (75%) MCB Annunciators > 15 Min	Mode 1, 2, 3, 4 utes AND SPDS OR		
Dose Rate at One Foot from U Sample <u>></u> 2 mR/hr/ml	Inpressurized RCS					nstrumentation Available	Mada ALL		
						LOSS OF COMMUNICATIONS			
					2. L	oss of ALL Electronic Communications Me Bovernment Agencies	hods With		
					EU5	SHUTDOWN LCO EXCEEDED	Mode 1, 2, 3, 4		
NOTE: When two or more EALs apply, always	choose the EAL of the highest inciden	t classification; also alway	s read from top to bottom in each cate	egory.	Unit N Statem	OT Brought To Required Mode Within Appli nent Time Limits	cable LCO Action		

02/27/01

EFFECTIVE DATE



MILLSTONE UNIT 2 EMERGENCY ACTION LEVELS

IN-PLANT RADIATION	SECURITY THREAT/ DESTRUCTIVE PHENOMENA	FIRE/GASES	JUDGEMENT	CLASSIFICATION
MAJOR FUEL DAMAGE Mode ALL	TG1 SECURITY EVENT Mode ALL		JG1 JUDGEMENT Mode ALL	GENERAL EMERGENCY
4-8240/8241 Reading > 1,200 R/hr	1. Loss of Physical Control of the Control Room		Other Conditions Exist For Which Judgement indicates: 1. Actual Or imminent Substantial Core Degradation	ALPHA
Least 20% Fuel Clad Damage As Determined By Core image Estimate	2. Loss of Physical Control of Remote Shutdown Capability		With Potential For Loss Of Containment, OR	OR BRAVO
ent Fuel is Exposed from Water Loss from Open Vessel. wity, Or SF Pool AND BOTH of the Following:			2. Potential For Uncontrolled Radiological Releases. These Releases Can Be Reasonably Expected To	Events in Progress or Have Occurre Which involve Actual or Imminent
Spent Fuel Has Decayed < 30 Days CTMT Integrity is NOT Established OR Exposed Spent			Exceed EPA PAG Plume Exposure Levels Outside The Site Boundary	Substantial Core Degradation or Mr With Potential for Loss of Containm
Fuel Is Outside CTMT				Integrity
SPENT FUEL DAMAGE Mode ALL	TS1 SECURITY EVENT Mode ALL	GS1 CONTROL ROOM EVACUATION Mode ALL	JS1 JUDGEMENT Mode ALL	SITE AREA EMERGENCY
Fuel is Exposed from Open Vessel or Cavity AND BOTH following:	intrusion into Vital Area by a Hostile Force	Unit Control from Hot Shutdown Panel C-10 Or C-21 NOT Established Within 15 Minutes After Control Room Evacuation	Other Conditions Exist For Which Judgement Indicates Actual Or Likely Major Failures of Plant Functions Needed	CHARLIE-TWO
Spent Fuel Has Decayed < 30 Days CTMT Integrity Established			For Protecton Of The Public	Events in Progress or Have Occurred
				Involve Actual or Likely Major Failure Plant Functions Needed for Protection the Public
				THE PODEC
SPENT FUEL ASSEMBLY DAMAGE Mode ALL Mode ALL Mode Sent Fuel is Exposed from Open Vessel, Cavity, or SF Pool	TA1 SECURITY EVENT Mode ALL Intrusion Into Protected Area by a Hostile Force	GA1 CONTROL ROOM EVACUATION Mode ALL Control Room Evacuation Initiated	JA1 JUDGEMENT Mode ALL Any Condition For Which Judgement Indicates That Safety	ALERT
ND Spent Fuel Has Decayed > 30 Days	TA2 DESTRUCTIVE PHENOMENA Mode ALL		Systems May Be Degraded AND Which Requires Emergency Response Organization Staffing	CHARLIE-ONE
				Events in Deserves as Lines Oregoing
dicated by Fuel Building OR Containment Radiation Monitors	1. Seismic Event > 0.09g ZPA	GA2 FIRE/EXPLOSION Mode ALL		Involve an Actual or Potential Substa
dicated by Fuel Building OR Containment Radiation Monitors creasing	2. Onsite Sustained Windspeed > 90 MPH	GA2 FIRE/EXPLOSION Mode ALL Fire or Explosion Affecting Safe Shutdown Area AND Damage to Structures OR Equipment Indicated		Involve an Actual or Potential Substa
dicated by Fuel Building OR Containment Radiation Monitors creasing PLANT RADIATION Mode ALL	 Onsite Sustained Windspeed > 90 MPH Visible Damage to Structures or Equipment AND Affecting Safe Shutdown 	Fire or Explosion Affecting Safe Shutdown Area AND Damage to		Involve an Actual or Potential Substa Degradation of the Level of Safety of
adiation Readings > 15 mR/hr in Control Room OR Central larm Station OR Secondary Alarm Station	 Onsite Sustained Windspeed > 90 MPH Visible Damage to Structures or Equipment AND Affecting Safe Shutdown Vessel or Vehicle Collision AND Affecting Safe Shutdown 	Fire or Explosion Affecting Safe Shutdown Area AND Damage to Structures OR Equipment Indicated GA3 TOXIC/FLAMMABLE GASES Mode ALL Life Threatening Toxic Gases OR Flammable Gas Concentrations as Identified in C - OP 200.5, "Oil, Hazardous Material, Hazardous		Involve an Actual or Potential Substa Degradation of the Level of Safety of
dicated by Fuel Building OR Containment Radiation Monitors creasing PLANT RADIATION Mode ALL adiation Readings > 15 mR/hr in Control Room OR Central arm Station OR Secondary Alarm Station adiation Reading > 5 R/hr in Areas Requiring Access for	 Onsite Sustained Windspeed > 90 MPH Visible Damage to Structures or Equipment AND Affecting Safe Shutdown 	Fire or Explosion Affecting Safe Shutdown Area AND Damage to Structures OR Equipment Indicated GA3 TOXIC/FLAMMABLE GASES Mode ALL Life Threatening Toxic Gases OR Flammable Gas Concentrations		Involve an Actual or Potential Substa Degradation of the Level of Safety of
dicated by Fuel Building OR Containment Radiation Monitors creasing PLANT RADIATION Mode ALL adiation Readings > 15 mR/hr in Control Room OR Central arm Station OR Secondary Alarm Station adiation Reading > 5 R/hr in Areas Requiring Access for afe Shutdown	 Onsite Sustained Windspeed > 90 MPH Visible Damage to Structures or Equipment AND Affecting Safe Shutdown Vessel or Vehicle Collision AND Affecting Safe Shutdown Missiles Affecting Safe Shutdown 	Fire or Explosion Affecting Safe Shutdown Area AND Damage to Structures OR Equipment Indicated GA3 TOXIC/FLAMMABLE GASES Mode ALL Life Threatening Toxic Gases OR Flammable Gas Concentrations as Identified in C – OP 200.5, "Oil, Hazardous Material, Hazardous Waste and Mixed Waste Contingency Plan" Affecting Areas for Safe		Involve an Actual or Potential Substa Degradation of the Level of Safety of
dicated by Fuel Building OR Containment Radiation Monitors creasing PLANT RADIATION Mode ALL adiation Readings > 15 mR/hr in Control Room OR Central arm Station OR Secondary Alarm Station Adiation Central Room OR Central arm Station OR Secondary Alarm Station adiation Reading > 5 R/hr in Areas Requiring Access for afe Shutdown Mode ALL RAD MONITORS Mode ALL ncontrolled Refuel Pool Water Level Decrease AND Rad	 Onsite Sustained Windspeed > 90 MPH Visible Damage to Structures or Equipment AND Affecting Safe Shutdown Vessel or Vehicle Collision AND Affecting Safe Shutdown Missiles Affecting Safe Shutdown Flooding Affecting Safe Shutdown 	Fire or Explosion Affecting Safe Shutdown Area AND Damage to Structures OR Equipment Indicated GA3 TOXIC/FLAMMABLE GASES Mode ALL Life Threatening Toxic Gases OR Flammable Gas Concentrations as Identified in C – OP 200.5, "Oil, Hazardous Material, Hazardous Waste and Mixed Waste Contingency Plan" Affecting Areas for Safe Shutdown GU1 FIRE Mode ALL Fire in Building OR Areas Adjacent to Areas Needed for Safe Shutdown NOT Extinguished Within 15 Minutes of Notification OI Minutes of Notification OI	JU1 JUDGEMENT Mode ALL Any Condition For Which Judgement Indicates Potential	Involve an Actual or Potential Substa Degradation of the Level of Safety of Plant
dicated by Fuel Building OR Containment Radiation Monitors creasing PLANT RADIATION Mode ALL adiation Readings > 15 mR/hr in Control Room OR Central arm Station OR Secondary Alarm Station Mode ALL adiation Reading > 5 R/hr in Areas Requiring Access for afe Shutdown Mode ALL RAD MONITORS Mode ALL ncontrolled Refuel Pool Water Level Decrease AND Rad evels Require Evacuation of CTMT Or Spent Fuel Pool Area nexpected Area Rad Monitor Reading Offscale High OR	 Onsite Sustained Windspeed > 90 MPH Visible Damage to Structures or Equipment AND Affecting Safe Shutdown Vessel or Vehicle Collision AND Affecting Safe Shutdown Missiles Affecting Safe Shutdown Flooding Affecting Safe Shutdown TU1 SECURITY EVENT Mode ALL 	Fire or Explosion Affecting Safe Shutdown Area AND Damage to Structures OR Equipment Indicated GA3 TOXIC/FLAMMABLE GASES Life Threatening Toxic Gases OR Flammable Gas Concentrations as Identified in C – OP 200.5, "Oil, Hazardous Material, Hazardous Waste and Mixed Waste Contingency Plan" Affecting Areas for Safe Shutdown GU1 FIRE Mode ALL Fire in Building OR Areas Adjacent to Areas Needed for Safe Shutdown NOT Extinguished Within 15 Minutes of Notification OI Verification of Control Room Alarms	JU1 JUDGEMENT Mode ALL	Involve an Actual or Potential Substa Degradation of the Level of Safety of Plant UNUSUAL EVENT DELTA-TWO OR
dicated by Fuel Building OR Containment Radiation Monitors creasing PLANT RADIATION Mode ALL adiation Readings > 15 mR/hr in Control Room OR Central arm Station OR Secondary Alarm Station Mode ALL adiation Reading > 5 R/hr in Areas Requiring Access for afe Shutdown Mode ALL RAD MONITORS Mode ALL ncontrolled Refuel Pool Water Level Decrease AND Rad evels Require Evacuation of CTMT Or Spent Fuel Pool Area nexpected Area Rad Monitor Reading Offscale High OR	 Onsite Sustained Windspeed > 90 MPH Visible Damage to Structures or Equipment AND Affecting Safe Shutdown Vessel or Vehicle Collision AND Affecting Safe Shutdown Missiles Affecting Safe Shutdown Flooding Affecting Safe Shutdown TU1 SECURITY EVENT Mode ALL Bomb Device Discovered in Protected Area 	Fire or Explosion Affecting Safe Shutdown Area AND Damage to Structures OR Equipment Indicated GA3 TOXIC/FLAMMABLE GASES Mode ALL Life Threatening Toxic Gases OR Flammable Gas Concentrations as Identified in C – OP 200.5, "Oil, Hazardous Material, Hazardous Waste and Mixed Waste Contingency Plan" Affecting Areas for Safe Shutdown GU1 FIRE Mode ALL Fire in Building OR Areas Adjacent to Areas Needed for Safe Shutdown NOT Extinguished Within 15 Minutes of Notification OI Verification of Control Room Alarms Mode ALL GU2 TOXIC/FLAMMABLE GASES Mode ALL 1. Life Threatening Toxic Gases OR Flammable Gas	JU1 JUDGEMENT Mode ALL Any Condition For Which Judgement Indicates Potential Degradation in the Level of Safety of the Plant	Involve an Actual or Potential Substa Degradation of the Level of Safety of Plant UNUSUAL EVENT DELTA-TWO OR DELTA-ONE
dicated by Fuel Building OR Containment Radiation Monitors creasing PLANT RADIATION Mode ALL adiation Readings > 15 mR/hr in Control Room OR Central arm Station OR Secondary Alarm Station Mode ALL adiation Reading > 5 R/hr in Areas Requiring Access for afe Shutdown Mode ALL RAD MONITORS Mode ALL ncontrolled Refuel Pool Water Level Decrease AND Rad evels Require Evacuation of CTMT Or Spent Fuel Pool Area nexpected Area Rad Monitor Reading Offscale High OR	 Onsite Sustained Windspeed > 90 MPH Visible Damage to Structures or Equipment AND Affecting Safe Shutdown Vessel or Vehicle Collision AND Affecting Safe Shutdown Missiles Affecting Safe Shutdown Flooding Affecting Safe Shutdown TU1 SECURITY EVENT Mode ALL Bomb Device Discovered in Protected Area TU2 DESTRUCTIVE PHENOMENA Mode ALL 	Fire or Explosion Affecting Safe Shutdown Area AND Damage to Structures OR Equipment Indicated GA3 TOXIC/FLAMMABLE GASES Mode ALL Life Threatening Toxic Gases OR Flammable Gas Concentrations as Identified in C – OP 200.5, "Oil, Hazardous Material, Hazardous Waste and Mixed Waste Contingency Plan" Affecting Areas for Safe Shutdown GU1 FIRE Mode ALL Fire in Building OR Areas Adjacent to Areas Needed for Safe Shutdown NOT Extinguished Within 15 Minutes of Notification OI Verification of Control Room Alarms Mode ALL GU2 TOXIC/FLAMMABLE GASES Mode ALL 1. Life Threatening Toxic Gases OR Flammable Gas Concentrations as Identified in C – OP 200.5, "Oil, Hazardous Material, Hazardous Waste and Mixed Waste Contingency Plan"	JU1 JUDGEMENT Mode ALL Any Condition For Which Judgement Indicates Potential Degradation in the Level of Safety of the Plant	Involve an Actual or Potential Substa Degradation of the Level of Safety of Plant UNUSUAL EVENT DELTA – TWO OR DELTA – ONE Events in Progress or Have Occurred Which Indicate a Potential Degradatic
dicated by Fuel Building OR Containment Radiation Monitors creasing PLANT RADIATION Mode ALL adiation Readings > 15 mR/hr in Control Room OR Central arm Station OR Secondary Alarm Station Mode ALL adiation Reading > 5 R/hr in Areas Requiring Access for afe Shutdown Mode ALL RAD MONITORS Mode ALL ncontrolled Refuel Pool Water Level Decrease AND Rad evels Require Evacuation of CTMT Or Spent Fuel Pool Area nexpected Area Rad Monitor Reading Offscale High OR	 Onsite Sustained Windspeed > 90 MPH Visible Damage to Structures or Equipment AND Affecting Safe Shutdown Vessel or Vehicle Collision AND Affecting Safe Shutdown Missiles Affecting Safe Shutdown Flooding Affecting Safe Shutdown Flooding Affecting Safe Shutdown TU1 SECURITY EVENT Mode ALL Bomb Device Discovered in Protected Area TU2 DESTRUCTIVE PHENOMENA Mode ALL Seismic Activity Detected Per AOP-2562, Earthquake Report by Plant Personnel of Tornado Striking Within Protected Area Visible Damage to Structures or Equipment Within the 	Fire or Explosion Affecting Safe Shutdown Area AND Damage to Structures OR Equipment Indicated GA3 TOXIC/FLAMMABLE GASES Mode ALL Life Threatening Toxic Gases OR Flammable Gas Concentrations as Identified in C – OP 200.5, "Oil, Hazardous Material, Hazardous Waste and Mixed Waste Contingency Plan" Affecting Areas for Safe Shutdown GU1 FIRE Mode ALL Fire in Building OR Areas Adjacent to Areas Needed for Safe Shutdown NOT Extinguished Within 15 Minutes of Notification OI Verification of Control Room Alarms Mode ALL GU2 TOXIC/FLAMMABLE GASES Mode ALL 1. Life Threatening Toxic Gases OR Flammable Gas Concentrations as Identified in C – OP 200.5, "Oil, Hazardous Material, Hazardous Waste and Mixed Waste Contingency Pla Affecting Normal Operation	JU1 JUDGEMENT Mode ALL Any Condition For Which Judgement Indicates Potential Degradation in the Level of Safety of the Plant	Involve an Actual or Potential Substa Degradation of the Level of Safety of Plant UNUSUAL EVENT DELTA – TWO OR DELTA – ONE Events in Progress or Have Occurred
dicated by Fuel Building OR Containment Radiation Monitors creasing PLANT RADIATION Mode ALL adiation Readings > 15 mR/hr in Control Room OR Central arm Station OR Secondary Alarm Station Mode ALL adiation Reading > 5 R/hr in Areas Requiring Access for afe Shutdown Mode ALL RAD MONITORS Mode ALL ncontrolled Refuel Pool Water Level Decrease AND Rad evels Require Evacuation of CTMT Or Spent Fuel Pool Area nexpected Area Rad Monitor Reading Offscale High OR	 Onsite Sustained Windspeed > 90 MPH Visible Damage to Structures or Equipment AND Affecting Safe Shutdown Vessel or Vehicle Collision AND Affecting Safe Shutdown Missiles Affecting Safe Shutdown Flooding Affecting Safe Shutdown Flooding Affecting Safe Shutdown TU1 SECURITY EVENT Mode ALL Bomb Device Discovered in Protected Area TU2 DESTRUCTIVE PHENOMENA Mode ALL Seismic Activity Detected Per AOP-2562, Earthquake Report by Plant Personnel of Tornado Striking Within Protected Area 	Fire or Explosion Affecting Safe Shutdown Area AND Damage to Structures OR Equipment Indicated GA3 TOXIC/FLAMMABLE GASES Mode ALL Life Threatening Toxic Gases OR Flammable Gas Concentrations as Identified in C – OP 200.5, "Oil, Hazardous Material, Hazardous Waste and Mixed Waste Contingency Plan" Affecting Areas for Safe Shutdown GU1 FIRE Mode ALL Fire in Building OR Areas Adjacent to Areas Needed for Safe Shutdown NOT Extinguished Within 15 Minutes of Notification OI Verification of Control Room Alarms Mode ALL GU2 TOXIC/FLAMMABLE GASES Mode ALL 1. Life Threatening Toxic Gases OR Flammable Gas Concentrations as Identified in C – OP 200.5, "Oil, Hazardous Material, Hazardous Waste and Mixed Waste Contingency Pla Affecting Normal Operation 2. Notification of a Near-Site Release That May Require Evacuation	JU1 JUDGEMENT Mode ALL Any Condition For Which Judgement Indicates Potential Degradation in the Level of Safety of the Plant n"	Involve an Actual or Potential Substa Degradation of the Level of Safety of Plant UNUSUAL EVENT DELTA – TWO OR DELTA – ONE Events in Progress or Have Occurred Which Indicate a Potential Degradatio
dicated by Fuel Building OR Containment Radiation Monitors creasing PLANT RADIATION Mode ALL adiation Readings > 15 mR/hr in Control Room OR Central larm Station OR Secondary Alarm Station Mode ALL adiation Reading > 5 R/hr in Areas Requiring Access for afe Shutdown Mode ALL RAD MONITORS Mode ALL ncontrolled Refuel Pool Water Level Decrease AND Rad evels Require Evacuation of CTMT Or Spent Fuel Pool Area nexpected Area Rad Monitor Reading Offscale High OR	 Onsite Sustained Windspeed > 90 MPH Visible Damage to Structures or Equipment AND Affecting Safe Shutdown Vessel or Vehicle Collision AND Affecting Safe Shutdown Missiles Affecting Safe Shutdown Flooding Affecting Safe Shutdown Flooding Affecting Safe Shutdown TU1 SECURITY EVENT Mode ALL Bomb Device Discovered in Protected Area TU2 DESTRUCTIVE PHENOMENA Mode ALL Seismic Activity Detected Per AOP-2562, Earthquake Report by Plant Personnel of Tornado Striking Within Protected Area Visible Damage to Structures or Equipment Within the Protected Area Onsite Sustained Windspeed > 75 MPH Explosion Within the Protected Area 	Fire or Explosion Affecting Safe Shutdown Area AND Damage to Structures OR Equipment Indicated GA3 TOXIC/FLAMMABLE GASES Mode ALL Life Threatening Toxic Gases OR Flammable Gas Concentrations as Identified in C – OP 200.5, "Oil, Hazardous Material, Hazardous Waste and Mixed Waste Contingency Plan" Affecting Areas for Safe Shutdown GU1 FIRE Mode ALL Fire in Building OR Areas Adjacent to Areas Needed for Safe Shutdown NOT Extinguished Within 15 Minutes of Notification OI Verification of Control Room Alarms Mode ALL GU2 TOXIC/FLAMMABLE GASES Mode ALL 1. Life Threatening Toxic Gases OR Flammable Gas Concentrations as Identified in C – OP 200.5, "Oil, Hazardous Material, Hazardous Waste and Mixed Waste Contingency Pla Affecting Normal Operation 2. Notification of a Near-Site Release That May Require Evacuation AREAS OF CONCEI AREAS OF CONCEI	Image: symbol with a symbol	Involve an Actual or Potential Substar Degradation of the Level of Safety of Plant UNUSUAL EVENT DELTA-TWO OR DELTA-ONE Events in Progress or Have Occurred Which Indicate a Potential Degradatio
dicated by Fuel Building OR Containment Radiation Monitors creasing PLANT RADIATION Mode ALL adiation Readings > 15 mR/hr in Control Room OR Central larm Station OR Secondary Alarm Station adiation Reading > 5 R/hr in Areas Requiring Access for afe Shutdown	 Onsite Sustained Windspeed > 90 MPH Visible Damage to Structures or Equipment AND Affecting Safe Shutdown Vessel or Vehicle Collision AND Affecting Safe Shutdown Missiles Affecting Safe Shutdown Flooding Affecting Safe Shutdown Flooding Affecting Safe Shutdown TU1 SECURITY EVENT Mode ALL Bomb Device Discovered in Protected Area TU2 DESTRUCTIVE PHENOMENA Mode ALL Seismic Activity Detected Per AOP-2562, Earthquake Report by Plant Personnel of Tornado Striking Within Protected Area Visible Damage to Structures or Equipment Within the Protected Area Onsite Sustained Windspeed > 75 MPH Explosion Within the Protected Area Turbine Failure Causing Observable Casing Damage 	Fire or Explosion Affecting Safe Shutdown Area AND Damage to Structures OR Equipment Indicated GA3 TOXIC/FLAMMABLE GASES Mode ALL Life Threatening Toxic Gases OR Flammable Gas Concentrations as Identified in C – OP 200.5, "Oil, Hazardous Material, Hazardous Waste and Mixed Waste Contingency Plan" Affecting Areas for Safe Shutdown GU1 FIRE Mode ALL Fire in Building OR Areas Adjacent to Areas Needed for Safe Shutdown NOT Extinguished Within 15 Minutes of Notification OI Verification of Control Room Alarms GU2 TOXIC/FLAMMABLE GASES Mode ALL 1. Life Threatening Toxic Gases OR Flammable Gas Concentrations as Identified in C – OP 200.5, "Oil, Hazardous Material, Hazardous Waste and Mixed Waste Contingency Pla Affecting Normal Operation 2. Notification of a Near-Site Release That May Require Evacuation AREAS OF CONCEI Control Room Cable Vaults	JU1 JUDGEMENT Mode ALL Any Condition For Which Judgement Indicates Potential Degradation in the Level of Safety of the Plant Note the Plant n" RN FOR SAFE SHUTDOWN Switchgear Rooms Intake Structure	UNUSUAL EVENT DELTA - TWO OR DELTA - ONE Events in Progress or Have Occurred Which Indicate a Potential Degradatio of the Level of Safety of the Plant
dicated by Fuel Building OR Containment Radiation Monitors creasing PLANT RADIATION Mode ALL adiation Readings > 15 mR/hr in Control Room OR Central larm Station OR Secondary Alarm Station Mode ALL adiation Reading > 5 R/hr in Areas Requiring Access for afe Shutdown Mode ALL RAD MONITORS Mode ALL ncontrolled Refuel Pool Water Level Decrease AND Rad evels Require Evacuation of CTMT Or Spent Fuel Pool Area nexpected Area Rad Monitor Reading Offscale High OR	 Onsite Sustained Windspeed > 90 MPH Visible Damage to Structures or Equipment AND Affecting Safe Shutdown Vessel or Vehicle Collision AND Affecting Safe Shutdown Missiles Affecting Safe Shutdown Flooding Affecting Safe Shutdown Flooding Affecting Safe Shutdown TU1 SECURITY EVENT Mode ALL Bomb Device Discovered in Protected Area TU2 DESTRUCTIVE PHENOMENA Mode ALL Seismic Activity Detected Per AOP-2562, Earthquake Report by Plant Personnel of Tornado Striking Within Protected Area Visible Damage to Structures or Equipment Within the Protected Area Onsite Sustained Windspeed > 75 MPH Explosion Within the Protected Area 	Fire or Explosion Affecting Safe Shutdown Area AND Damage to Structures OR Equipment Indicated GA3 TOXIC/FLAMMABLE GASES Mode ALL Life Threatening Toxic Gases OR Flammable Gas Concentrations as Identified in C – OP 200.5, "Oil, Hazardous Material, Hazardous Waste and Mixed Waste Contingency Plan" Affecting Areas for Safe Shutdown GU1 FIRE Mode ALL Fire in Building OR Areas Adjacent to Areas Needed for Safe Shutdown NOT Extinguished Within 15 Minutes of Notification OI Verification of Control Room Alarms Mode ALL GU2 TOXIC/FLAMMABLE GASES Mode ALL 1. Life Threatening Toxic Gases OR Flammable Gas Concentrations as Identified in C – OP 200.5, "Oil, Hazardous Material, Hazardous Waste and Mixed Waste Contingency Plan" Affecting Normal Operation 2. Notification of a Near-Site Release That May Require Evacuation AREAS OF CONCEI Control Room	JU1 JUDGEMENT Mode ALL Any Condition For Which Judgement Indicates Potential Degradation in the Level of Safety of the Plant Note the Plant n" RN FOR SAFE SHUTDOWN Switchgear Rooms	Involve an Actual or Potential Substar Degradation of the Level of Safety of Plant UNUSUAL EVENT DELTA – TWO OR DELTA – ONE Events in Progress or Have Occurred Which Indicate a Potential Degradatio

MILLSTONE UNIT 2 EMERGENCY ACTION LEVELS

JENERAL EMERGENCY ALPHA	IERAL EMERGENCY BRAVO	RGENCY	UNUSUAL EVENT DELTA-TWO	UNUSUAL EVENT DELTA-ONE
IN-PLANT RADIATION	SECURITY THREAT/ DESTRUCTIVE PHENOMENA	FIRE/GASES	JUDGEMENT	CLASSIFICATION
RG1 MAJOR FUEL DAMAGE Mode ALL	TG1 SECURITY EVENT Mode ALL		JG1 JUDGEMENT Mode ALL	GENERAL EMERGENCY
RS1 SPENT FUEL DAMAGE Mode ALL	TS1 SECURITY EVENT Mode ALL	GS1 CONTROL ROOM EVACUATION Mode ALL	JS1 JUDGEMENT Mode ALL	SITE AREA EMERGENCY
RA1 SPENT FUEL ASSEMBLY DAMAGE Mode ALL 1. Spent Fuel is Exposed from Open Vessel, Cavity, or SF Pool AND Spent Fuel Has Decayed ≥ 30 Days 2. 2. Fuel Handling Accident Causing Damage to Spent Fuel, Indicated by Fuel Building OR Containment Radiation Monitors Increasing Mode ALL 1. RA2 PLANT RADIATION Mode ALL 1. Radiation Readings > 15 mR/hr in Control Room OR Central Alarm Station OR Secondary Alarm Station 2. 2. Radiation Reading > 5 R/hr in Areas Requiring Access for Safe Shutdown 3.	TA1 SECURITY EVENT Mode ALL Intrusion Into Protected Area by a Hostile Force Intrusion Into Protected Area by a Hostile Force TA2 DESTRUCTIVE PHENOMENA Mode ALL 1. Seismic Event > 0.09g ZPA Mode ALL 2. Onsite Sustained Windspeed > 90 MPH Structures or Equipment AND Affecting Safe Shutdown 4. Vessel or Vehicle Collision AND Affecting Safe Shutdown Safe Shutdown 5. Missiles Affecting Safe Shutdown Safe Shutdown 6. Flooding Affecting Safe Shutdown Safe Shutdown	GA1 CONTROL ROOM EVACUATION Mode ALL Control Room Evacuation Initiated Mode ALL GA2 FIRE/EXPLOSION Mode ALL Fire or Explosion Affecting Safe Shutdown Area AND Damage to Structures OR Equipment Indicated Mode ALL GA3 TOXIC/FLAMMABLE GASES Mode ALL Life Threatening Toxic Gases OR Flammable Gas Concentrations as Identified in C – OP 200.5, "Oil, Hazardous Material, Hazardous Waste and Mixed Waste Contingency Plan" Affecting Areas for Safe Shutdown	JA1 JUDGEMENT Mode ALL Any Condition For Which Judgement Indicates That Safety Systems May Be Degraded AND Which Requires Emergency Response Organization Staffing	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
RU1 RAD MONITORS Mode ALL 1. Uncontrolled Refuel Pool Water Level Decrease AND Rad Levels Require Evacuation of CTMT Or Spent Fuel Pool Area 2. Unexpected Area Rad Monitor Reading Offscale High OR > 1000 Times Normal Reading	TU1 SECURITY EVENT Mode ALL Bomb Device Discovered in Protected Area Interface Mode ALL TU2 DESTRUCTIVE PHENOMENA Mode ALL 1. Seismic Activity Detected Per AOP-2562, Earthquake Report by Plant Personnel of Tornado Striking Within Protected Area	GU1 FIRE Mode ALL Fire in Building OR Areas Adjacent to Areas Needed for Safe Shutdown NOT Extinguished Within 15 Minutes of Notification OR Verification of Control Room Alarms GU2 TOXIC/FLAMMABLE GASES Mode ALL 1. Life Threatening Toxic Gases OR Flammable Gas Concentrations as Identified in C – OP 200.5, "Oil, Hazardous Material, Hazardous Waste and Mixed Waste Contingency Plan" Affecting Normal Operation	JU1 JUDGEMENT Mode ALL Any Condition For Which Judgement Indicates Potential Degradation in the Level of Safety of the Plant	UNUSUAL EVENT OCCA TWO OR DELTA-ONE Events in Progress or Have Occurred Which Indicate a Potential Degradation of the Level of Safety of the Plant
NOTE: When two or more EALs apply, always choose the EAL of the highest incident classi	 Visible Damage to Structures or Equipment Within the Protected Area Onsite Sustained Windspeed > 75 MPH Explosion Within the Protected Area Turbine Failure Causing Observable Casing Damage Vessel or Vehicle Collision With Structures OR Equipment Required for Safe Shutdown Flood Level > 19 Feet Mean Sea Level Flooding in Areas Containing Safe Shutdown Equipment iffcation; also always read from top to bottom in each category. 	2. Notification of a Near-Site Release That May Require Evacuation	N FOR SAFE SHUTDOWN Switchgear Rooms Intake Structure Switchgear Area Coolant Tanks Area Containment DC Equipment and Battery Rooms Safety Injection Pump Rooms	2 Millstone MP-26-EPI-FAP06-002 Revision 001 Page 2 of 3

MILLSTONE 2	EMERGENCY A	CTION LEVEL	S BARRIER FAILUR
'MMINENT - No Turnai	round in Safety Systen	n Performance is E	expected AND Escalation to

INDICATORS	FUEL CLAD BARRIER	RCS BARRIEI
SAFETY FUNCTION	FCB1 LOSS Not Applicable	RCB1 LOSS Not Applicable POTENTIAL LOSS
STATUS/ FUNCTIONAL RECOVERY	POTENTIAL LOSS P NO RCS Heat Removal Method Meets SFSC Criteria > 15 Minutes AND Shutdown Cooling System Is NOT	P Uncontrolled RCS Cooldown AND RCS Pressure-Temperature To the Left Of the F 200°F Subcooling Maximum Curve
CORE EXIT TC TEMPERATURES	In Service FCB2 LOSS L Core Exit Thermocouple Readings > 1300 °F POTENTIAL LOSS P Core Exit Thermocouple Readings > 800 °F	In Service RCB2 LOSS L RCS Subcooling < 30°F
PRESSURE		RCB3 LOSS Not Applicable POTENTIAL LOSS Uncontrolled RCS Pressure Decrease Increasing Containment Radiation Mon
COOLANT LEAKAGE		RCB4 LOSS L Reactor Coolant Leak > CVCS Capaci Into EOP-2534, Steam Generator Tube POTENTIAL LOSS P Reactor Coolant Leak > CVCS Capaci Entry Into EOP-2525, Standard Post Tri P Reactor Coolant Leak ≤ CVCS Capaci Into EOP-2534, Steam Generator Tube
RADIATION	FCB3 LOSS L RM-8240/8241 Reading > 300 R/hr L RM-8240/8241 Reading > 5 R/hr Without RCS Release Inside CTMT L At Least 5% Fuel Clad Damage As Determined By Core Damage Estimate L Dose Rate at One Foot from Unpressurized RCS Sample ≥ 28 mR/hr/mI POTENTIAL LOSS Not Applicable	RCB5 LOSS L RM-8240/8241 Reading > 5 R/hr Without Barrier Loss POTENTIAL LOSS Not Applicable
WATER LEVEL	FCB4 LOSS Not Applicable P RVLMS Reading = 0%	
JUDGEMENT	FCB5 Any Condition For Which Judgement Indicates Loss or Potential Loss of Fuel Clad Barrier Due to: • Imminent Barrier Degradation Based On Current Safety System Performance • Degraded Fission Barrier Monitoring Capability Making Barrier Status Indeterminate	RCB6 Any Condition For Which Judgement Indicate Potential Loss of RCS Barrier Due to: Imminent Barrier Degradation Based On System Performance Degraded Fission Barrier Monitoring Cap Barrier Status Indeterminate

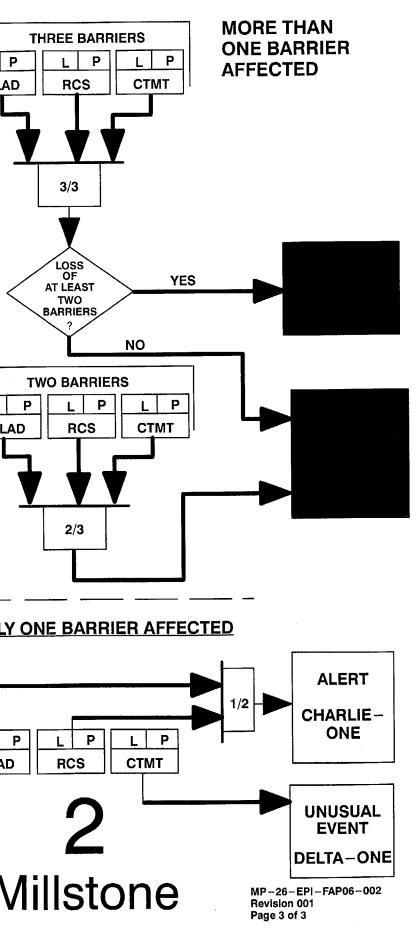
MORE THAN CTMT BARRIER THREE BARRIERS **ONE BARRIER** LP LP Ρ L AFFECTED CTMT RCS CLAD PTS Limit FSC Criteria ystem Is NOT 3/3 LOSS CNB1 Not Applicable POTENTIAL LOSS P Core Exit TC Temperature Readings >1300°F AND Do NOT Decrease Within 15 Minutes LOSS GENERAL LOSS CNB2 YES L Rapid Unexplained CTMT Pressure Decrease Following Initial Increase AT LEAST MERGENCY TWO L No CTMT Pressure Increase When Expectation Exists ALPHA POTENTIAL LOSS and NO P CTMT Pressure > 10 PSIG AND Increasing AND No Containment Spray Pump nitors P CTMT H₂ Concentration \geq 4% **TWO BARRIERS** LP LP P LOSS CNB3 SITE AREA RCS CTMT CLAD L Primary to Secondary Leakage > Tech Spec Limits AND Unisolable Secondary Release to the Environment (Does NOT Include Normal Cycling of EMERGENCY ity AND Entry Rupture S/G Atmospheric Dump Valves or Safety Valves to Maintain Pressure/Temperature) CHARLIEcity AND rip Actions TWO L Failure of BOTH Isolation Valves AND a Pathway to the Environment Exists aty AND Entry Rupture POTENTIAL LOSS 2/3 P Entry Into EOP-2532, Loss of Primary Coolant, AND Leakage Exists Outside CTMT Requiring Local Isolation CNB4 LOSS Offsite Dose Plume Rate $\geq 10^{-6}$ Times RM-8240/8241 Reading if Release is to CTMT ut Fuel Clad L ONLY ONE BARRIER AFFECTED POTENTIAL LOSS Ρ RM-8240/8241 Reading > 1,200 R/hr ALERT At Least 20% Fuel Clad Damage As Determined By Core Damage Estimate Р 1/2 -CHARLIE-ONE LP LP L P LOSS CNB5 RCS CTMT CLAD L No CTMT Sump Level Increase When Expectation Exists POTENTIAL LOSS Not Applicable UNUSUAL EVENT CNB6 Any Condition For Which Judgement Indicates Loss or Potential Loss of CTMT Barrier Due to: es Loss or DELTA-ONE Millstone Current Safety Imminent Barrier Degradation Based On Current Safety MP-26-EPI-FAP06-002 Revision 001 System Performance Degraded Fission Barrier Monitoring Capability Making pability Making Page 3 of 3 C03 Barrier Status Indeterminate

REFERENCE TABLE o General Emergency Conditions Will Occur Within 2 Hours

MILLSTONE 2 EMERGENCY ACTION LEVELS BARRIER FAILURE REFERENCE TABLE

MMINENT - No Turnaround in Safety System Performance is Expected AND Escalation to General Emergency Conditions Will Occur Within 2 Hours

INDICATORS	FUEL CLAD BARRIER	RCS BARRIER	CTMT BARRIER	
SAFETY FUNCTION STATUS/ FUNCTIONAL RECOVERY	FCB1 LOSS Not Applicable POTENTIAL LOSS P NO RCS Heat Removal Method Meets SFSC Criteria > 15 Minutes AND Shutdown Cooling System Is NOT In Service FCB2	RCB1 LOSS Not Applicable POTENTIAL LOSS P Uncontrolled RCS Cooldown AND RCS Pressure-Temperature To the Left Of the PTS Limit 200°F Subcooling Maximum Curve P NO RCS Heat Removal Method Meets SFSC Criteria > 15 Minutes AND Shutdown Cooling System Is NOT In Service RCB2 LOSS	CNB1 LOSS	
CORE EXIT TC TEMPERATURES	L Core Exit Thermocouple Readings > 1300 °F POTENTIAL LOSS P Core Exit Thermocouple Readings > 800 °F	L RCS Subcooling < 30°F POTENTIAL LOSS Not Applicable	Not Applicable POTENTIAL LOSS Core Exit TC Temperature Readings >1300°F AND Do NOT Decrease Within 15 Minutes	
PRESSURE		RCB3 LOSS Not Applicable POTENTIAL LOSS Uncontrolled RCS Pressure Decrease and Increasing Containment Radiation Monitors	CNB2 LOSS L Rapid Unexplained CTMT Pressure Decrease Following Initial Increase L No CTMT Pressure Increase When Expectation Exists POTENTIAL LOSS P CTMT Pressure > 10 PSIG AND Increasing AND No Containment Spray Pump P CTMT H₂ Concentration ≥ 4%	
COOLANT LEAKAGE		RCB4 LOSS L Reactor Coolant Leak > CVCS Capacity AND Entry Into EOP-2534, Steam Generator Tube Rupture POTENTIAL LOSS P Reactor Coolant Leak > CVCS Capacity AND Entry Into EOP-2525, Standard Post Trip Actions P Reactor Coolant Leak < CVCS Capacity AND Entry Into EOP-2534, Steam Generator Tube Rupture P Reactor Coolant Leak < CVCS Capacity AND Entry Into EOP-2534, Steam Generator Tube Rupture	CNB3 LOSS L Primary to Secondary Leakage > Tech Spec Limits AND Unisolable Secondary Release to the Environment (Does NOT Include Normal Cycling of S/G Atmospheric Dump Valves or Safety Valves to Maintain Pressure/Temperature) L Failure of BOTH Isolation Valves AND a Pathway to the Environment Exists POTENTIAL LOSS P Entry Into EOP-2532, Loss of Primary Coolant, AND Leakage Exists Outside CTMT Requiring Local Isolation	
RADIATION	FCB3 LOSS L RM-8240/8241 Reading > 300 R/hr L RM-8240/8241 Reading > 5 R/hr Without RCS Release Inside CTMT L At Least 5% Fuel Clad Damage As Determined By Core Damage Estimate L Dose Rate at One Foot from Unpressurized RCS Sample ≥ 28 mR/hr/ml POTENTIAL LOSS Not Applicable	RCB5 LOSS L RM-8240/8241 Reading > 5 R/hr Without Fuel Clad Barrier Loss POTENTIAL LOSS Not Applicable	CNB4 LOSS L Offsite Dose Plume Rate ≥ 10 ⁻⁶ Times RM-8240/8241 Reading if Release is to CTMT POTENTIAL LOSS P RM-8240/8241 Reading > 1,200 R/hr P At Least 20% Fuel Clad Damage As Determined By Core Damage Estimate	
WATER LEVEL	FCB4 LOSS Not Applicable POTENTIAL LOSS P RVLMS Reading = 0%		CNB5 LOSS L No CTMT Sump Level Increase When Expectation Exists POTENTIAL LOSS Not Applicable	CLA
JUDGEMENT	FCB5 Any Condition For Which Judgement Indicates Loss or Potential Loss of Fuel Clad Barrier Due to: Imminent Barrier Degradation Based On Current Safety System Performance Degraded Fission Barrier Monitoring Capability Making Barrier Status Indeterminate	RCB6 Any Condition For Which Judgement Indicates Loss or Potential Loss of RCS Barrier Due to: Imminent Barrier Degradation Based On Current Safety System Performance Degraded Fission Barrier Monitoring Capability Making Barrier Status Indeterminate	 CNB6 Any Condition For Which Judgement Indicates Loss or Potential Loss of CTMT Barrier Due to: Imminent Barrier Degradation Based On Current Safety System Performance Degraded Fission Barrier Monitoring Capability Making Barrier Status Indeterminate 	N



Docket Nos. 50-245 50-336 50-423 B18353

Attachment 2

Millstone Nuclear Power Station, Unit Nos. 1, 2, and 3

Emergency Plan Procedures

Emergency Procedures Implementing (EPI) Functional Administrative Procedure (FAP) MP-26-EPI-FAP06-003, "Millstone Unit 3 Emergency Action Level," Major Revision 1

MILLSTONE UNIT 3 EMERGENCY ACTION LEVELS

BARRIER FAILURE		LOSS OF PO	WER	E
ALL THREE BARRIERS Mode 1, 2, 3, 4 See Barrier Failure Reference Table	Loss of Vol Following: • Restore Likely V • Core Cr	STATION BLACKOUT tage on Buses 34C AND 3 stion of Power to AT LEAS Vithin Four Hours saling - RED nk - RED		EG1 ATWS Reactor Power of the Following Core Coolin All SG Wide (59% Adver
1 ANY TWO BARRIERS Mode 1, 2, 3, 4 See Barrier Failure Reference Table		STATION BLACKOUT	Mode 1, 2, 3, 4	ES1 FR.S.1 is Ente ES2 INABIL 1 Heat Sink F • Required F
	Loss of Voltage	e on DC Buses 1, 2, 3 AND	4 > 15 Minutes	2 RCS Borsto ES3 IN-VI RHR Has Been Atarnate Me RVLMS Read CET Reading ES4 LOSS OF Loss of Most (74 ing) Significant Tr
1 FUEL CLAD OR RCS BARRIER Mode 1, 2, 3, 4	PA1	STATION BLACKOUT	Mode 5, 6	Loss of SPD: EA1 AUTO
See Barrier Failure Reference Table		e on Buses 34C AND 34D : GLE AC POWER SOURCE	_	EA2 INABILIT
2 STEAM LINE BREAK Mode 1, 2, 3, 4 Unisolable Steam Line Break Outside CTMT	> 15 Minutes S	wer Source Available to Sup uch That Loss of That Power out (Station Blackout Diese	Source Would Result in	in RCS Tem 2. Inadvertent EA3 LOS Loss of Most (7 EITHER of the F • Significant 1 • Loss of SPE
1 CTMT BARRIER Mode 1, 2, 3, 4	PU1 LC	DSS OF OFFSITE POWER	Mode ALL	EU1 LOSS C
See Barrier Failure Reference Table	AND Offsite Po	D 34D Are Powered From wer NOT Restored Within 1		1. Loss of RHR C (LT 462) Readi
2 RCS LEAKAGE Mode 1, 2, 3, 4 Pressure Boundary Leakage > 10 GPM	 PU2	LOSS OF DC	Mode 5, 6	3. RCS Boron Co
Unidentified Leakage > 10 GPM Identified Leakage > 25 GPM 3 FUEL CLAD DEGRADATION Mode ALL RCS Activity > 60 μCi/gm I-131 DEQ	Loss of Voltage	e on DC Buses 1, 2, 3 AND	4 > 15 Minutes	EU2 C Refueling Cavity S • Valid PZR Le • Valid SFP Le EU3 LOS Loss of Most (75% ICC Instruments A EU4 LOSS

02/27/01 10/25/00 APPROVAL DATE EFFECTIVE DALL ERGENCY ALERT CHARLIE-ONE UNUSUAL EVENT DELTA-TWO UNUSUAL EVENT DELTA-ONE EQUIPMENT FAILURE **OFFSITE RELEASES** CLASSIFICATION OG1 OFFSITE DOSE Mode ALL ATWS/INADEQUATE COOLING Mode 1 GENERAL EMERGENCY MP3 Kaman Vent Monitor (RE-10A) Reading \geq 0.8 μClics for > 15 Minutes ALPHA MP3 SLCRS Gas Monitor (HVR*19A) Reading ≥ 30 µCt/cc ore Cooling - RED MP3 Safeties or Steam Dump Monitor (RE-75/76/77/78) $\label{eq:Reading} \begin{array}{l} \textbf{Reading} \geq 20 \ \mu\text{Cl/cc} \ \text{for} > 15 \ \text{Minutes} \\ \hline \text{Terry Turbine Monitor} \ (\text{RE-79}) \ \text{Reading} \geq 50 \ \mu\text{Cl/cc} \end{array}$ Degradation or Malting With Potential for Loss > 15 Minutes Rad Assessment Determines Integrated Dose Offsite ≥ 1 Rem TEDE OR ≥ 5 Rem CDE Thyroid Mode 1 OS1 OFFSITE DOSE Mode ALL ATWS SITE AREA EMERGENCY MP3 Kaman Vent Monitor (RE-10A) Reading \geq 0.1 aG/cc for > 15 Minutes INABILITY TO MAINTAIN HOT S/D Mode 1, 2, 3, 4 CHARLIE-TWO MP3 SLCRS Gas Monitor ((HVR*19A) Reading ≥ 10 aCiloc Events in Progress or Have Occurred Which MP3 Saleties or Steam Dump Monitor (RE-75/76/77/78). Reading > 0.8 iiCrop for > 15 Minutes IN-VESSEL FUEL UNCOVERY Mode 5, 6 ternate Methods for Restoring RCS Inventory Are NOT Effective /LMS Reading Decreasing Toward 19% Level (Plehum) LOSS OF ANNUNCIATORS/TRANSIENT Mode 1, 2, 3, 4 Rad Assessment Determines Integrated Dose Offsite ≥ 0.05 Rem TEDE OR ≥ 0.25 Rem CDE Thyroid OA1 OFFSITE DOSE Mode ALL ALERT AUTOMATIC Rx TRIP FAILURE Mode 1, 2 MP3 Kaman Vent Monitor (RE-10A) Reading ≥ 0.01 µCi/cc ire of Automatic Reactor Trip AND Manual Trip Was Successful for > 15 Minutes CHARLIE-ONE INABILITY TO MAINTAIN COLD S/D Mode 5, 6 MP3 SLCRS Gas Monitor (HVR*19A) Reading \geq 1 μ Ci/cc for Events in Progress or Have Occurred Which Uncontrolled RCS Temperature Increase > 10 °F That Results in RCS Temperature > 200 °F > 15 Minutes volve an Actual or Potential Substantial MP3 Safeties or Steam Dump Monitor (RE-75/76/77/78) Reading $\geq 0.08~\mu Ci/cc$ for > 15 Minutes Degradation of the Level of Safety of the Plant Inadvertent Criticality LOSS OF ANNUNCIATORS/ Mode 1, 2, 3, 4 Terry Turbine Monitor (RE-79) Reading OI \geq 1 $\mu Ci/cc.$ for \geq 15 Minutes TRANSIENT s of Most (75%) MCB Annunciators > 15 Minutes AND HER of the Following: Measured Plume Dose Rate Onsite ≥ 5 mR/hr for > 15 Minutes Rad Assessment Determines Integrated Dose Offsite \geq 0.005 Rem TEDE OR \geq 0.025 Rem CDE Thyroid Significant Transient in Progress Loss of SPDS AND ICC Instrumentation LOSS OF COLD S/D FUNCTION Mode 5, 6 UNUSUAL EVENT OU1 UNPLANNED RELEASE Mode ALL Loss of RHR Cooling > 15 Minutes AND Valid PZR Water Level (LT 462) Reading < 40% Effluent Monitors in Alarm OR Unplanned, Unmonitored or Uncontrolled Offsite Release AND DELTA-TWO Posture Code DELTA-TWO Uncontrolled RCS Temperature Increase > 10°F Limits as Determined from EPI-FAP06, "Classification and OR PARs," Exceeded. RCS Boron Concentration < Minimum Required DELTA-ONE Note: Effluent Monitors Indicate Rejease Above Alarm Setpoint Continuing > 60 minutes AND Reportability Evaluations NOT Complete CAVITY SEAL FAILURE Mode 6 Events in Progress or Have Occurred Which Indicate a Potential Degradation of the Level of eling Cavity Seal Failure AND EITHER of the Following: Safety of the Plant Valid PZR Level (LT 462) Reading < 40% Valid SFP Level (LI 26) Reading = 0% B LOSS OF ANNUNCIATORS Mode 1, 2, 3, 4 s of Most (75%) MCB Annunciators > 15 Minutes AND SPDS OR Instruments Available Millstone LOSS OF COMMUNICATIONS Mode ALL Loss of ALL Onsite Electronic Communications Methods Loss of ALL Electronic Communications Methods With Government Agencies MP-26-EPI-FAP06-003 Revision 001 SHUTDOWN LCO EXCEEDED Mode 1, 2, 3, 4 Page 1 of 3 C 04 NOT Brought To Required Mode Within Applicable LCO Action

MILLSTONE UNIT 3 EM	ERGENCY ACTION LEVELS	<u> </u>	
GENERAL EMERGENCY ALPHA	NERAL EMERGENCY BRAVO	EMERGENCY WO ALERT CHARLIE-ONE	UNUSUAL EVEN
BARRIER FAILURE	LOSS OF POWER	EQUIPMENT FAILURE	OFFSIT
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 DO
BS1 ANY TWO BARRIERS Mode 1, 2, 3, 4	PS1 STATION BLACKOUT Mode 1, 2, 3, 4 PS2 LOSS OF DC Mode 1, 2, 3, 4	ES1 ATWS Mode 1 ES2 INABILITY TO MAINTAIN HOT S/D Mode 1, 2, 3, 4 ES3 IN-VESSEL FUEL UNCOVERY Mode 5, 6	OS1 OFFSITE DO
BA1 FUEL CLAD OR RCS BARRIER Mode 1, 2, 3, 4 See Barrier Failure Reference Table BA2 STEAM LINE BREAK Mode 1, 2, 3, 4 Unisolable Steam Line Break Outside CTMT	PA1 STATION BLACKOUT Mode 5, 6 Loss of Voltage on Buses 34C AND 34D > 15 Minutes PA2 SINGLE AC POWER SOURCE Mode 1, 2, 3, 4 Only One AC Power Source Available to Supply Buses 34C AND 34D > 15 Minutes Such That Loss of That Power Source Would Result in a Station Blackout (Station Blackout Diesel CANNOT be Credited)	ES4 LOSS OF ANNUNCIATORS/TRANSIENT Mode 1, 2, 3, 4 EA1 AUTOMATIC Rx 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 Loss of Most (75%) MCB Annunciators > 15 Minutes AND EITHER of the Following: • Significant Transient in Progress • Loss of SPDS AND ICC Instrumentation	OA1 OFFSITE DO 1. MP3 Kaman Vent Monitor (RE-for > 15 Minutes 2. MP3 SLCRS Gas Monitor (HVR > 15 Minutes 3. MP3 Safeties or Steam Dump M Reading ≥ 0.08 µCi/cc for > 15 4. Terry Turbine Monitor (RE-79) F for > 15 Minutes 5. Measured Plume Dose Rate Or 6. 6. Rad Assessment Determines Ir Rem TEDE OR ≥ 0.025 Rem C
BU1 CTMT BARRIER Mode 1, 2, 3, 4 See Barrier Failure Reference Table BU2 RCS LEAKAGE Mode 1, 2, 3, 4 1. Pressure Boundary Leakage > 10 GPM Mode 1, 2, 3, 4 2. Unidentified Leakage > 10 GPM 3. Identified Leakage > 25 GPM BU3 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/mI NOTE: When two or more EALs apply, atways choose the EAL of the highest incident	PU1 LOSS OF OFFSITE POWER Mode ALL Buses 34C AND 34D Are Powered From Emergency Generators AND Offsite Power NOT Restored Within 15 Minutes PU2 LOSS OF DC Mode 5, 6 PU2 LOSS OF DC Mode 5, 6 Loss of Voltage on DC Buses 1, 2, 3 AND 4 > 15 Minutes	EU1 LOSS OF COLD S/D FUNCTION Mode 5, 6 1. Loss of RHR Cooling > 15 Minutes AND Valid PZR Water Level (LT 462) Reading < 40%	OU1 UNPLANNED R Provinsi Constraints of the second of the

02/27/01

EFFECTIVE DALL

UNUSUAL EVENT DELTA-ONE T DELTA-TWO **E RELEASES** CLASSIFICATION DSE Mode ALL GENERAL EMERGENCY SITE AREA EMERGENCY Mode ALL OSE OSE Mode ALL ALERT -10A) Reading > 0.01 µCi/cc CHARLIE-ONE R*19A) Reading > 1 µCi/cc for Events in Progress or Have Occurred Which Involve an Actual or Potential Substantial Degradation of the Level of Safety of the Plant Monitor (RE-75/76/77/78) 15 Minutes Reading Of > 1 µCi/cc Dosite \geq 5 mR/hr for > 15 Minutes Integrated Dose Offsite ≥ 0.005 CDE Thyroid UNUSUAL EVENT RELEASE Mode ALL OR DELTA-ONE Events in Progress or Have Occurred Which Indicate a Potential Degradation of the Level of Safety of the Plant 3 Millstone MP-26-EPI-FAP06-003 Revision 001 Page 1 of 3

MILLSTONE UNIT 3 EMERGENCY ACTION LEVELS

IN-PLANT RADIATION	SECURITY THREAT/ DESTRUCTIVE PHENOMENA	FIRE/GASES	JUDGEMENT	CLASSIFICATION
MAJOR FUEL DAMAGE Mode ALL Valid RE04A/05A Reading > 2,000 R/hr At Least 20% Fuel Clad Damage As Determined By Core Damage Estimate Spent Fuel is Exposed from Water Loss from Open Vessel, Cavity, Or SF Pool AND BOTH of the Following: Spent Fuel Has Decayed < 30 Days Release Can Bypass CTMT	TG1 SECURITY EVENT Mode ALL 1. Loss of Physical Control of the Control Room 2. Loss of Physical Control of Remote Shutdown Capability		JG1 JUDGEMENT Mode ALL Other Conditions Exist For Which Judgement Indicates: 1. Actual Or Imminent Substantial Core Degradation With Potential For Loss Of Containment, OR 2. Potential For Uncontrolled Radiological Releases. These Releases Can Be Reasonably Expected To Exceed EPA PAG Plume Exposure Levels Outside The Site Boundary	GENERAL EMERGENCY ALPHA OR BRAVO Events in Progress or Have Occurred W Involve Actual or Imminent Substantial O Degradation or Melting With Potential fo Loss of Containment Integrity
SPENT FUEL DAMAGE Mode ALL	TS1 SECURITY EVENT Mode ALL	GS1 CONTROL ROOM EVACUATION Mode ALL	JS1 JUDGEMENT Mode ALL	SITE AREA EMERGENCY
nt Fuel is Exposed from Open Vessel, or Cavity AND BOTH of Following: Spent Fuel Has Decayed < 30 Days CTMT Integrity Established	Intrusion into Vital Area by a Hostile Force	Unit Control front Auxiliary Shutdown Panel NOT Established Within 15 Minutes After Control Room Evacuation	Other Conditions Exist For Which Judgement Indicates Actual Or Likely Major Failures of Plant Functions Needed For Protecton Of The Public	CHARLIE - TWO Events in Progress or Have Occurred Wh Involve Actual or Likely Major Failures of Plant Functions Needed for Protection of the Public
SPENT FUEL ASSEMBLY DAMAGE Mode ALL	TA1 SECURITY EVENT Mode ALL	GA1 CONTROL ROOM EVACUATION Mode ALL	JA1 JUDGEMENT Mode ALL	ALERT
Spent Fuel is Exposed from Open Vessel, Cavity OR SF Pool AND Spent Fuel Has Decayed ≥ 30 Days Fuel Handling Accident Causing Damage to Spent Fuel, Indicated by Fuel Building OR Containment Radiation Monitors Increasing	Intrusion Into Protected Area by a Hostile Force TA2 DESTRUCTIVE PHENOMENA Mode ALL 1. Seismic Event > 0.09g ZPA	Control Room Evacuation Initiated GA2 FIRE/EXPLOSION Mode ALL Fire or Explosion Affecting Safe Shutdown Area AND Damage to	Any Condition For Which Judgement Indicates That Safety Systems May Be Degraded And Which Requires Emergency Response Organization Staffing	Involve an Actual or Potential Substa
AND Spent Fuel Has Decayed > 30 Days Fuel Handling Accident Causing Damage to Spent Fuel	TA2 DESTRUCTIVE PHENOMENA Mode ALL	GA2 FIRE/EXPLOSION Mode ALL	Systems May Be Degraded And Which Requires Emergency Response Organization Staffing	CHARLIE – ONE Events in Progress or Have Occurred Wh Involve an Actual or Potential Substan Degradation of the Level of Safety of the Pla
AND Spent Fuel Has Decayed ≥ 30 Days Fuel Handling Accident Causing Damage to Spent Fuel, Indicated by Fuel Building OR Containment Radiation Monitors Increasing 2 PLANT RADIATION Mode ALL Radiation Readings > 15 mR/hr in Control Room OR Central Alarm Station OR Secondary Alarm Station Radiation Reading > 5 R/hr in Areas Requiring Access for	TA2 DESTRUCTIVE PHENOMENA Mode ALL 1. Seismic Event > 0.09g ZPA 2. Onsite Sustained Windspeed > 90 MPH 3. Visible Damage to Structures or Equipment AND Affecting Safe Shutdown 4. Vessel or Vehicle Collision AND Affecting Safe Shutdown 5. Missiles Affecting Safe Shutdown	GA2 FIRE/EXPLOSION Mode ALL Fire or Explosion Affecting Safe Shutdown Area AND Damage to Structure OR Equipment Indicated GA3 TOXIC/FLAMMABLE GASES GA3 TOXIC/FLAMMABLE GASES Mode ALL Life Threatening Toxic Gases OR Flammable Gas Concentrations as Identified in C – OP 200.5, Oil, Hazardous Material, Hazardous Waste and Mixed Waste Contingency Plan Affecting Areas for Sa Shutdown GU1 FIRE Mode ALL	Systems May Be Degraded And Which Requires Emergency Response Organization Staffing	Events in Progress or Have Occurred Wh Involve an Actual or Potential Substar
AND Spent Fuel Has Decayed ≥ 30 Days Fuel Handling Accident Causing Damage to Spent Fuel, Indicated by Fuel Building OR Containment Radiation Monitors Increasing 2 PLANT RADIATION Mode ALL Radiation Readings > 15 mR/hr in Control Room OR Central Alarm Station OR Secondary Alarm Station Radiation Reading > 5 R/hr in Areas Requiring Access for Safe Shutdown	TA2 DESTRUCTIVE PHENOMENA Mode ALL 1. Seismic Event > 0.09g ZPA . 2. Onsite Sustained Windspeed > 90 MPH 3. Visible Damage to Structures or Equipment AND Affecting Safe Shutdown 4. Vessel or Vehicle Collision AND Affecting Safe Shutdown 5. Missiles Affecting Safe Shutdown 6. Flooding Affecting Safe Shutdown TU1 SECURITY EVENT	GA2 FIRE/EXPLOSION Mode ALL Fire or Explosion Affecting Safe Shutdown Area AND Damage to Structure OR Equipment Indicated GA3 TOXIC/FLAMMABLE GASES Mode ALL Life Threatening Toxic Gases OR Flammable Gas Concentrations as Identified in C – OP 200.5, Oil, Hazardous Material, Hazardous Waste and Mixed Waste Contingency Plan Affecting Areas for Satisfutdown	Systems May Be Degraded And Which Requires Emergency Response Organization Staffing	Events in Progress or Have Occurred Wh Involve an Actual or Potential Substar Degradation of the Level of Safety of the P
AND Spent Fuel Has Decayed ≥ 30 Days Fuel Handling Accident Causing Damage to Spent Fuel, Indicated by Fuel Building OR Containment Radiation Monitors Increasing 2 PLANT RADIATION Mode ALL Radiation Readings > 15 mR/hr in Control Room OR Central Alarm Station OR Secondary Alarm Station Radiation Reading > 5 R/hr in Areas Requiring Access for Safe Shutdown 1 RAD MONITORS Mode ALL Containment OR Fuel Building Area Rad Monitor Alarms Indicate Cavity Seal Failure Unexpected Rad Monitor Reading Offscale High OR	TA2 DESTRUCTIVE PHENOMENA Mode ALL 1. Seismic Event > 0.09g ZPA . 2. Onsite Sustained Windspeed > 90 MPH 3. Visible Damage to Structures or Equipment AND Affecting Safe Shutdown 4. Vessel or Vehicle Collision AND Affecting Safe Shutdown 5. Missiles Affecting Safe Shutdown 6. Flooding Affecting Safe Shutdown 7. TU1 SECURITY EVENT Mode ALL 8. Bomb Device Discovered in Protected Area TU2 DESTRUCTIVE PHENOMENA Mode ALL 1. Seismic Activity Detected Per AOP-3570, Earthquake . 2. Report by Plant Personnel of Tornado Striking Within Protected Area 3. Visible Damage to Structures or Equipment Within the Protected Area	GA2 FIRE/EXPLOSION Mode ALL Fire or Explosion Affecting Safe Shutdown Area AND Damage to Structure OR Equipment Indicated GA3 TOXIC/FLAMMABLE GASES Mode ALL Life Threatening Toxic Gases OR Flammable Gas Concentrations as Identified in C - OP 200.5, Oil, Hazardous Material, Hazardous Waste and Mixed Waste Contingency Plan Affecting Areas for Satshutdown Mode ALL GU1 FIRE Mode ALL Fire in Buildings OR Areas Adjacent to Areas Needed for Safe Shutdown NOT Extinguished Within 15 Minutes of Control Roor Notification OR Verification of Control Room Alarms GU2 TOXIC/FLAMMABLE GASES Mode ALL 1. Life Threatening Toxic Gases OR Flammable Gas Concentrations as Identified in C - OP 200.5, Oil, Hazardous Material, Hazardous Waste and Mixed Waste Contingency Plan Affecting Normal Operation 2. Notification of a Near-Site Release That May Require Evacuation	Systems May Be Degraded And Which Requires Emergency Response Organization Staffing Image: Systems May Be Degraded And Which Requires Emergency Response Organization Staffing Image: Systems May Be Degraded And Which Requires Emergency Response Organization Staffing Image: Systems May Be Degraded And Which Requires Emergency Response Organization Staffing Image: Systems May Be Degraded And Which Requires Emergency Response Organization Staffing Image: Systems May Be Degraded And Which Requires Emergency Response Organization Staffing Image: Systems May Be Degraded And Which Requires Emergency Response Organization Staffing Image: Systems May Be Degraded And Which Requires Emergency Response Organization Staffing Image: Systems May Be Degraded And Which Requires Emergency Response Organization Staffing Image: Image: Systems May Be Degraded And Which Requires Emergency Response Organization Staffing Image: Image: Image: Image: Systems May Be Degraded And Which Requires Emergency Response Organization Staffing Image: Ima	Events in Progress or Have Occurred Wi Involve an Actual or Potential Substa Degradation of the Level of Safety of the P UNUSUAL EVENT DELTA-TWO OR DELTA-ONE Events in Progress or Have Occurred Wi Indicate a Potential Degradation of the Li

MILLSTONE UNIT 3 EMERGENCY ACTION LEVELS

GENERAL EMERGENCY ALPHA	NERAL EMERGENCY BRAVO		UNUSUAL EVENT DELTA-TWO	UNUSUAL EVENT DELTA-ONE
IN-PLANT RADIATION	SECURITY THREAT/ DESTRUCTIVE PHENOMENA	FIRE/GASES	JUDGEMENT	CLASSIFICATION
RG1 MAJOR FUEL DAMAGE Mode ALL	TG1 SECURITY EVENT Mode ALL		JG1 JUDGEMENT Mode ALL	GENERAL EMERGENCY
RS1 SPENT FUEL DAMAGE Mode ALL	TS1 SECURITY EVENT Mode ALL	GS1 CONTROL ROOM EVACUATION Mode ALL	JS1 JUDGEMENT Mode ALL	SITE AREA EMERGENCY
SPENT FUEL ASSEMBLY DAMAGE Mode ALL 1. Spent Fuel is Exposed from Open Vessel, Cavity OR SF Pool AND Spent Fuel Has Decayed ≥ 30 Days	TA1 SECURITY EVENT Mode ALL Intrusion Into Protected Area by a Hostile Force	GA1 CONTROL ROOM EVACUATION Mode ALL Control Room Evacuation Initiated	JA1 JUDGEMENT Mode ALL Any Condition For Which Judgement Indicates That Safety Systems May Be Degraded And Which Requires Emergency	ALERT CHARLIE – ONE
2. Fuel Handling Accident Causing Damage to Spent Fuel, Indicated by Fuel Building OR Containment Radiation Monitors Increasing RA2 PLANT RADIATION Mode ALL	TA2 DESTRUCTIVE PHENOMENA Mode ALL 1. Seismic Event > 0.09g ZPA 2. Onsite Sustained Windspeed > 90 MPH 3. Visible Damage to Structures or Equipment AND Affecting Safe	GA2 FIRE/EXPLOSION Mode ALL Fire or Explosion Affecting Safe Shutdown Area AND Damage to Structure OR Equipment Indicated GA3 TOXIC/FLAMMABLE GASES	Response Organization Staffing	Events in Progress or Have Occurred Which Involve an Actual or Potential Substantial Degradation of the Level of Safety of the Plant
 Radiation Readings > 15 mR/hr in Control Room OR Central Alarm Station OR Secondary Alarm Station Radiation Reading > 5 R/hr in Areas Requiring Access for Safe Shutdown 	 Shutdown Vessel or Vehicle Collision AND Affecting Safe Shutdown Missiles Affecting Safe Shutdown Flooding Affecting Safe Shutdown 	GA3 TOXIC/FLAMMABLE GASES Mode ALL Life Threatening Toxic Gases OR Flammable Gas Concentrations as Identified in C-OP 200.5, Oil, Hazardous Material, Hazardous Waste and Mixed Waste Contingency Plan Affecting Areas for Safe Shutdown		
RU1 RAD MONITORS Mode ALL	TU1 SECURITY EVENT Mode ALL	GU1 FIRE Mode ALL	JU1 JUDGEMENT Mode ALL	UNUSUAL EVENT
 Containment OR Fuel Building Area Rad Monitor Alarms Indicate Cavity Seal Failure Unexpected Rad Monitor Reading Offscale High OR > 1000 Times Normal Reading 	Bomb Device Discovered in Protected Area TU2 DESTRUCTIVE PHENOMENA Mode ALL 1. Seismic Activity Detected Per AOP-3570, Earthquake 2. Report by Plant Personnel of Tornado Striking Within Protected Area 3. Visible Damage to Structures or Equipment Within the Protected Area	 Fire in Buildings OR Areas Adjacent to Areas Needed for Safe Shutdown NOT Extinguished Within 15 Minutes of Control Room Notification OR Verification of Control Room Alarms <u>GU2</u> TOXIC/FLAMMABLE GASES <u>Mode ALL</u> 1. Life Threatening Toxic Gases OR Flammable Gas Concentrations as Identified in C-OP 200.5, Oil, Hazardous Material, Hazardous Waste and Mixed Waste Contingency Plan Affecting Normal Operation 2. Notification of a Near-Site Release That May Require 	Any Condition For Which Judgement Indicates Potential Degradation in the Level of Safety of the Plant	OFBOLTWO OR DELTA-ONE Events in Progress or Have Occurred Which Indicate a Potential Degradation of the Level of Safety of the Plant
	 Onsite Sustained Windspeed > 75 MPH Explosion Within the Protected Area 	Evacuation	I FOR SAFE SHUTDOWN	J
	 Turbine Failure Causing Observable Casing Damage Vessel or Vehicle Collision With Structures or Equipment Required for Safe Shutdown Flood Level > 19.7 Feet Mean Sea Level 	Containment Building Auxiliary Building Control Building Main Steam Valve Building Demineralized Water Storage Tank	Intake Structure Station Transformers Emergency Generator Enclosure Fuel Building	Millstone MP-26-EPI-FAP06-003 Bevision 001
NOTE: When two or more EALs apply, always choose the EAL of the highest incident class	9. Flooding in Areas Containing Safe Shutdown Equipment sification; also always read from top to bottom in each category.	ESF Building		Page 2 of 3
			·	

MILLSTONE 3 EMERGENCY ACTION LEVELS BARRIER FAILURE I IMMINENT - No Turnaround in Safety System Performance is Expected AND Escalation

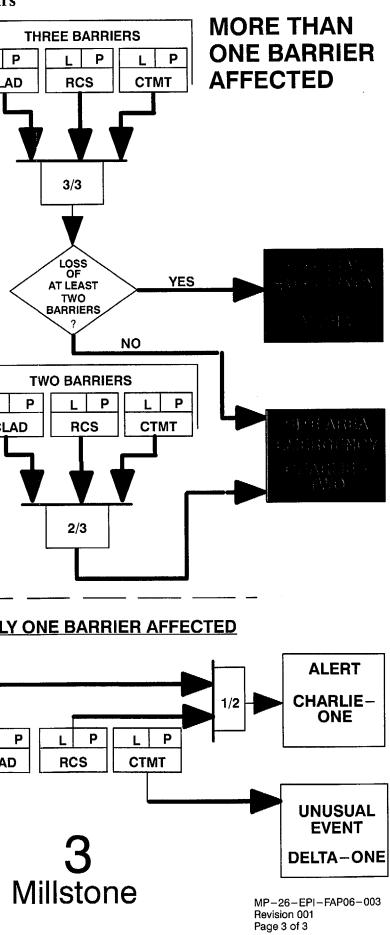
INDICATORS	FUEL CLAD BARRIER	RCS BARRIER	CTMT BARRIER		MORE THAN ONE BARRIER
	FCB1 LOSS L Core Cooling - RED	RCB1 LOSS Not Applicable Instance	CNB1 LOSS Not Applicable	L P L P L P CLAD RCS CTMT	AFFECTED
	POTENTIAL LOSS P Core Cooling - ORANGE	POTENTIAL LOSS	POTENTIAL LOSS		
TATUS TREES	P Heat Sink - RED AND BOTH of the Following:	P RCS Integrity - RED	P Containment - RED		
	 Required Feedwater Flow Can NOT Be Established Within 15 Minutes RCS Feed and Bleed Can NOT Be Established 	P Heat Sink - RED AND Required Feedwater Flow Can NOT Be Established Within 15 Minutes		3/3	
	FCB2 LOSS L Core Exit TC Temperatures > 1200 °F	RCB2 LOSS L RCS Subcooling < 32 °F Due to RCS Leak (115°F Adverse CTMT)	CNB2 LOSS Not Applicable POTENTIAL LOSS		
ORE EXIT TC EMPERATURES	POTENTIAL LOSS P Core Exit TC Temperatures > 718 °F	POTENTIAL LOSS	P Entry Into FR-C.1, Response to Inadequate Core Cooling, or FR-C.2, Response to Degraded Core Cooling with RVLMS ≤ 19% (Plenum) AND Core Exit TC Temperatures Do NOT Decrease Within 15 Minutes	LOSS OF AT LEAST YES	GENERAL
	Core Exit IC temperatures > /18 P	Not Applicable	CNB3 LOSS	TWO	EWENCENCI
		RCB3 LOSS Not Applicable	L Rapid Unexplained CTMT Pressure Decrease Following Initial Increase	?	ALPHA
DEOOUDE		POTENTIAL LOSS	L No CTMT Pressure Increase When Expectation Exists	NO	
RESSURE		P Uncontrolled RCS Pressure Decrease and In- creasing Containment Radiation Monitors	POTENTIAL LOSS P CTMT Pressure > 60 PSIA AND Increasing	TWO BARRIERS	
		Creasing Containment Naciation Monitors	P CTMT H2 Concentration $\geq 4\%$	L P L P L P	
and the second		RCB4 LOSS	CNB4 LOSS	CLAD RCS CTMT	SITE AREA
		L Entry Into E-3, "Steam Generator Tube Rupture" AND Reactor Coolant Leak > Capacity of One Charging Pump	L Primary to Secondary Leakage > Tech Spec Limits AND Unisolable Secondary Release to the Environment (Does NOT Include Normal Cycling of S/G Atmospheric Dump		EMERGENC CHARLIE -
COOLANT		POTENTIAL LOSS	Valves or Safety Valves) Failure of BOTH Isolation Valves AND a Pathway to the		TWO
EAKAGE		P Entry Into E-0, "Reactor Trip or Safety Injection" OR AOP 3555, "Reactor Coolant Leak" AND Reactor Coolant Leak > Capacity of One Charging Pump	L Environment Exists Entry Into ECA-1.2, LOCA Outside Containment, Is Required AND Reactor Coolant Leakage is Verified		
		P Entry into E-3, "Steam Generator Tube Rupture" AND Reactor Coolant Leak ≤ Capacity of One Charging Pump	POTENTIAL LOSS P Entry Into ECA-1.2, LOCA Outside Containment	2/3	
	FCB3 LOSS	RCB5 LOSS	CNB5 LOSS		
	L RE-04A/05A Reading > 500 R/hr L RE-04A/05A Reading > 5 R/hr Without RCS Release	L RE-04/05A Reading > 5 R/hr Without Fuel Clad Barrier Loss	L Offsite Dose Plume Rate ≥ 10 ⁻⁶ Times RE-04A/RE-05A Reading if Coolant Loss is to CTMT	ONLY ONE BARRIER AFFE	CTED
ADIATION	At Least 5% Fuel Clad Damage As Determined By Core	POTENTIAL LOSS	POTENTIAL LOSS		
ADIATION	Damage Estimate Dose Rate at One Foot from Unpressurized RCS Sample	Not Applicable	P RE-04A/05A Reading > 2,000 R/hr		ALERT
	≥ 30 mR/hr/ml		P At Least 20% Fuel Clad Damage As Determined By Core Damage Estimate		1/2 - CHARLIE
	Not Applicable FCB4		CNB6 LOSS	L P L P L P	
WATER	Not Applicable		L No CTMT Sump Level Increase When Expectation Exists	CLAD RCS CTMT	
LEVEL	POTENTIAL LOSS		POTENTIAL LOSS Not Applicable		
	P RVLMS ≤ 19% (Plenum)	RCB6	CNB7		UNUSUA
	Any Condition For Which Judgement Indicates Loss or Potential	Any Condition For Which Judgement Indicates Loss or Potential Loss of RCS Barrier Due to:	Any Condition For Which Judgement Indicates Loss or Potential Loss of CTMT Barrier Due to:	3	DELTA-O
IUDGEMENT	Loss of Fuel Clad Barrier Due to: Imminent Barrier Degradation Based On Current Safety	Imminent Barrier Degradation Based On Current Safety	Imminent Barrier Degradation Based On Current Safety	Millatorea	L
	System Performance Degraded Fission Barrier Monitoring Capability Making Barrie Status Indeterminate	 System Performance Degraded Fission Barrier Monitoring Capability Making Barrier Status Indeterminate 	 System Performance Degraded Fission Barrier Monitoring Capability Making Barrier Status Indeterminate 	Millstone	MP-26-EPI-FAP06- Revision 001 Page 3 of 3

	REFERE	NCE TAE	BLE						
1	to General	Emergency	Conditions	Will	Occur	Withir	12	Hour	rs

MILLSTONE 3 EMERGENCY ACTION LEVELS BARRIER FAILURE REFERENCE TABLE

IMMINENT - No Turnaround in Safety System Performance is Expected AND Escalation to General Emergency Conditions Will Occur Within 2 Hours

INDICATORS	FUEL CLAD BARRIER	RCS BARRIER	CTMT BARRIER	
STATUS TREES	FCB1 LOSS L Core Cooling - RED POTENTIAL LOSS P Core Cooling - ORANGE P Heat Sink - RED AND BOTH of the Following: • Required Feedwater Flow Can NOT Be Established Within 15 Minutes • RCS Feed and Bleed Can NOT Be Established	RCB1 LOSS Not Applicable POTENTIAL LOSS P RCS Integrity - RED P Heat Sink - RED AND Required Feedwater Flow Can NOT Be Established Within 15 Minutes	CNB1 LOSS Not Applicable POTENTIAL LOSS P Containment - RED	
CORE EXIT TC TEMPERATURES	FCB2 LOSS L Core Exit TC Temperatures > 1200 °F POTENTIAL LOSS P Core Exit TC Temperatures > 718 °F	RCB2 LOSS L RCS Subcooling < 32 °F Due to RCS Leak (115°F Adverse CTMT)	CNB2 LOSS Not Applicable POTENTIAL LOSS P Entry Into FR-C.1, Response to Inadequate Core Cooling, or FR-C.2, Response to Degraded Core Cooling with RVLMS ≤ 19% (Plenum) AND Core Exit TC Temperatures Do NOT Decrease Within 15 Minutes	
PRESSURE		RCB3 LOSS Not Applicable POTENTIAL LOSS P Uncontrolled RCS Pressure Decrease and Increasing Containment Radiation Monitors	CNB3 LOSS L Rapid Unexplained CTMT Pressure Decrease Following Initial Increase L No CTMT Pressure Increase When Expectation Exists POTENTIAL LOSS P CTMT Pressure \geq 60 PSIA AND Increasing P CTMT H ₂ Concentration \geq 4%	
COOLANT LEAKAGE		RCB4 LOSS L Entry Into E-3, "Steam Generator Tube Rupture" AND Reactor Coolant Leak > Capacity of One Charging Pump POTENTIAL LOSS P Entry Into E-0, "Reactor Trip or Safety Injection" OR AOP 3555, "Reactor Coolant Leak" AND Reactor Coolant Leak > Capacity of One Charging Pump P Entry into E-3, "Steam Generator Tube Rupture" AND Reactor Coolant Leak ≤ Capacity of One Charging Pump	CNB4 LOSS L Primary to Secondary Leakage > Tech Spec Limits AND Unisolable Secondary Release to the Environment (Does NOT Include Normal Cycling of S/G Atmospheric Dump Valves or Safety Valves) L Failure of BOTH Isolation Valves AND a Pathway to the Environment Exists L Entry Into ECA-1.2, LOCA Outside Containment, Is Required AND Reactor Coolant Leakage is Verified P Entry Into ECA-1.2, LOCA Outside Containment	
RADIATION	FCB3 LOSS L RE-04A/05A Reading > 500 R/hr L RE-04A/05A Reading > 5 R/hr Without RCS Release L RE-04A/05A Reading > 5 R/hr Without RCS Release L At Least 5% Fuel Clad Damage As Determined By Core Damage Estimate L Dose Rate at One Foot from Unpressurized RCS Sample ≥ 30 mR/hr/ml POTENTIAL LOSS Not Applicable	RCB5 LOSS L RE-04/05A Reading > 5 R/hr Without Fuel Clad Barrier Loss POTENTIAL LOSS Not Applicable	CNB5 LOSS L Offsite Dose Plume Rate ≥ 10 ⁻⁶ Times RE-04A/RE-05A Reading if Coolant Loss is to CTMT POTENTIAL LOSS P RE-04A/05A Reading > 2,000 R/hr P At Least 20% Fuel Clad Damage As Determined By Core Damage Estimate	
WATER LEVEL	FCB4 LOSS Not Applicable POTENTIAL LOSS P RVLMS ≤ 19% (Plenum)		CNB6 LOSS L No CTMT Sump Level Increase When Expectation Exists POTENTIAL LOSS Not Applicable	
JUDGEMENT	FCB4 Any Condition For Which Judgement Indicates Loss or Potential Loss of Fuel Clad Barrier Due to: • Imminent Barrier Degradation Based On Current Safety System Performance • Degraded Fission Barrier Monitoring Capability Making Barrier Status Indeterminate	RCB6 Any Condition For Which Judgement Indicates Loss or Potential Loss of RCS Barrier Due to: Imminent Barrier Degradation Based On Current Safety System Performance Degraded Fission Barrier Monitoring Capability Making Barrier Status Indeterminate	 CNB7 Any Condition For Which Judgement Indicates Loss or Potential Loss of CTMT Barrier Due to: Imminent Barrier Degradation Based On Current Safety System Performance Degraded Fission Barrier Monitoring Capability Making Barrier Status Indeterminate 	



Docket Nos. 50-245 50-336 50-423 B18353

Attachment 3

Millstone Nuclear Power Station, Unit Nos. 1, 2, and 3

Emergency Plan Procedures Emergency Procedures Implementing (EPI) Functional Administrative Procedure (FAP) <u>MP-26-EPI-FAP10, "Dose Assessment," Major Revision 1</u>

·····	6/27/00 Approval Date					6/30/ Effective		
	Doc	ument Acti	ion Req	uest	SI	o1012	9-103	457
nitiated By:	P. Luckey		Date: 1/3	/01 Departm Rev.		D Minor Re	Ext.: <u>547</u> 4	\$
)ocument N Title: <u>Dose A</u>	ssessment	-EPI-FAP10						
Reason fo Revised wit This DA	r Request (h new informa R docum RPI - PAPI	attach commitments, tion on MP2 Wide R outs the revise 10-602 MP-26- co-01	CRs, ARs, OEs ange Gas Moni 2007 ovel cy Epi-FAPiO-	etc) tor and MP3 SL(pproval & 064.)Rs. MP-26- ET	kw 2000- X-FAPIO-	01 COI and Contir	nued [
Instructio	ns: Rev C	0-01	Rev. 0	00-01			-··	
TPC Interim Approval	(1) Plant	Mngt Staff Member	Print/Sign/Date	e (2) SM/S	RO/CFH on l	Unit Print/Sig		nued [
	e Request/	Feedback Dispos	s ition n Later - See (Comments	Rejected			
Activity:	11	Minor Revision	Cleanup Re			ncellation	Supersedure	
TPC	ОТС	Place in VOID		Edit Co	Plai	nt Mngt Staff	Member - App	roval
Commen	ts:					d Data	Con	tinued
Reviews		Print		RI/DPC Sign	Print Name ar Date	SQR C	Qualified	Co
						日日		\mathbb{L}
Writer's Gui		B. Tarallo	B.,	Tuglo	1/29/0		Unit 1	<u> </u>
Validation RCD	X X	W. Eakin M. W K. Burgess		burgess_	1/29/01 1/9/01		EPSD Cham	v
Independe Safety Eva	nt 🛛 🕅	J. Doroski d Yes No		Environmental R	eview Required	Yes D	No	
1.	SQR Program Approval	n Final Review and Disapproval	Approval		C/PORC/RI/D			
K	Burgers	1/3	101		ng No.:	•		
	partment He	dependent Reviewe ad/Responsible Indi	(Approv	val Signature	э	
	1 _A	pproval Date			Арр	oroval Date		
Effect	ive Date:	2/27/01						

MP-05-DC	:-SA	.P0	1-001
Rev. 002-()1		;
Page (_ of		

Functional Administrative Procedure



Dose Assessment MP-26-EPI-FAP10 Rev. 001

Approval Date:	2501	
Effective Date:	alarloi	



Table of Contents

1. <u>PURPOSE</u>
1.1 Objective
2. INSTRUCTIONS
2.1 Selecting and Initiating Dose Calculations.52.2 Control Room OFIS Access for IDA Dose Calculations62.3 Control Room IDA Dose Calculations92.4 EOF IDA Dose Calculations112.5 MIDAS Dose Calculations132.6 Calculating Thyroid CDE From a Field Air Sample19
3. SUMMARY OF CHANGES
ATTACHMENTS AND FORMS Attachment 1, "Definitions and Abbreviations"
MP-26-EPI-FAP10-001, "IDA - Data Input Information"
MP-26-EPI-FAP10-002, "MIDAS - Data Input Information"
MP-26-EPI-FAP10-003, "Doses for Protective Action Recommendation"
MP-26-EPI-FAP10-004, "Thyroid CDE Calculation Based on Field Air Sample Worksheet"

MP-26-EPI-FAP10-005, "Unit 1 Dose Calculation for Fuel Handling Accident"

MP-26-EPI-FAP10 Rev. 001 Page 1 of 27

1. <u>PURPOSE</u>

1.1 Objective

Provide methods for calculating dose equivalents around the Millstone Nuclear Power Station for actual or potential airborne releases to use in assessing radiological event classifications and dose based general public protective action recommendations.

1.2 Applicability

An emergency has been declared.

Events require the projection of off-site doses due to an actual or potential release of radioactive materials near or beyond the site boundary.

1.3 Documents

1.3.1 EPUG 07, "Accident Dose Assessment Model (ADAM) User's Guide"

1.4 Discussion

Dose assessment requires an understanding of the purpose for the analysis (e.g., off-site protective actions), knowledge of the physical situation (i.e., release point), knowledge of the available release rate, and dose rate calculational models, including their limitations and personnel requirements and a validation by comparison to field measurements.

Radiological emergency classification and dose based protective action recommendations are based on the TEDE and the thyroid CDE. Potential exposure pathways within this procedure include:

- External gamma dose (DDE) from noble gases in the plume
- External gamma dose (DDE) from ground shine from deposited radioactive material
- CEDE from inhalation of plume activity

Two computer programs can be used within this procedure, MIDAS (Meteorological Information and Dose Assessment System) and IDA (Initial Dose Assessment).

MIDAS

All MIDAS accident calculations (TEDE, CDE, EDE, etc.) are performed in accordance with EPA 400 and NRC guidance. An unlimited number of fixed field monitoring points can be displayed on MIDAS maps. MIDAS can accommodate up to 10 design basis accident scenarios for each unit. The MIDAS roadmap is centered on the site stack and contains features such as the EPZ or IPZ towns, roads, railroads, bodies of water, and field monitoring points. MIDAS accident reports contain site specific protective action recommendations.

The MIDAS software can handle up to four release points per unit. Each release point is calculated separately and merged together spatially on a grid. The output reports are then plotted and printed from the gridded results. Release points can have multiple sources and are distinguished only by physical features that affect dispersion. The MIDAS software performs range checking on all data and numeric entries. The input ranges are in user friendly site specific files. The MIDAS software also has a user friendly mouse screen input. The user selects from large boxes that are easy to read and understand. The MIDAS

MP-26-EPI-FAP10 Rev. 001 Page 2 of 27 accident software is set up so that the user is required to make a minimum of entries. Each menu has a default duration and monitor flow (if required). In most cases, other than automatic runs, the user has the option to change these values before proceeding with the run. The MIDAS accident software has many methods of source term entry. The data can be automatic, manually entered, default values, or preplanned scenario data. The scenario data are typically used for drills. The MIDAS software can calculate dose and release rates down to 1.0 E-17 and has the capability to back calculate from field data. Once the release rate is established, based on the location of the field monitoring reading, the normal variable trajectory dose calculations are made. The MIDAS software takes into account the affect of daughter in-growth.

The MIDAS software can be run from each PC workstation connected to the central server where the real time meteorological and effluent data will be stored. All software changes under system manager control will be made on the central server and sent to each PC workstation. The accident model can be run using manually entered data as a standalone computer calculation if data are not available from the central server. MIDAS accepts and displays data only in English units.

MIDAS utilizes both dry and wet deposition depending on existing weather conditions. Different deposition velocities and rainout rates are used depending on the precipitation rate.

All MIDAS emergency dose calculations for plume and ingestion pathway are made on a polar fine grid with 64 direction sectors by 56 downwind distances typically out to 50 miles. This distance and detail of the grid is under user control in a site specific edit. The grid approach allows plume tracking to follow changes in weather conditions.

The age of the fuel for fuel handling accidents can be taken into account through the design basis accidents. Different mixes can be entered for the various fuel ages required.

All MIDAS reports are available in tabular format. In most cases, reports are also available as color plots. The graphical data are always plotted on site specific maps with contours depicting various projected dose or concentration levels. All MIDAS plots have "point of interest" capability. This allows the user to select any point on the map and immediately display numerical text giving dose or dose rate information. There is no limit to the number of points that can be selected. The wind speed is adjusted up or down to the actual release height using the Power Law. Before all calculations are made, the user has the opportunity to check both the meteorological and radiological data to be used for each release point calculation. The MIDAS software has editors for both meteorological and radiological data.

> MP-26-EPI-FAP10 Rev. 001 Page 3 of 27

The following methods can be used to perform dose assessment using MIDAS:

- What If Provides an integrated dose based on an assumed future release. Typically done in anticipation of a barrier failure to assist in classification and to project dose based PARs for comparison with plant based PARs.
- **Real Time** Based on releases in progress in order to project radiological conditions and validate the adequacy of the current classification level and PARs.
- Normalized Based on an assumed release rate of noble gas and iodine or monitor reading. Normalized dose calculations could be run with near-term or current forecast meteorological data and anticipated release points, etc. The results are used to establish ratios with field data should releases occur. The ratio can then be used to estimate the release rate for noble gas or iodines.

<u>IDA</u>

IDA, developed in-house, is written to be user friendly. IDA estimates plume centerline TEDE, thyroid CDE, CEDE, plume, and ground DDE values. The results provided by the program comply to EPA-400 methodology and represent an "estimate" of off-site dose equivalents that would result due to real time user inputs (i.e., met data and monitor data) as well as specified accident conditions (i.e., filtered release, sprays operating, fuel degradation, accident type, and decontamination factors).

IDA is a database program based on results obtained from the NRC's RASCAL code, version 2.1. RASCAL was run for multiple accident and meteorological conditions and the results were placed in a Microsoft Access data file. The RASCAL generated results provide all aspects of the resulting dose assessment. The site specific inputs that determine the accident, determine the appropriate RASCAL results to use. The noble gas source term is calculated using defined monitor conversion methods, or can be input by the user. Assumptions for various release pathways were incorporated into IDA to determine eventual release height of the resulting plume.

MP-26-EPI-FAP10 Rev. 001 Page 4 of 27

2. **INSTRUCTIONS**

2.1 Selecting and Initiating Dose Calculations

- 2.1.1 IF in the EOF, perform dose assessment as follows:
 - a. Ensure the Meteorological Assistant refers to EPI-FAP04-010, "Meteorological Assistant," Table 1, and determines if fumigation potential exists.
 - b. <u>IF</u> the release is from the site stack <u>AND</u> fumigation potential exists, run projections using ground release and an "E" stability class until fumigation conditions cease to exist.

NOTE

Attachment 4, "Reference Information," is available, as required, to perform dose calculations.

- 2.1.2 Select the appropriate dose assessment method from one of the following:
 - IF a Unit 1 event, Go To EPI-FAP10-005, "Unit 1 Dose Calculation for Fuel Handling Accident."
 - IF performing dose calculations from the Control Room using IDA, Go To Section 2.2.
 - IF performing dose calculations from the EOF using IDA, Go To Section 2.4.
 - IF performing dose calculations using MIDAS, Go To Section 2.5.
 - IF calculating thyroid CDE from a field air sample, Go To Section 2.6.

2.2 Control Room OFIS Access for IDA Dose Calculations

NOTE

If a monitored and unmonitored release are occurring simultaneously, only the field monitoring data is used to calculate dose.

- 2.2.1 Refer To EPI-FAP10-001, "IDA Data Input Information" and obtain information for Part 1 and Part 3, Column A of the section from the CR-DSEO or Designee.
- 2.2.2 IF accessing the OFIS program through the mainframe, perform the following:
 - a. Open "Control Room Dose Assessment" icon.
 - b. Open "Mainframe" icon.
 - c. Type CICSNPRX in the "APPLICATION" field and press "Enter."
 - d. Type the emergency log-on user ID BE091AZ and press "Tab."
 - e. Type Password DRAGON and press "Enter."
 - f. Press the "PAUSE" key on upper right hand corner of keyboard to clear the screen.
 - g. Type OFIS and press "Enter."
 - h. Select "Unit 3" from OFIS menu by pressing "F3" key.
 - i. Type S A11 and press "Enter."
 - j. Refer To and complete EPI-FAP10-001, "IDA Data Input Information" Part 2 (Meteorology).

NOTE

The CR-DSEO is the source of data if OFIS is not available or functioning. To ensure OFIS is current, the time and date should be checked.

- k. <u>IF</u> meteorological data is *not* available on OFIS, request the CR-DSEO or Designee provide data from an alternate source.
- I. Press"F3."

MP-26-EPI-FAP10 Rev. 001 Page 6 of 27

- m. Enter one of the following commands into OFIS, as applicable, to obtain monitor and flow parameters and record in EPI-FAP10-001, Part 3:
 - IF Unit 3, type S A10 and press "Enter."
 - IF Unit 2, perform the following:
 - a.) Type U MP2 and press "Enter."
 - b.) Type S A10 and press "Enter."
- n. IF designated OFIS item is not available, perform the following:
 - 1) Refer to Attachment 3, "Data Sources" and select an alternate source.
 - 2) Consult CR-DSEO or TIC on method to obtain data.
- o. Press "F3" twice.
- p. Press "PAUSE" to clear the screen.
- q. Type logoff and press "Enter."
- r. Close "Mainframe" window.
- 2.2.3 <u>IF</u> accessing the OFIS program through a personal computer, perform the following:
 - a. Open the "OFIS" icon.
 - b. Select "Connect to Millstone LAN" from the "Millstone OFIS Connection Menu."
 - c. Select "MP3 OFIS" or "MP2 OFIS" from the "Millstone Station PPC Top Menu," as applicable.
 - d. Select "Meteorological (A11)" from the "MP3 OFIS" or "MP2 OFIS" menu, as applicable.
 - e. <u>IF</u> connection is *not* successful, connect to the "MP3 PPC" or "MP2 PPC," as follows:
 - 1) Open the "OFIS" icon.
 - 2) Select "Connect to MP3 PPC or MP2 PPC" from the "Millstone OFIS Connection Menu," as applicable.
 - 3) Select "OFIS" from the "MP3 PPC" or "MP2 PPC Top Menu," as applicable.
 - 4) Select "Meteorological (A11)" from the "MP3 OFIS" or "MP2 OFIS" menu," as applicable.

MP-26-EPI-FAP10 Rev. 001 Page 7 of 27

- f. <u>IF</u> meteorological data is *not* available on OFIS, request the CR-DSEO or Designee provide data from an alternate source and perform the following:
- g. Press the "Page Up" (\uparrow) arrow.
- h. IF Unit 3, select "Radioactivity (A10)."
- i. IF Unit 2, select the top level display icon and perform the following:
 - 1) Select "MP2 OFIS."
 - 2) Select "Radioactivity (A10)."
- j. **IF** designated OFIS item is *not* available, perform the following:
 - 1) Refer To Attachment 3, "Data Sources," and select an alternate source.
 - 2) Consult CR-DSEO or TIC on method to obtain data.
- k. Close the "R*TIME Data Viewer" window.
- 1. Close the Millstone "OFIS Connection Menu" window.

2.3 Control Room IDA Dose Calculations

NOTE

A back-up computer is located in the TSC if the Control Room PC is not available.

- 2.3.1 Select IDA icon from the designated Control Room PC.
- 2.3.2 Refer To EPI-FAP10-001, "IDA Data Input Information," Part 1, and enter the following on the "Accident Description" screen:
 - Unit affected
 - Accident type
 - Fuel damage state
 - IF applicable, containment sprays "YES" (on) or "NO" (off)

NOTE

- 1. If reactor is still critical, the reactor shutdown date and time should be left blank.
- 2. If a fuel drop accident, most recent refueling date and time must be estimated by the CR-DSEO and entered.
 - Current (now) and reactor shutdown date and time
 - Release duration (2 hour default unless instructed otherwise by the CR-DSEO)
- 2.3.3 Select "Next."
- 2.3.4 Refer To EPI-FAP10-001, "IDA Data Input Information," Part 2, and enter all of the following on the "Meteorology" screen:
 - Wind speeds from the 033', 142', and 374' elevations
 - Wind directions from the 033', 142', and 374' elevations
 - Delta temperatures from the 142' and 374' elevations

NOTE

- 1. If the unmonitored ground release pathway is selected, no other release pathway can be selected.
- 2. IDA can accept up to two NON GROUND release pathways.
- 3. If multiple NON GROUND release pathways are chosen, only the two LOWEST elevation pathways are entered.

2.3.5 Select "Next."

MP-26-EPI-FAP10 Rev. 001 Page 9 of 27

- 2.3.6 Refer To EPI-FAP10-001, "IDA Data Input Information," Part 3, and enter the following on the "Release Pathways" screen:
 - Active release pathways
 - Filters operating, if applicable
 - Number of safeties releasing, if applicable
 - Flow rates using default values or OFIS

2.3.7 Select "Next."

NOTE

Plant monitor data is zeroed if unmonitored field team data is entered.

- 2.3.8 Refer To EPI-FAP10-001, "IDA Data Input Information," Part 3, and enter the following on the "Monitor" screen:
 - Applicable radiation monitor readings
 - Applicable field team reading (If unmonitored release)
- 2.3.9 Select "Finish."
- 2.3.10 Press "Printer" icon and select "All."
- 2.3.11 Press "OK" to print output.
- 2.3.12 IF printer is *not* available, Refer To EPI-FAP10-003, "Doses for Protective Action Recommendation," and manually record data.
- 2.3.13 Attach EPI-FAP10-001, "IDA Data Input Information," to printed output or to EPI-FAP10-003, "Doses for Protective Action Recommendation."
- 2.3.14 Refer To EPI-FAP10-001, "IDA Data Input Information," and perform verification of input data from Output Summary.
- 2.3.15 Submit results to the CR-DSEO.
- 2.3.16 IF warranted by changing conditions, repeat Sections 2.3 and notify CR-DSEO of changes.

MP-26-EPI-FAP10 Rev. 001 Page 10 of 27

2.4 EOF IDA Dose Calculations

2.4.1 Select the following from the designated EOF PC:

- a. IDA icon
- b. "OPTION"
- c. "EXTENDED"
- 2.4.2 Enter the following information on the "Accident Description" screen:
 - Affected unit
 - Accident type
 - Fuel damage state
 - IF applicable, containment sprays "YES" (on) or "NO" (off)

NOTE

If the reactor is still critical, leave the reactor shutdown date and time as a blank.

- Current (now) and reactor shutdown date and time
- Release duration (2 hour default unless instructed otherwise by the MRDA)
- 2.4.3 Select "Next."
- 2.4.4 Enter the following on the "Meteorology" screen:
 - Wind Speeds from the 033', 142', and 374' elevations in metric units
 - Wind directions from the 033', 142', and 374' elevations
 - Delta temperatures from the 142', and 374' elevations in metric units

2.4.5 Select "Next."

NOTE

- 1. If the unmonitored ground release pathway is chosen, no other release pathway can be selected.
- 2. IDA can accept up to two non-ground release paths.
- 3. If multiple non-ground release pathways are chosen, only the two lowest elevation pathways shall be entered.
- 2.4.6 Enter the following on the "Release Pathways" screen:
 - Release Pathways
 - Filters operating (if applicable)

MP-26-EPI-FAP10 Rev. 001 Page 11 of 27

- Number of safeties releasing (if applicable)
- Flow rates using default values or OFIS

2.4.7 Select "Next."

NOTE

- 1. Plant monitor data is zeroed if unmonitored field team data is entered. If field team data is entered first, the code will not allow monitor data input.
- 2. Iodine release rates are inversely proportional to DF. If iodine release rates need to be reduced by a factor of 100, the DF must be increased by a factor of 100.

2.4.8 Enter the following on the "Monitor" screen:

- Applicable radiation monitor readings
- Applicable field team reading (if unmonitored release)
- Applicable noble gas release rate (if available)
- Applicable DF based on field team comparisons to calculated values
- 2.4.9 Press "Enter" and calculate Source Term Ci/sec.
- 2.4.10 Select "Finish" and calculate TEDE and Thyroid CDE.
- 2.4.11 Print the report.
- 2.4.12 Review the results and verify the inputs to the calculations prior to releasing data.
- 2.4.13 IF performed by the RAE, submit results to the MRDA.

MP-26-EPI-FAP10 Rev. 001 Page 12 of 27

2.5 MIDAS Dose Calculations

- 2.5.1 Refer To and complete the following Sections as appropriate:
 - a. <u>IF</u> performing a projection using manual entry of radiation monitor data, EPI-FAP10-002 Section A, "Manual Entry of Radiation Monitor Data."
 - b. IF performing a "What-If" projection for a LOCA in containment, EPI-FAP10-002 Section B, "What-If Based Upon LOCA in Containment."
 - c. <u>IF</u> performing a back calculation based on field data, EPI-FAP10-002 Section C, "Back Calculation Based Upon Field Monitoring."
 - d. IF MIDAS is not available, Go To step 2.5.46.
- 2.5.2 Select the "MIDAS" icon.
- 2.5.3 Ensure the site selection is set to "Millstone."
- 2.5.4 Select the appropriate affected unit.
- 2.5.5 Set "Accident Run Menu Selection" to correspond to the applicable data sheet section.
- 2.5.6 Select "OK."
- 2.5.7 Ensure the following:
 - a. Data source is set to "Manual Entry" on the spreadsheet.
 - b. Appropriate release points have check marks.
 - c. "Exit Flow to Environment" is correct for the projected release point.
 - d. "Initial Display Radius" is adequate (typically set to 13 miles).
- 2.5.8 Select the "Next" down arrow.
- 2.5.9 Ensure the Dose Calculation Mode is set to "Projected PAG."

NOTE

Projection times are integrated duration (stay) times starting from the current time. The plume transit time must be considered as well as the evacuation time estimates to ensure the projection time will encompass the entire dose.

2.5.10 Ensure the "Start of Exposure" is appropriate.

2.5.11 Ensure the "Exposure Times" are set to "0.25," "2," "6," and "12."

- 2.5.12 Select the "Next" down arrow.
- 2.5.13 Ensure the "Release Option" is set to mode from the applicable section.
- 2.5.14 Select "Confirm."

MP-26-EPI-FAP10 Rev. 001 Page 13 of 27

- 2.5.15 IF the calculation mode is "Manual Radiation Monitor Mode," perform the following:
 - a. Select "New" on the spreadsheet control menu.
 - b. Select "OK" on the warning dialog box.

NOTE

All required meteorological data must be entered on the blue highlighted time line.

- c. Enter met data on the time step for the beginning of the release.
- d. Select "OK" at the bottom of the met spreadsheet.

Only one monitor per release point (i.e., stack low or stack high range monitor) shall be entered.

- e. Enter the applicable monitor/flow data on the same time step as in "Met Data."
- f. Select "OK" at the bottom of the Met and Vent Flow spreadsheet.
- g. Select "Event Tree" at the bottom of the page.
- h. Using the pull down boxes, select the type of accident and associated conditions for the same time step as in the Met and Vent Flow spreadsheets.
- i. Select "OK."
- j. Ensure the "Event Tree" is appropriate.
- k. Select the "Next" down arrow.
- 1. Set "Data and Time" of trip by using one of the following methods:
 - Select by clicking in the associated time window using the thumb wheels.
 - Select "At Current Time" and manually adjust, as necessary.
- 2.5.16 IF the calculation mode is "What If Based Upon LOCA in Containment," perform the following:
 - a. Ensure "Data Source" is set to Manual Entry on the spreadsheet.
 - b. Select "OK."
 - c. Complete the "Event Tree" by using the pull down boxes to set the type of accident and associated conditions.

MP-26-EPI-FAP10 Rev. 001 Page 14 of 27

d.	d. Enter containment leak rate as a percent as shown in Table 1		
	Table 1 Desi	gn Basis Leak Rate	
Unit		%/Day	
	MP2	0.5	
MP3		0.3	

- e. Select either day or hour, as appropriate for the selected leak rate.
- f. Select "OK."
- g. Select "New" on the spreadsheet control menu.
- h. Select "OK" on the warning dialog box.



All required meteorological data must be entered on the blue highlighted time line.

- i. Select "Met Data" on the time step for the beginning of the release.
- j. Select "OK" at the bottom of the met spreadsheet.

Only one monitor per release point shall be entered. The lower of the two containment monitors must be chosen. If it is not already chosen, only one release elevation must be selected.

- k. Enter the applicable containment monitor reading.
- I. Select the "Next" down arrow.
- 2.5.17 IF the calculation mode is "Back Calculation from Field Data," perform the following:
 - a. Select the appropriate release height (ground or elevated).
 - b. Enter closed window field monitoring reading near the plume centerline in mR/hr.
 - c. Enter the distance from the release point in miles.
 - d. Select "OK."
 - e. Complete the "Event Tree" by using the pull down boxes to select the type of accident and associated conditions.
 - f. Select "OK."
 - g. Select "New" on the spreadsheet control menu.

MP-26-EPI-FAP10 Rev. 001 Page 15 of 27

🗸 саитіо N 🗸

All required meteorological data must be entered on the blue highlighted time line.

- h. Enter met data on the time step for the beginning of the release.
- i. Select "OK" at the bottom of the met spreadsheet.
- j. Select the "Next" down arrow.

🗸 саитіо н 🗸

"Start of Release" defaults to the time step of input for the first non-zero rad monitoring reading.

- 2.5.18 IF known, set "Remaining Duration."
- 2.5.19 IF "Remaining Duration" is not known, set 2 hours as the default.
- 2.5.20 Select "Start Calc."
- 2.5.21 Upon completion of calculations, ensure the projected time is set to 12 hours.
- 2.5.22 Under "Special Reports" select "State."
- 2.5.23 Select "Confirm."
- 2.5.24 Select "Printer" icon.
- 2.5.25 Select "OK."
- 2.5.26 IF acceptable results are obtained, submit the "State Report" to the MRDA.
- 2.5.27 Select "X" in the upper right corner to close the "State Report" window.
- 2.5.28 Under "Special Reports" select "Met/Rad Summary."
- 2.5.29 Select "Confirm."
- 2.5.30 Ensure time is set to current time step.
- 2.5.31 Select "Print" icon.
- 2.5.32 Select "OK."
- 2.5.33 Select "X" in upper right corner to close "Met/Rad Summary" window.
- 2.5.34 Ensure the following options are selected at the bottom of the screen:
 - TEDE
 - Integrated Dose
 - Graphic
- 2.5.35 Select "Confirm."
- 2.5.36 Select the "Printer" icon.

MP-26-EPI-FAP10 Rev. 001 Page 16 of 27 2.5.37 Ensure the following options are selected at the bottom of the screen:

- CDE Thyroid
- Integrated Dose
- Graphic

2.5.38 Select "Confirm."

- 2.5.39 Select the "Printer" icon.
- 2.5.40 Ensure the following options are selected at the bottom of the screen:
 - Special Report
 - RMP
- 2.5.41 Select "Confirm."
- 2.5.42 Select the "Printer" icon.
- 2.5.43 Document the run by placing copies of the following in the Computer Run notebook:
 - State Report
 - Special Report/Rad Met Summary
 - RMP
 - TEDE Integrated 12 hour Graphic
 - CDE Thyroid Integrated 12 hour Graphic
- 2.5.44 Select "End Run" to complete.
- 2.5.45 Select appropriate option to perform the following:
 - a. Run the next time step
 - b. Exit the program

NOTE

EPUG 07, "Accident Dose Assessment Model (ADAM) User's Guide," provides information on ADAM operation.

- 2.5.46 Refer To Section 2.4, "EOF IDA Dose Calculations," and perform IDA calculations.
- 2.5.47 Using IDA release rate results, perform ADAM run to determine DDE dose rates and iodine concentrations.
- 2.5.48 Verify input information on ADAM input summary sheet and initial sheet.

MP-26-EPI-FAP10 Rev. 001 Page 17 of 27

- 2.5.49 Ensure RDAT member performs an independent review of ADAM inputs.
- 2.5.50 Compare ADAM results to field team measurements and discuss results with the MRDA.
- 2.5.51 IF IDA release rates need to be revised, Go To step 2.5.46.

MP-26-EPI-FAP10
Rev. 001
Page 18 of 27

2.6 Calculating Thyroid CDE From a Field Air Sample

- 2.6.1 Obtain air sample data from the FTDC or Designee.
- 2.6.2 Refer To EPI-FAP10-004, "Thyroid CDE Calculation Based on Field Air Sample Worksheet," and record the following:
 - Location
 - Time of sample
 - Field air sample results (ccpm)
- 2.6.3 Determine the appropriate calculation method based on time since reactor shutdown and the I-131 Dose Equivalent Concentration.
- 2.6.4 IF the air sample was analyzed by gamma analysis, determine I-131 DEQ.
- 2.6.5 Calculate thyroid CDE for 1 hour of inhalation.
- 2.6.6 Notify the MRDA of the results.

3. SUMMARY OF CHANGES

- 3.1 Incorporated previously approved change 1 and change 2 to revision 000.
- 3.2 Modified step 2.1.1.b by adding a condition to clarify that a release must be from the site stack.
- 3.3 Added information to step 2.1.2 to clarify that the user must go to Section 2.6 if calculating thyroid CDE from field air samples.
- 3.4 Added information to step 2.4.4 to clarify that wind speeds and delta temperatures must be entered on the Meteorology screen in metric units.
- 3.5 Added Table 1 to step 2.5.16 to identify the design basis leak rate for containment.
- 3.6 Added EBFS, SLCRS, and WRGM to Attachment 1, "Definitions."
- 3.7 Modified Attachment 3, Data Sources," as follows:
 - Deleted met data for Unit 1 and Unit 2.
 - Added references to MP2 WRGM and MP2 WRGM flow.
- 3.8 Added MP3 SLCRS, normal monitor, extended monitor, and flow to monitor data.
- 3.9 Corrected default flow rates for MP2 and MP3 on Attachment 4, "Reference Information."
- 3.10 Added note to Attachment 4, "Reference Information," to clarify that the default flow rate for MP2 was set at 12,000 cfm for consistency between Unit 2 and Unit 3.
- 3.11 Changed references in EPI-FAP10-001, "IDA Data Input Information," from stack gas radiation, radiation HI RNG, and flow rate to MP2 WRGM and MP3 SLCRS.
- 3.12 Added references to MP2 WRGM and MP3 SLCRS and corrected exposure time in EPI-FAP10-002, "Midas Input Information."
- 3.13 Performed Writer's Guide and minor editorial corrections throughout procedure.

MP-26-EPI-FAP10 Rev. 001 Page 20 of 27

Attachment 1 Definitions and Abbreviations

(Sheet 1 of 1)

Definitions

<u>Committed Dose Equivalent (CDE)</u> - The dose equivalent to an individual organ or tissue that will be received from an intake of radioactive material during the 50 year period following the intake.

<u>Committed Effective Dose Equivalent (CEDE)</u> - the sum of the products of the CDEs and their weighting factors. The weighting factors account for the relative sensitivities of different organs to radiation.

Deep Dose Equivalent (DDE) - External exposure at a 1 cm tissue depth.

<u>Fumigation Potential</u> - Seashore meteorology conditions can combine infrequently to create an atmospheric downdraft called a fumigation that converts elevated releases to ground level.

Mixed Mode Release - A release at a level of, or above, but lower than twice the height of adjacent solid structures.

Radiation Monitoring Points (RMP) - Set of site-specific monitoring locations.

Total Effective Dose Equivalent (TEDE) - The sum of the DDE and the CEDE.

Abbreviations

CDE - Committed Dose Equivalent

CEDE - Committed Effective Dose Equivalent

DCF - Dose Conversion Factor

DDE - Deep Dose Equivalent

EBFS - Enclosure Building Filtration System (MP2)

IDA - Initial Dose Assessment computer program

IPZ - Ingestion Pathway Zone

MIDAS - Meteorological Information and Dose Assessment System

MRDA - Manager of Radiological Dose Assessment

PAR - Protective Action Recommendation

<u>RASCAL</u> - Radiological Assessment System for Consequence Analysis. The dose assessment model used by the NRC.

RDAT - Radiological Dose Assessment Team

SLCRS - Supplementary Leak and Collection Removal System (MP3)

WRGM - Wide Range Gas Monitor (MP2)

MP-26-EPI-FAP10 Rev. 001 Page 21 of 27

Attachment 2 Responsibilities

(Sheet 1 of 1)

<u>Manager of Radiological Dose Assessment (MRDA)</u> - Responsible for determining when the Emergency Operations Facility will assume offsite dose assessment responsibilities from the Control Room and for performing IDA dose calculations as necessary.

<u>Radiological Assessment Engineer (RAE)</u> - Responsible for performing the appropriate calculations.

<u>On-Shift Chemistry Technician</u> - Responsible for performing initial dose assessment if available until relieved by the MRDA.

MP-26-EPI-FAP10 Rev. 001 Page 22 of 27

Attachment 3 Data Sources

(Sheet 1 of 2)

UNIT 1 - Monitor Dat	a					
		Primary Source		Backup Source		
Data	Units	Obtain From	Label	Obtain From	Label	
MP1 Spent Fuel Pool Island (Area Rad Monitor)	mR/hr	Control Room Panel	RM-SFPI-01	Remote Location	RM-SFPI-01	

UNIT 2 - Monitor Da	ta					
,		Primary Source		Backup Source		
Data	Units	Obtain From	Label	Obtain From	Label	
MP2 WRGM (Site Stack)	µCi/cc	Unit 2 OFIS (A10)	R8169 or RU1	Control Room Panel	RM-8169	
MP2 WRGM Flow (Site Stack)	SCFM	Unit 2 OFIS (A10)	F8169	Control Room Panel	FC-8169	
MP2 Vent Monitor	cpm	Unit 2 OFIS (A10)	R8132B	Control Room panel	РТ.2: г 8132В	
MP2 KAMAN Mid or High Range Vent Monitor	µCi/cc	Unit 2 OFIS (A10)	RIC8168	Control Room panel	RIC 8168	
MP2 Vent Flow	CFM	Control Room panel	PT.3: F 8412	None Available		
MP2 Steam Line Monitors						
4299A	R/hr	Unit 2 OFIS (A10)	R4299A	Control Room Panel	R 4299A	
4299B	R/hr	Unit 2 OFIS (A10)	R4299B	Control Room Panel	R 4299B	
4299C	R/hr	Unit 2 OFIS (A10)	R4299C	Control Room Panel	R 4299C	

MP-26-EPI-FAP10 Rev. 001 Page 23 of 27

Attachment 3 Data Sources

(Sheet 2 of 2)

		Primary Source		Backup Source	
Data	Units	Obtain From	Label	Obtain From	Label
MP3 SLCRS Normal Monitor (Site Stack)	µCi/cc	Unit 3 OFIS (A10)	CVHVR19B	Control Room Remote Indicating Panel	HVR19B
MP3 SLCRS Extended Monitor (Site Stack)	μCi/cc	Unit 3 OFIS (A10)	CVHVR19A1	Control Room Remote Indicating Panel	HVR19A
MP3 SLCRS Flow(Site Stack)	SCFM	Unit 3 OFIS (A10)	CVFE19	Rad Monitor Console	
MP3 KAMAN Normal Range Vent Monitor	µCi/cc	Unit 3 OFIS (A10)	CVHVR10B	Control Room panel	RIC- 5A3HVR*RIY10B
MP3 KAMAN Mid or High Range Stack Monitor	μCi/cc	Unit 3 OFIS (A10)	CVHVR10A1	Control Room panel	RIC- 4A3HVR*RIY10A
MP3 Vent Flow	CFM	Unit 3 OFIS (A10)	CVFE10	KAMAN Computer	RE10 process flow
MP3 Steam Line Monitors					
RE 75	µCi/cc	Unit 3 OFIS (A10)	CVMSS75	KAMAN Computer	MSS75
RE 76	μCi/cc	Unit 3 OFIS (A10)	CVMSS76	KAMAN Computer	MSS76
RE 77	μCi/cc	Unit 3 OFIS (A10)	CVMSS77	KAMAN Computer	MSS77
RE 78	µCi/cc	Unit 3 OFIS (A10)	CVMSS78	KAMAN Computer	MSS78
Met Data					
T		Primary Source		Backup Source	1
Data	Units	Obtain From	Label	Obtain From	
WS033	mph	Unit 3 OFIS (A11)	CVWS033MPH	Unit 3 PPC	CVWS033MPH
WS142	mph	Unit 3 OFIS (A11)	CVWS142MPH	Unit 3 PPC	CVWS142MPH
WS374	mph	Unit 3 OFIS (A11)	CVWS374MPH	Unit 3 PPC	CVWS374MPH
DT142	°F	Unit 3 OFIS (A11)	CVDT142F	Unit 3 PPC	CVDT142F
DT374	°F	Unit 3 OFIS (A11)	CVDT374F	Unit 3 PPC	CVDT374
WD033	deg from	Unit 3 OFIS (A11)	CVWD033	Unit 3 PPC	CVWD033
WD142	deg from	Unit 3 OFIS (A11)	CVWD142	Unit 3 PPC	CVWD142
	deg from	Unit 3 OFIS (A11)	CVWD374	Unit 3 PPC	CVWD374

MP-26-EPI-FAP10 Rev. 001 Page 24 of 27 ٦

Attachment 4 Reference Information

(Sheet 1 of 3)

Mnemonic Definitions:	Conversion Formulas:
AT = Ambient Temperature	°C = 5/9 (°F - 32)
DT = Differential in Temperature (to determine stability class)	$\Delta \circ C = \Delta \circ F \ge 0.556$
WS = Wind Speed	$m/sec = mph \ge 0.447$

WD = Wind Direction (listed as the direction the wind is from)

<u>DT 142</u>

DT 374

Differential Temperature (°F)	Stability Class	Differential <u>Temperature (°F)</u>	Stability Class
DT < -1.25	А	DT ≤ -3.6	Α
$-1.25 < DT \le -1.10$	В	$-3.6 < DT \le -3.3$	В
-1.10 < DT < -0.90	С	$-3.3 < DT \le -2.9$	С
-0.90 < DT < -0.36	D	$-2.9 < DT \le -1.1$	D
-0.36 < DT < +0.72	Е	$-1.1 < DT \le +2.7$	E
+0.72 < DT	F	+2.7 < DT	F

Default Flow Rates

MP2	MP3
Site Stack 12,000 cfm*	Site Stack 12,000 cfm
Vent	SLCRS 12,000 cfm
Safety6,000 cfm per	Vent 210,000 cfm
Dump7,375 cfm	Safety 6,000 cfm per
Terry	Dump 3,500 cfm
EBFS11,000 cfm	Terry 1,200 cfm

*Set at 12,000 cfm for consistency between Unit 2 and Unit 3.

MP-26-EPI-FAP10 Rev. 001 Page 25 of 27

Attachment 4 Reference Information

(Sheet 2 of 3)

			-	2, Ground 2 Mixed	ł	round & xed	MP1	Stack
Wind Direction (From)	Downwind Direction	Downwind Sector	Nearest Land	Nearest Site Boundary	Nearest Land	Nearest Site Boundary	Nearest Land	Nearest Site Boundary
169°-191°	349°-011°	A (N)	1,138 m	1,138 m	924 m	924 m	1,695 m	1,695 m
192°-213°	012°-033°	B (NNE)	997 m	997 m	1,550 m	1,550 m	813 m	813 m
214°-236°	034°-056°	C (NE)	620 m	620 m	841 m	841 m	496 m	496 m
237°-258°	057°-078°	D (ENE)	1,070 m	620 m	602 m	602 m	1,101 m	496 m
259°-281°	079°-101°	E (E)	1,600 m	620 m	1,300 m	602 m	1,410 m	496 m
282°-303°	102°-123°	F (ESE)	1,900 m	620 m	1,690 m	602 m	1,640 m	496 m
304°-326°	124°-146°	G (SE)	31,700 m	620 m	33,000 m	602 m	31,700 m	496 m
327°-348°	147°-168°	H (SSE)	12,390 m	620 m	22,200 m	631 m	12,390 m	496 m
349°-011°	169°-191°	J (S)	11,800 m	620 m	16,100 m	602 m	11,800 m	496 m
012°-033°	192°-213°	K (SSW)	13,030 m	620 m	18,300 m	602 m	13,030 m	496 m
034°-056°	214°-236°	L (SW)	3,430 m	620 m	3,380 m	602 m	3,660 m	496 m
057°-078°	237°-258°	M(WSW)	3,100 m	620 m	3,050 m	602 m	3,270 m	496 m
079°-101°	259°-281°	N (W)	2,830 m	620 m	2,700 m	602 m	3,050 m	496 m
102°-123°	282°-303°	P (WNW)	2,550 m	620 m	2,310 m	602 m	2,660 m	649 m
124°-146°	304°-326°	Q (NW)	1,930 m	620 m	684 m	602 m	997 m	710 m
147°-168°	327°-348°	R (NNW)	915 m	915 m	694 m	694 m	1,029 m	1,029 m

Wind Directions and Distances to Nearest Land and Site Boundary

<u>NOTES</u>

1. Meter - m

- 2. Nearest site boundary is given as 620 m from the MP2 stack for water sectors (D through Q).
- 3. Nearest site boundary is given as 602 m from the MP3 ventilation vent for water sectors (D-G and J-Q).
- 4. Nearest site boundary is given as 496 m from the site stack for water sectors (D through N).

MP-26-EPI-FAP10 Rev. 001 Page 26 of 27

Attachment 4 **Reference Information**

(Sheet 3 of 3)

Stability Dependent X•µ/Q Values per Release Height Site Stack 374' Release

Distance			Stabili	ty Class		
Miles	Α	B	C	D	E	F
0.3	1.7E-5*	6.8E-6	3.4E-7	1.6E-12	1.0E-20	< 1.0E-20
0.5	6.6E-6	1.3E-5*	5.4E-6	1.9E-8	1.5E-12	1.0E-20
1	1.4E-6	6.6E-6	9.9E-6*	2.1E-6	8.9E-8	1.1E-11
2	7.4E-7	1.9E-6	4.8E-6	5.3E-6*	1.8E-6	3.7E-8
3	5.2E-7	8.9E-7	2.6E-6	5.3E-6	3.1E-6	2.5E-7
4	4.0E-7	5.0E-7	1.6E-6	4.2E-6	3.5E-6*	5.6E-7
5	3.3E-7	4.3E-7	1.1E-6	3.4E-6	3.5E-6	8.4E-6
10	1.7E-7	2.3E-7	3.1E-7	1.6E-6	2.5E-6	1.4E-5*

MP Rooftop Release

MP Rooftop R	elease					· · ·
Distance			Stabilit	y Class		
Miles	A	B	C	D	E	F
0.3	2.3E-5*	5.0E-5*	5.2E-5*	1.3E-5	9.1E-7	1.4E-10
0.5	6.9E-6	2.7E-5	4.4E-5	3.6E-5*	1.2E-5	2.5E-7
1	1.4E-6	7.7E-6	1.8E-5	3.4E-5	3.5E-5*	1.4E-5
2	7.4E-7	2.0E-6	5.7E-6	1.7E-5	2.6E-5	2.6E-5*
3	5.2E-7	9.0E-7	2.8E-6	1.0E-5	1.8E-5	2.4E-5
4	4.0E-7	5.1E-7	1.7E-6	6.9E-6	1.3E-5	2.0E-5
5	3.3E-7	4.3E-7	1.1E-6	5.1E-6	1.0E-5	1.7E-5
<u> </u>	1.7E-7	2.3E-7	3.2E-7	1.9E-6	4.5E-6	9.0E-6

MP Ground Release

Distance			Stabilit	y Class		
Miles	Α	B	C	D	<u> </u>	F
0.3	2.5E-5*	7.3E-5*	1.4E-4*	2.6E-4*	3.7E-4*	4.9E-4*
0.5	7.0E-6	3.1E-5	6.6E-5	1.5E-4	2.5E-4	3.8E-4
1	1.4E-6	8.0E-6	2.0E-5	5.8E-5	1.1E-4	2.0E-4
2	7.5E-7	2.0E-6	5.9E-6	2.1E-5	4.3E-5	9.1E-5
3	5.2E-7	9.0E-7	2.8E-6	1.2E-5	2.5E-5	5.6E-5
4	4.0E-7	5.1E-7	1.7E-6	7.6E-6	1.7E-5	3.9E-5
5	3.3E-7	4.3E-7	1.1E-7	5.5E-6	1.3E-5	3.0E-5
<u> </u>	1.7E-7	2.3E-7	3.2E-8	2.0E-6	5.1E-6	1.3E-5

*Denotes location of maximum concentration.

MP-26-EPI-FAP10 Rev. 001 Page 27 of 27

. •

Docket Nos. 50-245 50-336 50-423 B18353

Attachment 4

Millstone Nuclear Power Station, Unit Nos. 1, 2, and 3

Emergency Plan Procedures Emergency Procedures Implementing (EPI) Functional Administrative Procedure (FAP) MP-26-EPI-FAP10-001 "IDA - Data Input Information," <u>Major Revision 0, Minor Revision 1</u>

	te		•		Effect	80/00 ive Date	
Do	cument Acti	on Requ	est	. S	PG#	29-10	21
Initiated By: P. Luck	(ey	Date: 1/3/01	Departme	ent EPS		F :	<u> </u>
Document No.:MP.	26-EPI-FAP10		Rev. N	lo.: _001	Minor F		
Title: Dose Assessment							
Revised with new infor This DAR docu MP-26-EPI-PA	t (attach commitments, Cl mation on MP2 Wide Rar publics the review P10-002 MP-26-E 000-01	HS, AHS, OES BE) nge Gas Monitor w oul app pi-TAPIO-004 Rw.000-	and MP3 SLCI rouxe & 4.	Яs. µµ⁰-ә&- Ег	ки 200 4-гаріо	-01 -001 ave Co	L . ntinued
ТРС						Co	ntinue c
Interim Approval (1) Plan	t Mngt Staff Member Pri	int/Sign/Date	(2) SM/SB	O/CFH on L	Jnit Print/S	ion/Date	
	/Feedback Dispositi						
	m Now 🔲 Perform L		ments] Rejected	- See Com	nments	
Activity: Revision	Minor Revision			ew Can	cellation [
	DC-GDL01 for guidance						
TPC OTC	Place in VOID		Edit Corr.:	⇒			
Comments:				Plant	t Mngt Staff	Member - Ap	prova
Comments: Reviews	Print	· · · · · · · · · · · · · · · · · · ·	L	Plant int Name and Date	Date		ntinuec
	· · · · · · · · · · · · · · · · · · ·		RI/DPC Pr	int Name and	Date	 Co	ntinuec
	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	RI/DPC Pr	int Name and	l Date SQR C	Co Qualified	ntinuec
	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	RI/DPC Pr	int Name and	l Date SQR C	Co Qualified	ntinuec
Reviews	Print	816	RI/DPC Pr	int Name and Date	Yes No	Cor Qualified Dept.	ntinuec
	Print B. Tarallo	B.T.C. He Matur	RI/DPC Pr	int Name and	l Date SQR C	Co Qualified	ntinuec
Reviews	Print	B.Thy te Mhur KBurg	RI/DPC Pr Sign	int Name and Date	Date SQR C Yes No Image: Ima	Con Qualified Dept.	
Reviews	Print B. Tarallo K. 12901. W. Eakin M. Wh.	2.0	RI/DPC Pr Sign	int Name and Date // <i>39/01</i>	Yes No	Con Qualified Dept. Unit ((PSJ)	
Reviews	Print B. Tarallo K.B. <u>12901</u> W. Eakin M. Whi K. Burgess J. Doroski	they John	RI/DPC Pr Sign	int Name and Date 1/29/01 1/29/01 1/9/01 1/9/01	Date SQR G Yes No Image: Ima	Con Qualified Dept. Un if ([PSJ] EPSD	
Reviews	Print B. Tarallo K.B. J2006 W. Eadin M. Whi K. Burgess J. Doroski d Yes No Final Review and App	Howe John Envir	RI/DPC Pr Sign	int Name and Date 1/29/01 1/29/01 1/9/01 1/9/01	Date SQR C	Con Qualified Dept. Up it ((PSJ) EPSD Cham No	
Reviews	Print B. Tarallo K.B. J2006 W. Eadin M. Whi K. Burgess J. Doroski d Yes No Final Review and App	Howe John Envir	RI/DPC Pr Sign	int Name and Date 1/39/01 1/99/01 1/9/01 1/9/01 w Required	Date SQR C	Con Qualified Dept. UNIT (EPSD Cham No ew and Ap	
Reviews	Print B. Tarallo K.B. J2006 W. Eadin M. Whi K. Burgess J. Doroski d Yes No Final Review and App	Howe John Envir	RI/DPC Pr Sign	int Name and Date Date // <i>J.9.101</i> // <i>J.9.101</i> // <i>1.9.101</i> // <i>1.9.401</i> w Required DRC/RI/DH I Head/Resp	Date SQR C	Con Qualified Dept. UNIT (EPSD Cham No ew and Ap	
Reviews	Print B. Tarallo K.B. J2006 W. Eadin M. Whi K. Burgess J. Doroski d Yes No Final Review and App	Envir proval 2.	RI/DPC Pr Sign	int Name and Date Date // <i>J.9.101</i> // <i>J.9.101</i> // <i>1.9.101</i> // <i>1.9.401</i> w Required DRC/RI/DH I Head/Resp	Date SQR C	Con Qualified Dept. UNIT (EPSD Cham No ew and Ap	
Reviews	Print B. Tarallo K.B. Tarallo K.B. Tarallo K.B. Tarallo K.B. Tarallo M. White M. White M	Image: Horizon Image: Display interview Image: Display interview Image: Display interview	RI/DPC Pr Sign	int Name and Date Date 1/39/01 1/29/01 1/9/01 w Required DRC/RI/DH I Head/Resp	Date SQR C	Con Qualified Dept. UNIT (EPSD Cham No ew and Ap	
Reviews	Print B. Tarallo K.B. J2000/ WEakin M. Whi K. Burgess J. Doroski d Yes No Final Review and App Disapproval Disapproval Disapproval I (31/0 ependent Reviewer / Da (/Responsible Individua	Image: Horizon Image: Display interview Image: Display interview Image: Display interview	RI/DPC Pr Sign	int Name and Date Date // <i>3.9/01</i> // <i>2.9/01</i> // <i>2.9/01</i> // <i>2.9/01</i> // <i>2.9/01</i> // <i>2.9/01</i> // <i>2.9/01</i> // <i>1.9/01</i> // <i>1.9/01</i>	Date SQR G Yes No Image: Construct of the second s	Con Qualified Dept. UNIT (EPSD Cham No ew and Ap	
Reviews	Print B. Tarallo K.9 12901 W. Eakin M. White K. Burgess J. Doroski d Yes No Final Review and App Disapproval I 31 0 ependent Reviewer 1 Di I 31 0 ependent Reviewer 1 Di I MU	Image: Horizon Image: Display interview Image: Display interview Image: Display interview	RI/DPC Pr Sign	int Name and Date Date // <i>3.9/01</i> // <i>2.9/01</i> // <i>2.9/01</i> // <i>2.9/01</i> // <i>2.9/01</i> // <i>2.9/01</i> // <i>2.9/01</i> // <i>1.9/01</i> // <i>1.9/01</i>	Date SQR C Yes No D D D D D D D D D D D D D D D D D D D	Con Qualified Dept. UNIT (EPSD Cham No ew and Ap	

MP-05-DC-SAP01-001 Rev. 002-01 Page _____ of ____

2/5/0/ Approval Date			2/27/ Effective I	
IDA	- Data Inp	ut Informa	tion	
Part 1. Accident Parameters (ci	rcle as approj	oriate)		
A. Unit Affected:		Unit 2	Unit 3	
B. Accident Type:	LOCA	SGTR	Fuel Drop	
C. Damage State:	Coolant	Clad		
D. Containment Sprays Initiated:	YES	NO		
E. Rx Shutdown:		M/DD/YY	Time:	Note: If fuel drop accident, enter most recent refueling date and time.
F. Estimated Duration:	hours	default = 2	hours)	
G. Is there an unmonitored release	? YES/NO	-	ld team reading	r

H. Refer To Part 3, "Release Pathways, Flow and Monitors" Column A, and circle all appropriate pathways, filter status, and number of safeties, as applicable.

5

Description	Data Values	Units OFIS Points
		MPH
Wind Speed (33 feet)		CVWS033MPH
		МРН
Wind Speed (142 feet)		CVWS142MPH
		MPH
Wind Speed (374 feet)		CVWS374MPH
		° from
Wind Direction (33 feet)		CVWD033
		° from
Wind Direction (142 feet)		CVWD142
		° from
Wind Direction (374 feet)		CVWD374
		°F
Delta Temp. (142 feet)		CVDT142F
		°F
Delta Temp. (374 feet)		CVDT374F
I	<u> </u>	CVD13/4F
		MP-26-EPI-FAP10-00
		Rev. 000-01 Page 1 of 2

IDA - Data Input Information

<u>A</u>	B	<u> </u>	D
Release Pathway/Monitors	OFIS Designation	Reading	Units
Unmonitored Ground Release Path (33	') Field Team Reading	·	CW mR
Site Stack (374')			
(Filtered, Unfiltered)	Unmonitored		mR/hr
MP2 WRGM	R8169 or RU1		μCi/cc
MP2 WRGM Flow	F8169		SCFM
MP3 SLCRS Normal	CVHVR19B		µCi/cc
MP3 SLCRS Extended	CVHVR19A1		µCi/cc
MP3 SLCRS Flow	CVFE19		SCFM
MP2 Vent (142')			
(Unfiltered)	Unmonitored	***************************************	mR/hr
Unit 2 Vent Gas	R8132B		CPM
Unit 2 Vent Rad Monitor	RIC8168	•••••••••••••••••••••••••••••••••••••••	µCi/cc
Vent Flow Rate	None (panel -PT 3:F 8412)		CFM
MP2 Safeties (142')			
(How Many?)	Unmonitored		mR/hr
Main Steam Line 4299A	R4299A		R/hr
Main Steam Line 4200C	R4299C	•••••••••••••••••••••••••••••••••••••••	R/hr
MP2 Relief Valves (Dumps) (142')	Unmonitored		mR/hr
Main Steam Line 4299B	R4299B	•••••••••••••••••••••••••••••••••••••••	R/hr
Main Steam Line 4299C	R4299C	•••••••••••••••••••••••••	R/hr
MP2 Aux Feed (Terry Turbine) (142')	Unmonitored		mR/hr
Main Steam Line 4299A	R4299A	· · · · · · · · · · · · · · · · · · ·	R/hr
Main Steam Line 4299B	R4299B	· · · · ·	R/hr
Main Steam Line 4299C	R4299C		R/hr
MP3 Vent (142')			1
(Filtered, Unfiltered)	Unmonitored		mR/hr
Vent. Vent Normal Range	CVHVR10B		µCi/cc
Vent. Vent Ext Range	CVHVR10A1		μCi/cc
Ventilation Vent Air Flow	CVFE10	•••••••••••••••••••••••••••••••••••••••	CFM
MP3 Safeties (142')	Unmonitored		mR/hr
(How Many?)	(Highest of)		
Main Steam Lines RE75-78	CVMSS75, 76, 77, or 78		µCi/cc
MP3 Relief Valves (Dumps) (142')	Unmonitored		mR/hr
Main Steam Lines RE75-78	(Highest of)		µCi/cc
	CVMSS75, 76, 77, or 78		_
MP3 Aux Feed (Terry Turbine) (142')	Unmonitored		mR/hr
Main Steam Line RE79	CVMSS79		µCi/cc
ared by:			
Signature	Print	Da	te/Time
ewed by:			
Signature	Print	Da	te/Time
		MP-26-EF Rev. 000-(Page 2 of 2	

h.

Docket Nos. 50-245 50-336 50-423 B18353

Attachment 5

Millstone Nuclear Power Station, Unit Nos. 1, 2, and 3

Emergency Plan Procedures Emergency Procedures Implementing (EPI) Functional Administrative Procedure (FAP) MP-26-EPI-FAP10-002, "MIDAS - Data Input Information," <u>Major Revision 0, Minor Revision 1</u>

Approval Da	ate		Effective Date
Do	cument Actio	n Request	SPG# 010129-10
Initiated By: P. Luc		Date: 1/3/01 Departm	
	-26-EPI-FAP10	 Rev. N	
Title: Dose Assessmen			Immorriev
Reason for Reques	t (attach commitmente CRe	s, ARs, OEs etc)	
Revised with new infor	mation on MP2 Wide Rang	e Gas Monitor and MP3 SLC	Rs. Rw 2000-01
this DAR docu	monts the review	i-thin-my	Rs. Rw 2000-01 MP-26-EPI-FAPID-001 and Co
Instructions: Rev	000-01	Rev.000-01	Со
•			
ТРС	<u></u>		Co
Interim			
Approval (1) Plan	t Mngt Staff Member Print	t/Sign/Date (2) SM/SR	O/CFH on Unit Print/Sign/Date
/ ·	t/Feedback Disposition		_
Priority: X Perfor	m Now Perform Lat	ter - See Comments	Rejected - See Comments
Activity: Revision	n 🔲 Minor Revision 🔲	Cleanup Rev 🔲 Biennial Revi	iew 🔲 Cancellation 🔲 Supersedu
			· · · · · · · · · · · · · · · · · · ·
	e DC-GDL01 for guidence		
TPC OTC	e <u>oc golot tor guidence</u> ; Place in VOID	Edit Corr.:	⇒ Plant Mngt Staff Member - Ap
TPC OTC	Place in VOID	RI/DPC PI	Plant Mngt Staff Member - Ap int Name and Date Co Date SQR Qualified
TPC OTC	Place in VOID	RI/DPC PI	Plant Mngt Staff Member - Ap int Name and Date Co Date SQR Qualified
TPC OTC	Place in VOID	RI/DPC PI	Plant Mngt Staff Member - Ap int Name and Date Co Date SQR Qualified
TPC OTC	Place in VOID Print	RI/DPC Pi Sign	Plant Mngt Staff Member - Ap int Name and Date Co Date SQR Qualified
TPC OTC Comments: Reviews	Place in VOID Print	RI/DPC Pi Sign	Plant Mngt Staff Member - Ap int Name and Date Co Date SQR Qualified Yes No Dept Plant Mngt Staff Member - Ap Co Date Co Date Co Date Co Ves No Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept
TPC OTC Comments: Reviews	Place in VOID Print B. Tarallo KB 128/of W-Eakin M. White	RI/DPC PI Sign D.Tucfld e. Must	Plant Mngt Staff Member - Appendix Staff Member - Appendix SQR Qualified Co Date Co Ves No Dept. Implemention of the second sec
TPC OTC Comments: Reviews	Place in VOID Print B. Tarallo H. B. Tarallo W. Eakin M. White K. Burgess	RI/DPC PI Sign B.T.Fugllo e. Milus KBurgess	Plant Mngt Staff Member - Ap
TPC OTC Comments: Reviews Writer's Guide Validation RCD M Independent	Print Print B. Tarallo K.B. 128/of W. Eakin M. White K. Burgess J. Doroski	RI/DPC PI Sign B.Tugllo e Milus KBurgess Julie Parni	Plant Mngt Staff Member - Appendix Support of the second
TPC OTC Comments: Reviews	Print Print B. Tarallo K.B. 128/of W-Eckin M. White K. Burgess J. Doroski ed Yes X No	RI/DPC Pr Sign 0.7 Auglo 2. Milut KBurgess Mulut Environmental Review	Plant Mngt Staff Member - Appendix Support int Name and Date Co Date SQR Qualified Yes No Dept. Plant Mngt Staff Member - Appendix Support Plant Mngt Staff Member - Appendix Support Co Date SQR Qualified Co Yes No Dept. Plant Mngt Staff Member - Appendix Support Yes No Dept. Plant Mngt Staff Member - Appendix Support Yes No Dept. Plant Mngt Staff Member - Appendix Support Yes No Dept. Plant Mngt Staff Member - Appendix Support Yes No Dept. Plant Mngt Staff Member - Appendix Support Yes No Dept. Plant Migt Staff Member - Appendix Support Yes No Dept. Plant Migt Staff Member - Appendix Support Yes No No Plant Migt Staff Member - Appendix Support
TPC OTC Comments: Reviews Writer's Guide Validation RCD M Independent Safety Evaluation Require 1. X SQR Program	Print Print B. Tarallo K. Burgess J. Doroski M. White K. Burgess J. Doroski M. Monitore K. Burgess K. Burgess J. Doroski M. Monitore K. Burgess K. Burg	RI/DPC Pr Sign 0.7 Auglo 2. Milut KBurgess Mulut Environmental Review	Plant Mngt Staff Member - Appendix Support of the second
TPC OTC Comments: Reviews	Place in VOID Print B. Tarallo K. Burgess J. Doroski M. White K. Burgess J. Doroski M. Mo No Final Review and Apprese	RI/DPC Pr Sign D.Tucflo e Must KBurgess July Para Environmental Revie oval 2. SORC/PC	Plant Mngt Staff Member - Appendix Support int Name and Date Co Date SQR Qualified Yes No Dept. Plant Mngt Staff Member - Appendix Support Plant Mngt Staff Member - Appendix Support Co Date SQR Qualified Co Yes No Dept. Plant Mngt Staff Member - Appendix Support Yes No Dept. Plant Mngt Staff Member - Appendix Support Yes No Dept. Plant Mngt Staff Member - Appendix Support Yes No Dept. Plant Mngt Staff Member - Appendix Support Yes No Dept. Plant Mngt Staff Member - Appendix Support Yes No Dept. Plant Migt Staff Member - Appendix Support Yes No Dept. Plant Migt Staff Member - Appendix Support Yes No No Plant Migt Staff Member - Appendix Support
TPC OTC Comments: Reviews Writer's Guide Validation RCD M Independent Safety Evaluation Require 1. X SQR Program	Print Print B. Tarallo K. Burgess J. Doroski M. White K. Burgess J. Doroski M. Monitore K. Burgess K. Burgess J. Doroski M. Monitore K. Burgess K. Burg	RI/DPC Pr Sign D.Tucflo e Must KBurgess July Para Environmental Revie oval 2. SORC/PC	Plant Mngt Staff Member - Ap
TPC OTC Comments: Comments: Reviews Writer's Guide Validation RCD Independent Safety Evaluation Require 1. SQR Program Approval Khuveen	Print Print B. Tarallo K. Burgess J. Doroski M. White K. Burgess J. Doroski M. Monite K. Burge	RI/DPC Pr Sign B.Tuchlo e. Huw KBwgess Mw Danc Environmental Revie oval 2. SORC/PC Department Meeting N	Plant Mngt Staff Member - Ap
TPC OTC Comments: Reviews Reviews Writer's Guide Validation RCD Independent Safety Evaluation Require 1. SQR Program Approval Kbuyess SQR Challer Inc	Print Print B. Tarallo K. Burgess J. Doroski M. White K. Burgess J. Doroski M. Disapproval I/31/01	RI/DPC Pr Sign B.Tuchlo e. Huw KBwgess Mw Danc Environmental Revie oval 2. SORC/PC Department Meeting N	Plant Mngt Staff Member - Ap
TPC OTC Comments: Reviews Reviews Writer's Guide Validation RCD Independent Safety Evaluation Require 1. SQR Program Approval Kbuyess SQR Challer Inc	Print Print B. Tarallo K. Burgess J. Doroski G. Yes No Final Review and Appr Disapproval I/31/01 Iependent Reviewer / Date	RI/DPC Pr Sign B.Tuchlo e. Huw KBwgess Mw Danc Environmental Revie oval 2. SORC/PC Department Meeting N	Plant Mngt Staff Member - Ap
TPC OTC Comments: Reviews Writer's Guide Validation RCD Safety Evaluation Require 1. SQR Program Approval SQR Qualifier Inc SQR Qualifier Inc Department Hea	Print Print B. Tarallo K. Burgess J. Doroski G Yes No n Final Review and Appro Disapproval I/31/01 Ispendent Reviewer J Date I/31/01 Ispendent Reviewer J Date Id/Responsible Individual	RI/DPC Pr Sign B.Tuchlo e. Huw KBwgess Mw Danc Environmental Revie oval 2. SORC/PC Department Meeting N	Plant Mngt Staff Member - Ap

MP-05-DC-SAP01-001 Rev. 002-01 Page _____ of ____

la 9 Approval Date

	2/27/01	
	Effective Date	
MIDAS - Data Input Inform	mation	
of Padiatian Manitan Data		

Init Affected: un Menu: - Panel A Pata Source: elease Points: itial Display Radius: - Panel B ose Calculation Mode: art of Exposure:L xposure Times:	⊠ Man □ Site □ Ven □ Stea □ Terr	nual Entry nual Entry Stack at m y/Ground ected Dose	□ Unit 2 □ LOCA in Ctmt	□ Unit 3 □ Back Calc CFM* CFM* CFM* CFM* Miles*
	⊠ Man □ Site □ Ven □ Stea □ Terr	nual Entry Stack it um y/Ground ected Dose		CFM* CFM* CFM* CFM*
elease Points: itial Display Radius: - Panel B ose Calculation Mode: art of Exposure: <u>L</u>	☐ Site ☐ Ven ☐ Stea ☐ Terr	Stack it im y/Ground ected Dose		CFM* CFM* CFM*
elease Points: itial Display Radius: - Panel B ose Calculation Mode: art of Exposure: <u>L</u>	☐ Site ☐ Ven ☐ Stea ☐ Terr	Stack it im y/Ground ected Dose		CFM* CFM* CFM*
itial Display Radius: - Panel B ose Calculation Mode: art of Exposure: <u>L</u>	□ Ven □ Stea □ Terr	t um y/Ground ected Dose		CFM* CFM* CFM*
- Panel B ose Calculation Mode: art of Exposure: <u>L</u>	Stea Terr	um y/Ground ected Dose		CFM* CFM*
- Panel B ose Calculation Mode: art of Exposure: <u>L</u>	Terr	y/Ground		CFM*
- Panel B ose Calculation Mode: art of Exposure: <u>L</u>	🗵 Proje	ected Dose		
- Panel B ose Calculation Mode: art of Exposure: <u>L</u>	-			Miles*
ose Calculation Mode: art of Exposure: <u>L</u>	-			
art of Exposure: <u> </u>	-			
	Jse Default	_ Time [*]		
posure Times:				
	0.25*	2*	6*	12*
- Panel C		End '	Time of Met Data Buf	 ifer:
elease Option:	🗷 Man	ual Entry	LOCA in Ctmt	Back Calc
et Data:	33'	142'	374'	
ind Speed (m/sec):				
rection (°from):				
	N/A			
ninfall (inches)			_	
emp 33' (°F)				
	elease Option: et Data: ind Speed (m/sec): rection (°from): lta Temp (°F): infall (inches) mp 33' (°F)	elease Option: Manuality et Data: 33' ind Speed (m/sec):	Belease Option: Image: Manual Entry et Data: 33' 142' ind Speed (m/sec):	Alease Option: Image: Manual Entry Image: LOCA in Ctmt et Data: 33' 142' 374' ind Speed (m/sec): rection (°from): Ita Temp (°F): N/A

Screen 2 - Pan Rad Monitor D					. <u></u>
1. Unit 2:					
Site Stack	WRGM R8169	-	WRGM Flow F8169		
Vent	LO Range R8132B	HI Range RIC8168	Vent Flow F8412		
Steam (Safety/Dump)	MSL4299A	MSL4299B	MSL4299C	Steam Flo	w*
Steam (Terry)	MSL4299A	MSL4299B	MSL4299C	Steam Flow	 w*
2. Unit 3: Site Stack	SLCRS HVR19B	SLCRS HVR19A	SLCRS Flow CVFE19		
Vent	LO Range HVR10B	HI Range HVR10A	Vent Flow CVFE10		
Steam (Safety/Dump)	RE75	RE76	RE77	RE78	Steam Flow
Steam (Terry)	RE79	Steam Flow			
3. Event Tree:		LOCA	□ SGTR	Fuel H	Handling
		Coolant Coolant	🗖 Gap	□ Melt	□ Fire
		🗖 Spray	🗖 No Spray		
		□ Filter	No Filter		
		□ Safety/Dump	□ SJAE/Leak		
1. Time of Trip:		Date:	Time:		
2. Time of Relea	se:	Date: Use Defau	<u>llt</u> Time: : _	Use Defaul	<u>lt</u>
3. Remaining Du	ration:	Hours*:			
bared by:					
	Signature		Print		Date/Time
iewed by:					
	Signature		Print		Date/Time
* A default is availab	le in code or o	- n EPI-FAP10, Attachn	nent 1 "Deferment 1	formation "	
an deraum is availat		י הי דייאר זע, אוומכמח	nein 4, Keierence in]]	MP-26-EPI-FAP10-002 Rev. 000-01 Page 2 of 6

MIDAS - Data Input Information

Scre	en 1					
1.	Unit Affected:	🗖 Unit 1	C	J Unit 2		Unit 3
2.	Run Menu:	🗖 Manual 🛛	Entry 🗷	l LOCA in	Ctmt	Back Calc
Scre	en 2 - Panel A				*****	
1.	Data Source:	🗵 Manual 1	Entry			
2.	Release Points:	□ Site Stac	k		CF	FM [*]
		□ Vent			CF	FM [*]
		Terry/Gr	ound		CF	M*
3.	Initial Display Radio	us:			Mi	les [*]
Scre	en 2 - Panel B				<u> </u>	
1.	Dose Calculation M	ode: 🗵 Projected	l Dose			
2.	Start of Exposure:	Use Default T	'ime [*]			
3.	Exposure Times:	0.25*	2 [*]	6*	12*	
<u> </u>	en 2 - Panel C		D 170			,
5сге 1.	Release Option:	Manual Entry			ta Buffer: Back Ca	lc
2.	Data Source:	Manual Entry	Drill S		🗆 Auto Da	ıta
3.	Event Tree:	LOCA	□ SGTR	•	□ Fuel Ha	
		Coolant	🗖 Gap		□ Melt	□ Fire
		🗖 Spray	🗖 No Spr	ay		
		□ Filter	🗆 No Filt	er		
	Containment:	Leakage %:	Per Day	v	Per Hou	r

MIDAS - Data Input Information

			End Time	of Met Data E	Suffer:
5. Met Data:		33'	142'	374	,
Wind Spee	ed (m/sec):	· · · · · · · · · · · · · · · · · · ·			
Direction	(°from):				
Delta Tem	p (°F):	N/A			
Rainfall (i	nches)		_		
Temp 33'	(°F):		-		
6. Rad Data:		CTMNT A	CTMNT B		
				Unit 2	Unit 3
Screen 2 - Pa 1. Time	nnel D of Trip:	Date:	Time	e:	
2. Time	of Release:	Date: <u>Use De</u>	fault Time	e: : <u>Use Defa</u>	ult_
pared by:	Signature	·	Prin	t	Date/Time
viewed by:	Signature	;	Prin	t	Date/Time
		_			
* A default is ava	ailable in code or c	m EPI-FAP10, Atta	chment 4, "Referen	ce Information."	MP-26-EPI-FAP10-002 Rev. 000-01

MIDAS - Data Input Information

Sec	tion C: MIDAS Inpu	t Sheet - Back Calcula	ation Base	d Upon Field	 Monitoring	
	reen 1			F		
1.	Unit Affected:	🗖 Unit 1		Unit 2	🗖 Un	nit 3
2.	Run Menu:	🗖 Manual 1	Entry	LOCA in C	Ltmt 🗵 Ba	ck Calc
Scr	een 2 - Panel A					
1.	Data Source:	🗷 Manual I	Entry			
2.	Release Points:	□ Site Stac	ж	<u></u>	CFM	. *
		□ Vent			CFM	*
		□ Steam			CFM	*
		Terry/Gr	round	·	CFM [*]	*
3.	Initial Display Radi	ius:		<u></u>	Miles	*
Scre	een 2 - Panel B					
1.	Dose Calculation M	Aode: I Projected	I Dose			
2.	Start of Exposure:	<u>Use Default</u> T	'ime [*]			
3.	Exposure Times:	0.25*	2*	6*	12*	
Scre	een 2 - Panel C		End Ti	me of Met Data	Buffer:	
1.	Release Option:	□ Manual Entry			Back Calc	
2.	Back Calc Input:	🗷 Ground in Wake	Eleva	ated		
3.	Closed Window Da	ata: mR/hr Dis	st (miles)			
4.	Event Tree:	E LOCA		R í	Fuel Handlin	ng
		Coolant	🗖 Gap	ļ	🗆 Melt	☐ Fire
		🗖 Spray	🗆 No Sj	pray		
		□ Filter	🛛 No Fi	ilter		
' A dei	fault is available in code or	 r on EPI-FAP10, Attachmen	ıt 4, "Referer	nce Information."	MP-26-EPI-FA Rev. 000-01 Page 5 of 6	P10-002

		MIDAS - Data I	nput Informa	tion
5. N	let Data:	33'	142'	374'
v	/ind Speed (m/sec):			
D	irection (°from):			
D	elta Temp (°F): _	NT/A		
R	ainfall (inches)			
T	emp 33' (°F):	······		
Scre	en 2 - Panel D	<u></u>		
1.	Time of Trip:	Date:	Time:	
2.	Time of Release:	Date: <u>Use Defaul</u>	t Time: :	Use Default
red b			Duine	
	Signatu	re	Print	Date/Time
red b	Signatu		Print Print	Date/Time Date/Time

Docket Nos. 50-245 50-336 50-423 B18353

Attachment 6

Millstone Nuclear Power Station, Unit Nos. 1, 2, and 3

Emergency Plan Procedures

Emergency Procedures Implementing (EPI) Functional Administrative Procedure (FAP) MP-26-EPI-FAP10-004, "Thyroid CDE Calculation Based on Field Air Sample Worksheet," Major Revision 0, Minor Revision 1

Approval	Date		Effective Date	
D	ocument Acti	on Request	SPG#	1091
	ickey	Date: 1/3/01 Depart		5474
	P-26-EPI-FAP10	– <u>—</u>	No.: 001 Minor Rev.:	
Title: Dose Assessme		······		
Revised with new info Thus DAR doc MP-26-EPI-F	est (attach commitments, CF ormation on MP2 Wide Ran Uncorts the review AP10-co2y MP-26-E W 000-01	nge Gas Monitor and MP3 SL Ex and approval of PI-TAPIO-004. Rw.000-01	CRs. KW 2000-01 MP-26-EPI-FAP10-001 a	vel. Continue
TPC Interim				Continue
	ant Mngt Staff Member Pri	int/Sign/Date (2) SM/S	RO/CFH on Unit Print/Sign/Date	<u></u>
	st/Feedback Dispositi			
Priority: 🕅 Perfe	orm Now 🔲 Perform L	ater - See Comments	Rejected - See Comments	
Activity: Revisi	on 🔲 Minor Revision 📘	🗌 Cleanup Rev 🛛 🗌 Biennial Re	view Cancellation Superse	dure
		- ·		
	See DC-GDL01 for guidence Place in VOID	Edit Con	 I.)	
	See DC GDL01 for galakense	Edit Cor	l.⇒ Plant Mngt Staff Member -	Approva
		Edit Cor		Approva
			Plant Mngt Staff Member -	
			Plant Mngt Staff Member -	Continue
	Place in VOID	RI/DPC	Plant Mngt Staff Member - Print Name and Date	Continue
	Place in VOID	RI/DPC	Plant Mngt Staff Member - Print Name and Date Date SQR Qualified	Continue
	Place in VOID	RI/DPC	Plant Mngt Staff Member - Print Name and Date Date SQR Qualified	Continue
	Place in VOID	RI/DPC	Plant Mngt Staff Member - Print Name and Date Date SQR Qualified	Continue
	Place in VOID Print	RI/DPC Sign B.T.Lucklo	Plant Mngt Staff Member - Print Name and Date Date SQR Qualified Yes No Dept Yes No Dept Unit	
TPC OTC Comments: Reviews	Place in VOID Print B. Tarallo	RI/DPC Sign B.T.Lucklo	Plant Mngt Staff Member-	
TPC OTC Comments: Reviews	Place in VOID Print B. Tarallo B. Tarallo K. Burgess	RI/DPC Sign B.T.Lucklo	Plant Mngt Staff Member-	
TPC OTC Comments: Reviews	Place in VOID Print B. Tarallo B. Tarallo W. Eakin M. White	RI/DPC Sign B.T.L.C.L.O He Milling	Plant Mngt Staff Member-	
TPC OTC Comments: Reviews	Print Print B. Tarallo B. Tarallo W. Eekin M. White K. Burgess J. Doroski	RI/DPC Sign B./fuglio te Yhint Kowgers	Plant Mngt Staff Member-	
TPC OTC	Print Print B. Tarallo B. Tarallo W. Eekin M. White K. Burgess J. Doroski	RI/DPC Sign B.Thoplo te Mhus KBurgess Julio Para Environmental Revi	Plant Mngt Staff Member-	
TPC OTC	Place in VOID Print Print B. Tarallo B. Tarallo B. Tarallo K. Burgess J. Doroski red Yes No ref Yes No	RI/DPC Sign B./Lioflo He Must KBurgers July Para Environmental Revi proval 2. SORC/I	Plant Mngt Staff Member- Print Name and Date Date SQR Qualified Yes No Dept Ves No Dept Ve	
TPC OTC Comments: Reviews Writer's Guide Validation RCD N Independent Safety Evaluation Requi	Place in VOID Print Print B. Tarallo B. Tarallo B. Tarallo K. Burgess J. Doroski red Yes No ref Yes No	RI/DPC Sign B./Lioflo He Must KBurgers July Para Environmental Revi proval 2. SORC/I	Plant Mngt Staff Member- Print Name and Date Date SQR Qualified Yes No Dept Ves No No Dept Ves No No	
TPC OTC Comments: Reviews Writer's Guide Validation RCD N Independent Safety Evaluation Requi	Place in VOID Print Print B. Tarallo B. Tarallo B. Tarallo K. Burgess J. Doroski red Yes No ref Yes No	RI/DPC Sign B./Lioflo He Must KBurgers July Para Environmental Revi proval 2. SORC/I	Plant Mngt Staff Member- Print Name and Date Date SQR Qualified Yes No Dept Ye	
TPC OTC Comments: Reviews Writer's Guide Validation RCD Independent Safety Evaluation Requi 1. SQR Progra Approval	Place in VOID Print Print B. Tarallo B. Tarallo B. Tarallo K. Burgess J. Doroski red Yes No ref Yes No	RI/DPC Sign Sign B.T.C.C.C. B.T.C.C.C. B.T.C.C.C. B.T.C.C.C. B.T.C.C.C. B.T.C.C.C.C. Coroval C. SORC/I Department Meeting	Plant Mngt Staff Member- Print Name and Date Date SQR Qualified Yes No Dept Ye	
TPC OTC Comments: Comments: Reviews Reviews Writer's Guide Validation RCD Independent Safety Evaluation Requi 1. SQR Progra Approval Kurgest SQR Qualified Ir	Print Print B. Taratto B. Taratto B. Taratto B. Taratto B. Taratto B. Taratto C. Burgess J. Doroski red Yes No mFinal Review and App Disapproval I/31/0	RI/DPC Sign Sign B.T.C.C.C.C. B.T.C.C.C.C. B.T.C.C.C.C. B.T.C.C.C.C. B.T.C.C.C.C. B.T.C.C.C.C.C. B.T.C.C.C.C.C.C. B.T.C.C.C.C.C. B.T.C.C.C.C.C.C.C. B.T.C.C.C.C.C.C.C.C.C.C.C.C.C.C.C. B.T.C.C.C.C.C.C.C.C.C.C.C.C.C.C.C.C.C.C.	Plant Mngt Staff Member-	
TPC OTC Comments: Comments: Reviews Reviews Writer's Guide Validation RCD Independent Safety Evaluation Requi 1. SQR Progra Approval Kurgest SQR Qualified Ir	Print Print Print B. Tarallo B. Tarallo B. Tarallo K. Burgess J. Doroski red Yes No mFinal Review and App Disapproval Uisapproval Uisappro	RI/DPC Sign Sign B.T.C.C.C.C. B.T.C.C.C.C. B.T.C.C.C.C. B.T.C.C.C.C. B.T.C.C.C.C. B.T.C.C.C.C.C. B.T.C.C.C.C.C.C. B.T.C.C.C.C.C. B.T.C.C.C.C.C.C.C. B.T.C.C.C.C.C.C.C.C.C.C.C.C.C.C.C. B.T.C.C.C.C.C.C.C.C.C.C.C.C.C.C.C.C.C.C.	Plant Mngt Staff Member- Print Name and Date Date SQR Qualified Yes No Dept Ye	
TPC OTC Comments: Comments: Reviews Writer's Guide Validation RCD Independent Safety Evaluation Requi 1. SQR Progra Approval SQR Qualified In Department He	Print Print Print B. Tarallo C. B. 12000 C. B. 1	RI/DPC Sign Sign B.T.C.C.C.C. B.T.C.C.C.C. B.T.C.C.C.C. B.T.C.C.C.C. B.T.C.C.C.C. B.T.C.C.C.C.C. B.T.C.C.C.C.C.C. B.T.C.C.C.C.C. B.T.C.C.C.C.C.C.C. B.T.C.C.C.C.C.C.C.C.C.C.C.C.C.C.C. B.T.C.C.C.C.C.C.C.C.C.C.C.C.C.C.C.C.C.C.	Plant Mngt Staff Member-	

MP-05-DC-SAP01-001 Rev. 002-01 Page _____ of ____

<u></u>	2/5/01			2/27/01
	Approval Date	;		Effective Date
	Thyroid CDE	Calculation Based o	on Field Air S	ample Worksheet
Fiel	d Data			
Field	Location: RMP	0	<u>R</u>	
	Downwi	nd Distance	Dire	ection
Time	e of Sample:	Co	prrected Counts ((ccpm):
-	ulation			······································
1)	I-131 DEQ using I	Field Counts:		
	For 1 hour \leq H* \leq	168 hours		
	Conversion (1.15 x 10 ⁻¹¹)	Decay Correction* (H ^{0.66})	Corrected Cor (ccpm)	
		x	_ x	=
	For H* > 168 hour	S		
	Conversion (3.3 x 10 ⁻¹⁰)	Corrected Co (ccpm)	ounts	I-131 DEQ (μCi/cc)
		x		_
2.)	I-131 DEQ from G	e Gamma Spectrum analy	vsis:	
	Activity (μCi/cc _{I-131})	(μCi/cc _{I-133} x 0.18)		
2)		+	+	=
3)	<u>Thyroid CDE for 1</u> I-131 DEQ (µCi/cc)	nour of inhalation: Conversion (mRem cc/µ0	Ci)	Thy CDE for 1 hour of inhalation (mRem/hour of inhalation
		x1.79	x 10 ⁹	=
pared by	/:			
iewed b	Sign		Print	Date/Time
	Signa	ature tor shutdown and time of m	Print neasurement in ho	Date/Time urs.
				MP-26-EPI-FAP10-00 Rev. 000-01 Page 1 of 1

Docket Nos. 50-245 50-336 50-423 B18353

Attachment 7

Millstone Nuclear Power Station, Unit Nos. 1, 2, and 3

Emergency Plan Procedures Emergency Procedures Implementing (EPI) Functional Administrative Procedure (FAP) MP-26-EPI-FAP10-005, "Unit 1 Dose Calculation for Fuel Handling Accident,"

Major Revision 0

the second s	27/00 roval Date					····	<u></u>		0/00 ve Date		
	Doc	ument A	Action	Reques	st		SPG#	01	0123-0	95243	3
Initiated By:	P. Luckey		Date	e: 1/23/01	Departme	nt: EF	PSD		Ext.:	547	4
Document No.:	MP-26	EPI-FAP10			Rev. No	000	N	finor F	 ?ev.: _	02	
Title: Dose Asse				v	<u></u>			<u> </u>			
Reason for R	equest (a	attach commitme	ents, CRs, AR	s, OEs etc)							
This	DAR	locument	s the re	euroses a	rd app	roval	90	m	p-26-	-EP] Contir	-F/ nued f
Instructions:											
										Contir	word F
ТРС		·····						······		CONIG	ided [
Interim					(A) A) 1/0 D C						
		ngt Staff Mem		n/Date	(2) SM/SRC	/CFH on	Unit P	nnt/Si	gn/Date	;	
Procedure Re	•	-	-	See Commo	ata 🗖	Rejector	. Soo	Com	monte		
Priority: 🛛		Now 🗌 Per									
Activity:		Minor Revisio	on Clear	nup Rev 🔲 I	Biennial Revie	w 🗌 Ca	ncellatic	n L	_ Supers	edure	
		DL01 for guidance	j	ĨĨ] Edit Corr.:⇒				••••••	•••••	
				: L							
		Place in VC					nt Mngl	Staff	Member	- Appro	oval
							nt Mngl	Staff	Member	- Appro	oval
						Pla					
Comments:		Print			I/DPC Prir		d Date			- Appro	iued [
Comments:					I/DPC Prir	Plan Plan	d Date			Contin	ued [✓ # Com-
Comments:					I/DPC Prir	Plan Plan	d Date	SQR C	lualified	Contin	ued [✓ # Com-
Comments:					I/DPC Prir	Plan Plan	d Date	SQR C	lualified	Contin	ued [/ ff Com-
Comments:		Print	t		I/DPC Prir	Plant Name an Date	d Date	SOR C	Pualified Dep	Contin t.	ued [✓ # Com-
Comments: Reviews		Print Villiam J E	t Ξ.Α.Κ.Ι.ω	F	N/DPC Prir n	Plant It Name an Date	d Date	SOR C	Dep Dep	Contin t.	ued [/ If Com- ment:
Comments: Reviews Technical Cross Disc.		Villiam J E	t Ξ.Α.Κ.Ι.ω	F Sig	IVDPC Prir n D D D G Anks	Plant It Name and Date	d Date	SOR C	Pualified Dep	Contin t.	ued [✓ # Com-
Comments: Reviews		Print Villiam J E Leslie C Ba L. Burgess	t Ξ.Α.Κ.Ι.ω	F Sig	N/DPC Prir n N Danks	Pla t Name an Date	d Date	SOR C	NFSA	Contin t.	iued [/ If Com ment
Comments: Reviews Technical Cross Disc. RCD Independent		Print Villiam J E Lallo C Ba C. Burgess C. Burgess	EAKIN MA2	F Sig Lesfie K Burge	IVDPC Prir n Idanks Idanks Idanks	Plant t Name and Date $I/24 _{O1}$ $I/24 _{O1}$ $I/24 _{O1}$	d Date	SOR C	NFSA Dep NFSA IT EPSD EPSD	Contin t.	iued [/ If Com ment
Comments: Reviews Technical Cross Disc. RCD Independent Safety Evaluation		Print Villiam J E Lale C Ba C. Burgess C. Burgess J Yes X N	EAKIN MARINA Info	F Sig Lesfie K Burge K Burge Environm	N/DPC Prir n Danks AS AS rental Review	Plan t Name an Date //24/01 //24/01 //24/01 Required	d Date		No Dep Dep NFSA EPSD EPSD	Contin t.	ued [√ If Com ment
Comments: Reviews Technical Cross Disc. RCD Independent Safety Evaluation 1. X SQR Pr	IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	Print Villiam J E Lalle C Ba C. Burgess C. Burgess J Yes N Nal Review ar	t AKIW inf2 io io	F Sig Lesfie K Burge K Burge Environm	IVDPC Prir n Idanks Idanks Idanks	Plan t Name an Date //24/01 //24/01 //24/01 Required	d Date		No Dep Dep NFSA EPSD EPSD	Contin t.	ued [√ If Com ment
Comments: Reviews Technical Cross Disc. RCD Independent Safety Evaluation 1. X SQR Pr		Print Villiam J E Lale C Ba C. Burgess C. Burgess J Yes X N	t AKIW inf2 io io	F Sig Lesffe K Burge K Burge Environm 2.	N/DPC Prir n Danks AS AS ental Review	Plant t Name an Date 1/24/01 1/24/01 1/24/01 Required [RC/RI/DH	d Date	SOR C	NFSA EPSD No ew and	Contin t.	vued [
Comments: Reviews Technicec Cross Disc. RCD ndependent Safety Evaluation 1. X SQR Pr Appro	Required [Print Villiam J E Lalle C Ba C. Burgess C. Burgess J Yes N Nal Review ar	t AKIW inf2 io io	F Sig Lesfie K Burge K Burge Environm 2.	N/DPC Prir n Danks JS AS SORC/PO epartment h	Plant t Name an Date 1/24/01 1/24/01 1/24/01 Required [RC/RI/DH	d Date	SOR C	NFSA EPSD No ew and	Contin t.	vued [v If Com- ment: v
Comments: Reviews Comments: Reviews Comments: Comments Comment Construction Comments		Print Villiam J E Lalle C Ba C. Burgess C. Burgess J Yes N Nal Review ar	$\frac{E}{AKiw}$ $\frac{E}{M}$	F Sig Lesfie K Burge K Burge Environm 2.	N/DPC Prir n Danks JS ental Review SORC/PO	Plant t Name an Date 1/24/01 1/24/01 1/24/01 Required [RC/RI/DH	d Date	SOR C	NFSA EPSD No ew and	Contin t.	vued [v If Com- ment: v
Comments: Reviews	Required [ogram F oval [] od Indeputed	Print	$\frac{EAKIW}{MA2}$	F Sig Lesfie K Burge K Burge Environm 2.	N/DPC Prir n Danks JS AS SORC/PO epartment h	Plant t Name an Date 1/24/01 1/24/01 1/24/01 Required [RC/RI/DH	d Date	Revie	NFSA EPSD No ew and	Contin t.	vued [
Comments: Reviews <i>Comments:</i> Reviews <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Commen</i>	Required [ogram Fi performance]	Print Villiam J E Leale C Ba C. Burgess C. Burgess C. Burgess J Yes N nal Review ar Disapproval	$\frac{EAKIW}{MA2}$	F Sig Lesfie K Burge K Burge Environm 2.	N/DPC Prir n Danks JS AS SORC/PO epartment h	Plan t Name an Date 1/24/01 1/24/01 1/24/01 Required [RC/RI/DH tead/Res	d Date	Revie	NFSA EPSD No ew and	Contin t.	vied [✓ If Com- ment: V
Comments: Reviews <i>Comments:</i> Reviews <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Comments:</i> <i>Commen</i>	Required $\begin{bmatrix} 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 $	Print	$\frac{A_{K_{1}}\omega}{mk_{2}}$	F Sig Lesfie K Burge K Burge Environm 2.	N/DPC Prir n Danks JS AS SORC/PO epartment h	Plan t Name an Date 1/24/01 1/24/01 1/24/01 Required [RC/RI/DH tead/Res	d Date	SOR C	NFSA EPSD No ew and	Contin t.	vied [✓ If Com- ment: V

MP-05-DC-SAP01-001 Rev. 002-01 Page _____ of _____

۰,

	1/30/01			FI	B 2 4 2001		
Ap	proval Date			Eff	ective Date		
Unit 1 Dose Calculation for Fuel Handling Accident							
Control Roon	n Data	<u> </u>			······································		
Obtain the foll	owing:						
RM-SI Channel		RM-SFPI-01 Channel 2 (mR/hr)		C	RM-SFPI-01 Channel 3 (mR/hr)		
Calculation			<u> </u>	<u></u>			
Perform the fo	llowing:						
1)		2					
	FPI-01 x 3 (mR/hr)*	Factor A	= #F	uel Assemblies Damaged	3		
Dam	ssemblies x naged	10	=	TEDE	mDem		
3)# Fuel A	ssemblies x	10	=	Skin	mRem		
	R-DSEO of results.						
	······································	<u></u>					
ared by:	Circotum			Print	Date/Time		
-	Signature			Print	Date/Time		
ared by:	Signature Signature			Print Print	Date/Time Date/Time		

Docket Nos. 50-245 50-336 50-423 B18353

Attachment 8

Millstone Nuclear Power Station, Unit Nos. 1, 2, and 3

Emergency Plan Procedures Emergency Procedures Implementing (EPI) Functional Administrative Procedure (FAP) <u>MP-26-EPI-FAP11, "Core Damage Assessment," Major Revision 1</u>

<u></u>	6/27/00 Approval Date)					6/30/00 Effective Date				
	Doc	cument Ac	tion R	eques	t		SPG#	0101	23-14153	8	
Initiated By:	P. Lucke	ey	Date:	1/23/01	Departmen	t: EF	PSD		Ext.: 54	74	
Document No	o.: <u>MP-2</u>	6-EPI-FAP11	·····		Rev. No.	.:001	M	linor Rev	<i>.</i> :		
Title: Core D											
1	-	(attach commitments e review and approva	al of MP-26-			26-EPI-FA Ru	AP11-01	-01	Cont	inued 🔲	
Instructio	ns:										
									Cont	inued 🔲	
ТРС	<u></u>	<u></u>									
Interim	(1) Plant	Mngt Staff Member	Print/Sign/	Date	(2) SM/SRO	/CFH on	Unit P	rint/Sigr	n/Date	<u> </u>	
Approval Procedure		Feedback Dispos		Duio	(_) =						
Priority:		Now Derfor		ee Commer	nts 🔲	Rejected	d - See	Comm	ents		
Activity:	Revision	Minor Revision	÷								
		C-GDL01 for guidance									
TPC	ОТО 🗌	Place in VOID		L] Edit Corr.:⇒	Pla	nt Mnat	Staff Me	ember - App	roval	
Comments Reviews	»: 	Print		R Sig		t Name ar Date		SQR Qua		inued 🗌 🖌 🖬 Com-	
Neviews				-			Yes	No	Dept.	ments	
						14.1					
Writerse		B:Tarallo		3. Jacque	lo	1/25/0	1:		unit 1 EPSD		
Validatio	x X	T. Rigney John Doros	1- 1-	11 Jug	ney	1230	X		Chem	V	
Cross Disc. RCD		K. Burgess	. L	KBurge	30-1-0	1/25/0		E	EPSD		
Independent		K. Burgess		KBurger		1/25/01	A CONSTRUCT OF A L		EPSD	V	
Safety Evalua	ation Required	I Yes No		Environm	ental Review	Required	Yes		lo		
1. 🛛 <u>so</u>	R Program	Final Review and	Approval	2.	SORC/PO	RC/RI/DI	l Final	Review	v and App	roval	
A	Approval 🛛	Disapproval]		epartment H	lead/Res	sponsib	le Indiv	idual / Dat	e	
ν	2		ilasta		Meeting No						
SQR C	Jualified Inde	ependent Reviewer	/Date		meeting						
	and A	VResponsible Indivi				Approva	al Signa	ature			
Бера		1				••	-				
	51570	/		1							
	2/570 APF	proval Date				Appr	oval Da	ate			

MP-05-DC-SAP01-001 Rev. 002-01 Page _____ of ____

Functional Administrative **Procedure**



Core Damage Assessment

MP-26-EPI-FAP11

Rev. 001

Approval Date:2/5/0/Effective Date:2/27/0/



TABLE OF CONTENTS

1. <u>PURPOSE</u>
1.1 Objective
1.2 Applicability 3 1.3 Supporting Documents 3
1.3 Supporting Documents
2. <u>INSTRUCTIONS</u>
2.1 Core Damage Assessment
2.3 System Activity Evaluation Method
2.4 Sample Location Determination
3. <u>SUMMARY OF CHANGES</u>
ATTACHMENTS AND FORMS
Attachment 1, "Definitions and Abbreviations"
Attachment 2, "Responsibilities"
Attachment 3, "Common Conditions of Cole Danlage
Attachment 5, "Indicators of Core Damage"
MP-26-EPI-FAP11-001, "Core Damage Estimate: Core Exit Temperatures"
MP-26-EPI-FAP11-002, "Core Damage Estimate: Core Uncovery Time"
MP-26-EPI-FAP11-003, "Core Damage Estimate: Containment Radiation Monitors"
MP-26-EPI-FAP11-004, "Core Damage Estimate: Main Steam Line Radiation Monitors"
MP-26-EPI-FAP11-005, "Core Damage Estimate: Containment Hydrogen"
MP-26-EPI-FAP11-006, "Core Damage Estimate: Ratio Comparison/Abnormal Isotopes"
MP-26-EPI-FAP11-007, "Core Damage Estimate: Isotopic Concentrations"
MP-26-EPI-FAP11-008, "Core Damage Estimate: Summary Analysis"
MP-26-EPI-FAP11-009, "Unit 2 Reactor Coolant and Liquid Waste Sample Worksheet"
MP-26-EPI-FAP11-010, "Unit 2 Vent and Containment Air Sample Worksheet"
MP-26-EPI-FAP11-011, "Unit 3 Reactor Coolant and Liquid Waste Sample Worksheet"
MP-26-EPI-FAP11-012, "Unit 3 Vent and Containment Air Sample Worksheet"

.

MP-26-EPI-FAP11 Rev. 001 2 of 19

1. <u>PURPOSE</u>

1.1 Objective

This procedure provides sampling and analysis guidance and instructions for estimating core damage under accident conditions.

1.2 Applicability

This procedure is applicable when the following occurs:

- An emergency has been declared and the SERO has been activated
- There are indications of core damage
- Events require the estimation of the type and amount of core damage

1.3 Supporting Documents

- 1.3.1 CP 2804L, "Unit 2 Reactor Coolant and Liquid Radwaste PASS"
- 1.3.2 CP 2804M, "Unit 2 Vent and Containment Air PASS"
- 1.3.3 CP 3804K, "PASS RCS/RSS Sample"
- 1.3.4 CP 3804L, "PASS Containment Air Sample"
- 1.3.5 CP 3804M, "PASS Ventilation Samples"

1.4 Discussion

The time for taking and analyzing PASS samples shall be 3 hours or less from the time the decision is made to sample, except for chloride, which shall be within 24 hours.

Core Damage estimates are used to provide the following:

- Confirm whether fuel barriers are breached
- Determine the potential quality (type) or quantity (%) of source term available for release in support of projected offsite doses
- Support the determination of radiological protection actions that should be considered for long term recovery activities
- Satisfy inquiries from local and federal government agencies and provide evidence that the utility understands the plant conditions

MP-26-EPI-FAP11 Rev. 001 3 of 19 An overall estimation of the extent of core damage can be made when information accumulated from all available sources and methods is evaluated. The NRC defines the overall condition of the core using a matrix of 10 categories as shown below:

NRC Crite	ria for Determin	ing Condition of Core	•
Degree of Degradation	Minor (<10%)	Intermediate (10%-50%)	Major (>50%)
No Fuel Damage	1	1	1
Cladding Failure	2	3	4
Fuel Overheat	5	6	7
Fuel Melt	8	9	10

The NRC recognizes four general classifications with three degrees of core damage within each (excepting the "No Fuel Damage" classification). It is important to recognize that different methodologies may provide indications that point to several degrees if not several classifications, simultaneously.

MP-26-EPI-FAP11
Rev. 001
4 of 19

2. <u>INSTRUCTIONS</u>

2.1 Core Damage Assessment

NOTE

- 1. The magnitude and type of event, transport mechanism, and time after shutdown will be influencing factors on the method(s) used to determine the extent of core damage.
- 2. Plant operating parameters are usually the first type of information available for core damage evaluation. Generally, they can only provide a low confidence numerical value, but do help to determine the type of core damage resulting from the accident. Methods include:
 - Core Exit Temperatures
 - Core Uncovery Time
 - Containment Radiation
 - Main Steam Line Radiation
 - Containment Hydrogen
- 2.1.1 IF current core conditions are appropriate for the plant parameter methods, Go To Section 2.2.

NOTE

System activity results are not usually available in the early stages of an emergency. Assessment involving isotopic ratio comparisons and the presence of abnormal isotopes are valid as soon as a sample can be taken following an accident, but provide only an indication of the *type* of core damage. Concentration evaluations will normally provide the most accurate assessment, but require a stable steady state condition to be valid. Methods include:

- Isotopic Ratio Comparison
- Presence of Abnormal Isotopes
- Isotopic Concentration
- 2.1.2 IF current plant conditions produce a representative reactor coolant or containment sample, Go To Section 2.3.
- 2.1.3 <u>IF</u> samples are needed for operational or source term adjustment, Go To Section 2.4.

MP-26-EPI-FAP11 Rev. 001 5 of 19

2.2 Plant Parameter Evaluation Method

2.2.1 IF necessary, contact the Accident Management Team in the TSC for assistance with core temperatures or uncovery times.

2.2.2 Obtain plant parameters from the following, as applicable:

- Off-Site Facilities Information System (OFIS)
- Technical Information Coordinator
- Control Room Data Coordinator

2.2.3 WHEN plant data becomes available, perform the following, as applicable:

NOTE

Containment radiation, main steam line radiation, and containment hydrogen methods assume a significant reactor coolant leak (LOCA) has occurred into containment.

- Evaluate all methods using the DAMAGE computer application.
- Refer To and complete the following forms, as applicable:
 - EPI-FAP11-001, "Core Damage Estimate: Core Exit Temperatures"
 - EPI- FAP11-002, "Core Damage Estimate: Core Uncovery Time"
 - EPI- FAP11-003, "Core Damage Estimate: Containment Radiation Monitors"
 - EPI- FAP11-004, "Core Damage Estimate: Main Steam Line Radiation Monitors"
 - EPI- FAP11-005, "Core Damage Estimate: Containment Hydrogen"

MP-26-EPI-FAP11
Rev. 001
6 of 19

NOTE

The following attachments are provided as additional information for use in estimating core damage:

- Attachment 3, "Common Conditions of Core Damage"
- Attachment 4, "Isotopes in Core Fission Products"
- Attachment 5, "Indicators of core Damage"
- 2.2.4 Record the overall damage estimation by performing one of the following:
 - Print the DAMAGE application summary report.
 - Refer To and complete EPI-FAP11-008, "Core Damage Estimate: Summary Analysis."
- 2.2.5 IF additional information becomes available <u>OR</u> is revised throughout the course of the accident, provide an overall estimation of the extent of core damage to the ADEOF.

2.3 System Activity Evaluation Method

2.3.1 Determine the most representative sample points (location of the activity released from the core) based on current system conditions as shown in Table 1.

Table	1 Sampling Point D	etermination Criteria
Sampling	Points	Limitations
Unit 2	Unit 3	
Loop 1 Hot Leg	Loop 1 or 3 Hot Leg	Break should not be upstream of the sample point
Liquid Waste	Liquid Waste	Not used for core damage estimates
Containment Sump via: • HPSI Pumps • LPSI Pumps • Containment Spray Pumps	Containment Sump via Containment Spray System	System in operation and sump recirculation actuation signal in effect prior to sampling
Containment Air	Containment Air	Accident must involve a release into containment
Vent Air	Vent Air	Not used for core damage estimates
WRGM Air	SLCRS Air	Not used for core damage estimates

2.3.2 Contact the MRCA to discuss the following:

- In-plant radiological conditions
- Priority for obtaining samples
- Sampling sequence if multiple locations are available

NOTE

A three hour sample and analysis time requirement exists once the decision to obtain a PASS sample is made. The ADTS controls the on-site response resources and is the individual responsible for the decision to initiate sampling for core damage assessment.

2.3.3 Inform the ADTS of the selected sample points.

2.3.4 Request the ADTS assemble a sample team for core damage assessment purposes.

- 2.3.5 WHEN sample results become available, perform the following, as applicable:
 - Evaluate all methods using the DAMAGE computer application.
 - Refer To and complete the following forms, as applicable:
 - EPI-FAP11-006, "Core Damage Estimate: Ratio Comparison/Abnormal Isotopes"
 - EPI-FAP11-007, "Core Damage Estimate: Isotopic Concentrations"

NOTE

The following attachments are provided as additional information for use in estimating core damage:

- Attachment 3, "Common Conditions of Core Damage"
- Attachment 4, "Isotopes in Core Fission Products"
- Attachment 5, "Indicators of core Damage"
- 2.3.6 Record the overall damage estimation by performing one of the following:
 - Print the DAMAGE application summary report.
 - Refer To and complete EPI-FAP11-008, "Core Damage Estimate: Summary Analysis."
- 2.3.7 IF additional information becomes available \underline{OR} is revised throughout the course of the accident, provide an overall estimation of the extent of core damage to the ADEOF.

MP-26-EPI-FAP11
Rev. 001
9 of 19

2.4 Sample Location Determination

- 2.4.1 Discuss normal sample or PASS preparations with the MRCA.
- 2.4.2 Determine sampling and analysis requirements using one of the following forms, as applicable:
 - EPI-FAP11-009, "Unit 2 RX Coolant and Liquid Waste Sample Worksheet"
 - EPI-FAP11-010, "Unit 2 Vent and Containment Air Sample Worksheet"
 - EPI-FAP11-011, "Unit 3 RX Coolant and Liquid Waste Sample Worksheet"
 - EPI-FAP11-012, "Unit 3 Vent and Containment Air Sample Worksheet"
- 2.4.3 Fax completed forms to the ADTS for review.
- 2.4.4 IF required, request additional Chemistry Technician support from the MOR.

MP-26-EPI-FAP11
Rev. 001
10 of 19

3. SUMMARY OF CHANGES

- 3.1.1 Added Wide Range Gas Monitor Air and Supplemental Leak Collection and Release System Air to the sampling points in Table 1.
- 3.1.2 Added the definition of Wide Range Gas Monitor to Attachment 1.
- 3.1.3 Changed Primary Vent Stack to Wide Range Gas Monitor in MP-26-EPI-FAP11-010, "Unit 2 Vent and Containment Air Sample Worksheet."
- 3.1.4 Deleted reference to Primary Vent Stack in MP-26-EPI-FAP11-012.
- 3.1.5 Performed Writer's Guide modifications for compliance with the administrative format contained in MM-05.

MP-26-EPI-FAP11

Rev. 001 11 of 19

Attachment 1 Definitions and Abbreviations

(Sheet 1 of 1)

Definitions

<u>PASS Team</u> - SERO personnel designated for sampling and analysis of reactor coolant or liquid waste at the affected unit. The PASS Team shall be comprised of at least 2 Chemistry Technicians and 1 HP Technician.

Abbreviations

ADEOF - Assistant Director EOF

ADTS - Assistant Director Technical Support Center

AMRDA - Assistant Manager of Radiological Dose Assessment

DSEO - Director of Station Emergency Operations

ESF - Engineered Safety Features

MOSC - Manager of Operational Support Center

MRCA - Manager of Radiological Consequence Assessment

MRDA - Manager of Radiological Dose Assessment

PASS - Post Accident Sampling System

RSS - Recirculation Spray System

SERO - Station Emergency Response Organization

SLCRS - Supplementary Leak Collection and Release System

TSC - Technical Support Center

WRGM - Wide Range Gas Monitor

MP-26-EPI-FAP11 Rev. 001 12 of 19

Attachment 2 Responsibilities

(Sheet 1 of 1)

- 1. The PASS Team performs the required sampling and analysis.
- 2. The ADTS shall make the decision to obtain a sample using PASS.
- 3. The Manager of Operational Support Center designates, assembles, and briefs the PASS Team.
- 4. The Manager of Radiological Consequence Assessment specifies PASS Team radiological controls.
- 5. The Operational Support Center Assistant Radiological Protection Supervisor assigns HP technicians and briefs the PASS Team on radiological conditions.
- 6. The Manager of Radiological Dose Assessment or the Assistant Manager of Radiological Dose Assessment specify PASS Team sampling and analysis requirements.
- 7. The Assistant Manager of Radiological Dose Assessment is responsible for performing the calculations and evaluations required for determining core damage estimates.

Attachment 3 Common Conditions of Core Damage

(Sheet 1 of 1)

The types of damage sustained, as well as their severity, depend upon fission rate, power, and temperature of the reactor. During an accident, clad damage would occur first, followed by fuel overheating, and finally fuel melt as conditions become more severe.

Common conditions of core damage are shown below:

	Indicators of Core Damage
Damage Type	Conditions
Clad Damage	An increasing potential for inadequate core cooling exists
	Loose part indication is observed
	No significant overheating has been observed at this point
Fuel Overheat	The fuel is suspected to be at least partially uncovered for a period of time greater than a few minutes
	Loss of inventory in the pressurizer is observed
	Hot leg temperatures are increasing
	Voiding in the core is detected
	Ex-core count rate is increasing (occurs when uncovered core is no longer shielded by water)
	High in-core thermocouple readings are observed
	Fuel clad oxidation is detected by excess hydrogen in the containment (>10%)
Fuel Melt	The core has been uncovered for an appreciable period of time
	In-core thermocouples are off-scale
	In-core and ex-core instrumentation display erratic readings

The presence of specific isotopes within the core fission product inventory are indicative of the type(s) of core damage that exist. Although each type of core damage exhibits the presence of certain isotopes, the isotopes related to each damage type build up as accident severity increases. Thus, when determining the type of core damage, the presence and amounts of some isotopes and the absence of others is usually a good indicator.

Most of the noble gases will be detected in containment air samples unless the accident does not involve a break inside the containment.

MP-26-EPI-FAP11 Rev. 001 14 of 19

Attachment 4 Isotopes in Core Fission Products

(Sheet 1 of 2)

Fission products are grouped with respect to their relative volatility. The categories of isotopes as shown below, are grouped in order of decreasing volatility:

	Isotopes in Core 1	Fission Prod	ucts
Group	Fission Product Type	Group	Fission Product Type
I	Noble Gases (Xe, Kr)	v	Alkaline Earths (Sr, Br)
п	Halogens (I, Br)	VI	Noble Metals (Ru, Rh, Pd, Mo, Tc)
Ш	Alkali Metals (Cs, Rb)	VII	Rare Earths and Actinides (Y, La, Ce)
ΓV	Tellurium (Te, Se, Sb)	VIII	Refractory Oxides of Zr and Nb

Isotopes with longer half-lives will serve as a better basis for analysis in long-term sampling. Note that any sample taken soon after shutdown will be difficult to analyze due to the large amount of short-lived isotopes in the sample. There may be many isotopes with similar peaks which makes it difficult to distinguish one from another. Some isotopes may have peaks near the annihilation radiation level (511KeV). Also, Compton edges could lead to difficulties in the sample analysis. Therefore, it is recommended that confirming peaks are used in the isotopic analysis. Any other quantifying techniques, such as iodine cartridge analysis, if available for analysis in long-term sampling, are recommended.

Attachment 4 Isotopes in Core Fission Products

(Sheet 2 of 2)

The isotopes as shown below, reflect a best choice in terms of measurement and effect from in-growth of daughter products. It is important to recognize that halogens, and to some degree other particulate radioisotopes, may not be a good measure of the extent of core damage when identified as part of a gaseous sample.

Isotopes Indicative of Core Damage						
Core Damage State	Nuclide	Group	Half-Life (hrs)			
Clad Failure	Kr-85m	I	4.48E+00			
	Kr-87	I	1.27E+00			
	Kr-88	Ι	2.84E+00			
	Xe-131m	I	2.86E+02			
	Xe-133	I	1.26E+02			
	Xe-133m	I	5.25E+01			
	Xe-135	<u> </u>	9.09E+00			
	I-131	П	1.93E+02			
	I-132	II	2.30E+00			
	I-133	II	2.08E+01			
	I-135	II	6.61E+00			
	Rb-88	III	2.97E-01			
Fuel Overheat	Cs-134	III	1.81E+04			
	Cs-137	III	2.63E+05			
	Te-129	IV	1.16E+00			
	Te-132	IV	7.82E+01			
Fuel Meltdown	Sr-89	v	1.21E+03			
	Sr-90	· V	2.55E+05			
	Ba-140	v	3.06E+02			
	La-140	VII	4.03E+01			
	La-142	VII	1.54E+00			
	Pr-144	VII	2.88E-01			
Combination	Xe-135m	I	4.32E+00			
(Related Parent Nuclides)	Sb-129	IV	8.06E+02			
	Te-129m	IV	2.55E-01			
	Ba-142	v	1.77E-01			
	Ce-144	VII	6.82E+03			

MP-26-EPI-FAP11 Rev. 001 16 of 19

Attachment 5 Indicators of Core Damage

(Sheet 1 of 3)

The following are indicators of core damage:

Clad Damage

- The presence of noble gases and iodines in reactor coolant or containment air without the presence of other fission products is a fair indication of clad damage and perhaps some degree of fuel overheat.
- Iodines may be detected in both reactor coolant and containment air, depending upon the accident scenario and upon the physical and chemical form of the radioactive release.

Fuel Overheat Damage

- No significant quantity of cesiums (i.e., greater than 30 percent of the inventory) should be found if core temperatures remain below 2300° F or if the core has not been at least partially uncovered for an appreciable amount of time. Therefore, the presence of a significant amount of cesium is indicative of a fuel overheat condition. The amount of hydrogen in the containment air and reactor coolant samples can serve as confirmation. It should also be noted that just as in the case of iodines, the cesiums from both containment air and reactor coolant samples should be taken together.
- Over 50 percent of the core inventory of noble gases, iodines, and cesiums may be released from extensively damaged fuel clad (i.e., fuel overheating) even if fuel temperatures remain below the melting point.
- As the fuel temperature increases and fuel melting is suspected to have occurred, the possibility of finding significant quantities of other core solids (e.g., groups IV through VIII) above the baseline increases. However, these fission products will not be found in reactor coolant samples unless the core has been covered and a recirculation mode has been established. Many of the fission products and most of the actinides which occur as refractory oxides are released only in relatively small amounts even at elevated temperatures. However, if damaged fuel pellets are rewetted, some of the more refractory radioactive material will be leached out.

Fuel Melt Damage

• Significant releases of tellurium, ruthenium, and more refractory materials will occur only if the temperature approaches the fuel melting point (5200° F). However, the presence of ruthenium and tellurium does not prove melting, but their absence in long-term sampling analysis is a good indication that fuel meltdown has not occurred.

MP-26-EPI-FAP11 Rev. 001 17 of 19

Attachment 5 Indicators of Core Damage

(Sheet 2 of 3)

Assuming equilibrium conditions have been reached, a fixed inventory of radioisotopes exists within the fuel pellet. The relative ratios of the isotopes which have reached equilibrium can be considered a constant value. The distribution of isotopes in the fuel gap are not in the same proportion as in the fuel pellet. This is due to the differing diffusion rates of the isotopes from the fuel pellet to the fuel gap. During an accident, the ratios of isotopic activities obtained from samples can be compared to the expected ratios for a gap and melt type mix.

The following methods and indications can be used to estimate the amount or type of core damage under accident conditions:

- Core Parameters: An indirect method which is immediately available and is used to indicate the potential for core damage. Indications are provided by core exit thermocouples and the time of core uncovery and are applicable for all types of accidents. This method does not provide numerical estimations, but rather can be used to determine the type of damage.
- Containment Radiation: An indirect method which is used to determine the amount of core damage. Indications are provided by containment high range or main steam line radiation monitors. This method is only applicable for a loss of coolant accident and is based upon an end-of-life source term and static nuclide ratio assumptions.
- Containment Hydrogen: An indirect method which is used to determine the amount of fuel melt. This method assumes all the hydrogen generated by the metal-water reaction is released into containment (LOCA).
- System Activity Isotopic Ratio Comparison: A direct method which is used to help establish the type of core damage (clad failure or fuel melt). This method is applicable under all types of accidents and is valid any time following an accident although accuracy will decrease over time.
- System Activity Presence of Abnormal Isotopes: A direct method which is used to indicate some degree of fuel melt by the presence of unusually high concentrations of any of the less volatile fission products.
- System Activity Isotopic Concentration Evaluation: A direct method which can yield numeric estimations. This method is applicable for all types of accidents and requires the sampled system(s) to be in a steady state which usually prevents its use until the plant is in a stable shutdown condition.

MP-26-EPI-FAP11 Rev. 001 18 of 19

Attachment 5 Indicators of Core Damage

(Sheet 3 of 3)

Precise damage estimates are based upon accounting for all of the radioactivity released from the core. Methods which provide a numerical estimation of the extent of core damage should be evaluated to ensure all activity has been accounted for. If reactor coolant and containment air samples are available, then the total activity should be determined from the sum of both types of samples.

Iodine should not be used as the sole means of determining an estimate of core damage since it is difficult to determine the extent to which iodine will plate-out on containment walls, other surfaces, and piping. Spiking due to power excursions can also lead to inaccurate results in the iodine analysis.

No single method should be relied upon for a definitive damage estimation. All available data and sound engineering principles should be used to compile the best overall estimation.

Docket Nos. 50-245 50-336 50-423 B18353

Attachment 9

Millstone Nuclear Power Station, Unit Nos. 1, 2, and 3

Emergency Plan Procedures

Emergency Procedures Implementing (EPI) Functional Administrative Procedure (FAP) MP-26-EPI-FAP11-010, "Unit 2 Vent and Containment Air Sample Worksheet," <u>Major Revision 0, Minor Revision 1</u>

	e					6/30/00 Effective Date	9
Do	cument Act	ion Re	eques	t	SF	^{•G#} 010123-	141538
Initiated By: P. Lucke	ey	Date:	1/23/01	Departmer	nt: EPS	D Ext.	: 5474
Document No.: MP-2	26-EPI-FAP11			Rev. No	.:001	Minor Rev.:	
Title: Core Damage Asse						_	
Reason for Request The DAR documents the Instructions:	•	of MP-26-E	•		26-EPI-FAP Rw.	11-012. 000-01	Contin
TPC Interim	Mngt Staff Member P	Print/Sign/D		2) SM/SBO	/CEH on Ur	nit Print/Sign/Dat	Contin
Approval (1) Plant Procedure Request/		· · · · · ·		27 010/0110			
•	Now Perform		e Commen	ts 🔲	Rejected -	See Comments	
	Minor Revision	Cleanun	 Rev □ B	ennial Review	v Cance	ellation Super	rsedure
	C-GDL01 for guidance		•				
	Place in VOID			Edit Corr.:⇒		Ungt Staff Membe	- <u>Anora</u>
Reviews	Print				t Name and D Date	Date SQR Qualified	Continu
						Too No Do	nt
Uritur's Guide X Validation X Cross Disc. X	B:Tarallo T.Rigney Juhn Doroski	B	Terel I. They M.W.	lo neg where	[1/25/01 [1/23/01 [+1 SD M
Validation X Cross Disc. X RCD X	T. Rigney Juhn Doroski K. Burgess	4	Lu. Burger	ney Which 10	[1/25/01 [1/25/01 [1/25/01 [1/25/01 [UNII UNII UNII EPSD	+1 SD M
Validation X Cross Disc. X RCD X Independent X	T. Rigney Juhn Dorusk K. Burgess K. Burgess	4	Liv. L Burgers Burgers	nez Whe 10	1/25/01 [1/25/01 [1/24/01 [1/24/01 [1/25/01 [1/25/01 [UNI UNI UNI EPSD	+1 SD M
Validation X Cross Disc. X RCD X Independent X Safety Evaluation Required	T.Rigney Juhh Doruski K.Burgess K.Burgess		Burgers Environme	nly Whe lo ental Review I	/25/01 [/25/01 [/23/01 [1/24/01 [1/25/01 [1/25/04 [Required]	UNI UNI UNI EPSD	+ 1 SD M
Validation X Cross Disc. X RCD X Independent X Safety Evaluation Required	T. Rigney Juhh Dorosk K. Burgess K. Burgess Yes No Final Review and Ap		Burgers Burgers Environme	ney July lo intal Review I SORC/POF	/25/01 [/25/01 [/23/01 [1/25/01 [1/25/01 [Required]	UNI UNI UNI EPSD	+ 1 SD M
Validation X Cross Disc. X RCD X Independent X Safety Evaluation Required 1. X SQR Program I Approval X KBurglas SQR Qualified Indep	T. Rigney John Dorosk K. Burgess No Yes No Final Review and Ap Disapproval	proval 30/61 Date	Burgers Burgers Environme 2.	Mental Review I SORC/POF partment H Aleeting No.	 /35/01 [/23/01 [/25/01 [1/25/01 [Required] C/RI/DH Fit ead/Respor	UNI UNI UNI UNI EPSD Chan EPSD Yes No nal Review and	+ 1 SD M
Validation X Cross Disc. X RCD X Independent X Safety Evaluation Required 1. X SQR Program I Approval X KBurglas SQR Qualified Indep	T. Rigney John Dorosk K. Burgess K. Burgess Yes No Final Review and Ap Disapproval	proval 30/61 Date	Burgers Burgers Environme 2.	Mental Review I SORC/POF partment H Aleeting No.	1/25/01 [1/25/01 [1/25/01 [1/25/01 [1/25/01 [Required [BC/RI/DH File [UNI UNI UNI UNI EPSD Chan EPSD Yes No nal Review and	+ 1 SD M Appro

MP-05	-DC-SAI	201-001
Rev. 00	02-01	
Page	of _	

2/5/01 Approval Date

2/27/01

Effective Date

Unit 2 Vent and Containment Air Sample Worksheet

INSTRUCTIONS:

Circle desired Sample, Sample Location, Sample Type, and Analysis.

SAMPLE	LOCATION	TYPE	ANALYSIS
PASS Containment Air	Hydrogen Analyzer Train "A"	Gas	Gas Isotopic Gas Composition
PASS Containment Air	Hydrogen Analyzer Train "B"	Gas	Gas Isotopic Gas Composition
Vent (High Range)	38'6" East Penetration Room	Gas Particulate Iodine	Gas Isotopic Particulate Isotopic Iodine Isotopic
Vent (Normal Range)	38'6" East Penetration Room	Gas Particulate Iodine	Gas Isotopic Particulate Isotopic Iodine Isotopic
WRGM	Stack Sample Room	Gas Particulate Iodine	Gas Isotopic Particulate Isotopic Iodine Isotopic

(1

 ADTS Approval:
 Date:
 Time:

MP-26-EPI-FAP11-010 Rev. 000-01 Page 1 of 1

Docket Nos. 50-245 50-336 50-423 B18353

Attachment 10

Millstone Nuclear Power Station, Unit Nos. 1, 2, and 3

Emergency Plan Procedures

Emergency Procedures Implementing (EPI) Functional Administrative Procedure (FAP) MP-26-EPI-FAP11-012, "Unit 3 Vent and Containment Air Sample Worksheet," <u>Major Revision 0, Minor Revision 1</u>

Арр	/27/00 roval Da							Enectiv	re Date	
<u></u>	Do	cument Ac	tion I	Reque	st	<u></u>	SPG#	010	123-1415	538
Initiated By:	P. Lucl	key	Date	: 1/23/01	Departm	ent: E	PSD		Ext.: 5	547
Document No.:	MP	-26-EPI-FAP11			Rev. I	No.: 001	1 N	Minor Re	- — ev.:	
Title: Core Dama										
Reason for R	eques	t (attach commitments	, CRs, AR	s, OEs etc)						
The DAR docu	nents ti	he review and approv		6-EPI-FAP11 Rev <u>.00</u> 00-		P-26-EPI-F ይ	AP11-0	12.		
· · · · · · · · · · · · · · · · · · ·									Co	nti
Instructions:										
·										
									Cor	nti
TPC Interim				•						
	i) Plan	t Mngt Staff Member	Print/Sigr	v/Date	(2) SM/SF	RO/CFH or	n Unit P	rint/Sig	n/Date	
	quest	/Feedback Dispos	sition							
Priority: 🛛	Perfor	m Now 🔲 Perform	n Later - S	See Comme	nts [] Rejecte	d - See	e Comr	nents	
Activity: 🛛	Revision	Minor Revision	Clean	up Rev	Biennial Revi	iew 🔲 C	ancellatic	on 🗌	Supersedur	e
		DC-GDL01 for guidance		·					-	••••
TPC	DTC	Place in VOID		1	Edit Corr.:	⇒				
							ant Mngt	t Staff M	lember - Ap	pr
Comments:							ant Mngt	t Staff M	lember - Ap	pr
					RI/DPC Pr	Pla	nd Date		Cor	
Comments: Reviews		Print		I	RI/DPC Pr	Pla	nd Date	Staff M	Cor	
		Print			RI/DPC Pr	Pla	nd Date		Cor	
		Print			RI/DPC Pr	Pla	nd Date	SQR Qu	Cor	
Reviews				Siç	RI/DPC Pr In	int Name a	nd Date	SQR Qu	Cor nalified Dept.	
Reviews Writer's Gui		B:Tarallo		sig B. To eq	RI/DPC Pr In 220	int Name a Date	nd Date	SQR Qu	Cor Ialified Dept.	-
Reviews Writer's Gui Validation	Ø	B:Tarallo T.Rigney		sig B. To eq	RI/DPC Pr In 200 mez	int Name a Date	red Date	No NO NO NO NO NO NO NO NO NO	Cor Dept. UNITI	
Reviews Writer's Gui	X	B:Tarallo		Sig B. Jacque J. Mur.	RI/DPC Pr In 200 mez VInc	int Name a Date	Yes	SQR Qu	Cor Ialified Dept.	-
Reviews Writer's Gui Validation Cross Disc.	Ø	B:Tarallo T.Rigney John Doros	k; (sig B. To eq	RI/DPC Pr In Plo Plo Mey Whe	int Name a Date	rd Date		Cor Ialified Dept. UNITI EPSD Cham	
Reviews Writer's Gwi Validation Cross Disc. RCD	X X X X X	B:Tarallo T.Rignuy Juhh Dorus K.Burgess K.Burgess		Sig B. Te eg J. Mu M. Mu K. Burger K. Burger	RI/DPC Pr In Plo Plo Mey Whe	Pla int Name a Date //25/0 //25/0 //25/0 i/25/0 i/25/0	nd Date Yes		Cor alified Dept. UNITI EPSD EPSD EPSD	-
Reviews Writer's Gui Validation Cross Disc. RCD Independent Safety Evaluation		B:Tarallo T.Rignuy Juhh Dorus K.Burgess K.Burgess		Sig B. Te eg J. Mu M. Mu K. Burger K. Burger	RI/DPC Pr In Clo Mey Mey Mey Mey Mey Mey Mey Mey Mey Mey	Pla int Name a Date //25/0 //25/0 //25/0 //25/0 //25/0 //25/0 //25/0	nd Date Yes		Cor alified Dept. UNITI EPSD EPSD EPSD	
Reviews Writer's Gwi Validation Cross Disc. RCD Independent Safety Evaluation 1. X SQR Pr		B:Tarallo T.Rignuj Juhh Doros K.Burgess K.Burgess I Yes No Final Review and A		Sig B. Taca J. Mu M. Burges K. Burges Environn 2.	RI/DPC Pr In 220 Mey Mey Mo 5 Mental Review SORC/PC	Pla int Name a Date //25/0 //23/0 //23/0 //25/0 //20/0//20/0 //20/0//20//2	rd Date	SQR Qu	Cor Ialified Dept. UNITT EPSD Cham EPSD EPSD Ko v and App	
Reviews Writy's Gwi Validation Cross Disc. RCD Independent Safety Evaluation 1. X SQR Pr	Image: Sequired ogram	B:Tarallo T.Rignuj Johh Dorosi K.Burgess K.Burgess I Yes No Final Review and A		Sig B. Taca J. Mu M. Burges K. Burges Environn 2.	RI/DPC Pr In Clo Mey Mey Mey Mey Mey Mey Mey Mey Mey Mey	Pla int Name a Date //25/0 //23/0 //23/0 //25/0 //20/0//20/0 //20/0//20//2	rd Date	SQR Qu	Cor Ialified Dept. UNITT EPSD Cham EPSD EPSD Ko v and App	
Reviews Writer's Gui Validation Cross Disc. RCD Independent Safety Evaluation 1. X SQR Pr Appro KBW		B: Tarallo T. Rigny Johh Doros K. Burgess K. Burgess I Yes No Final Review and A Disapproval	Approval /30/61	Sig B. Taca J. Mu M. Burges K. Burges Environn 2.	RI/DPC Pr In 220 Mey Mey Mo 5 Mental Review SORC/PC	Pla int Name a Date //25/0 //23/01 //25/0 //20/0//20/0 //20/0//20//2	rd Date	SQR Qu	Cor Ialified Dept. UNITT EPSD Cham EPSD EPSD Ko v and App	
Reviews Writer's Gui Validation Cross Disc. RCD Independent Safety Evaluation 1. X SQR Pr Appro KBW		B: Tarallo T.Rignuy Johh Doros K. Burgess K. Burgess I Yes No Final Review and A Disapproval	Approval /30/61	Sig B. Taca J. Mu M. Burges K. Burges Environn 2.	RI/DPC Pr In 220 200 200 200 200 200 200 200 200 20	Pla int Name a Date //25/0 //23/01 //25/0 //20/0//20/0 //20/0//20//2	rd Date	SQR Qu	Cor Ialified Dept. UNITT EPSD Cham EPSD EPSD Ko v and App	
Reviews	Acquirect ogram val	B: Tarallo T. Rigny Johh Doros K. Burgess K. Burgess I Yes No Final Review and A Disapproval	Approval //30/6/ Date	Sig B. Taca J. Mu M. Burges K. Burges Environn 2.	RI/DPC Pr In 220 200 200 200 200 200 200 200 200 20	Pla int Name a Date //25/0 //23/01 //25/0 //20/0//20/0 //20/0//20//2	rd Date Yes Yes Yes Yes Yes Yes	SQR Qu	Cor Ialified Dept. UNITT EPSD Cham EPSD EPSD Ko v and App	
Reviews	A contract of the second secon	B: Tarallo T. Rigny Johh Doros K. Burgess K. Burgess I Yes No Final Review and A Disapproval Disapproval	Approval //30/6/ Date	Sig B. Taca J. Mu M. Burges K. Burges Environn 2.	RI/DPC Pr In 220 200 200 200 200 200 200 200 200 20	Pla int Name a Date //45/0 //45/0 //25/0 //25/0 i/25/0 w Required DRC/RI/DH Head/Res o.:	nd Date Yes Yes Yes Yes Yes Yes	SQR Qu	Cor Ialified Dept. UNITT EPSD Cham EPSD EPSD Ko v and App	

2/5/01 proval Date

2/27/01

Effective Date

Unit 3 Vent and Containment Air Sample Worksheet

INSTRUCTIONS;

Circle desired Sample, Sample Location, Sample Type, and Analysis.

SAMPLE	LOCATION	TYPE	ANALYSIS
PASS Containment Air	Hydrogen Recombiner	Gas	Gas Isotopic
	Train "A"		Gas Composition
PASS Containment Air	Hydrogen Recombiner	Gas	Gas Isotopic
	Train "B"		Gas Composition
Vent (High Range)	3HVR*RE10A	Gas	Gas Isotopic
	Aux. Bldg. 66'6	Particulate	Particulate Isotopic
		Iodine	Iodine Isotopic :
Vent (Normal Range)	"3HVR*RE10B	Gas	Gas Isotopic
	Aux. Bldg. 66'6"	Particulate	Particulate Isotopic
		Iodine	Iodine Isotopic
SCLRS (High Range)	3HVR*RE19A	Gas	Gas Isotopic
	Aux. Bldg. 66'6"	Particulate	Particulate Isotopic
	, i i i i i i i i i i i i i i i i i i i	Iodine	Iodine Isotopic
SCLRS (Normal Range)	3HVR*RE19B	Gas	Gas Isotopic
	Aux. Bldg. 66'6"	Particulate	Particulate Isotopic
		Iodine	Iodine Isotopic
ESF Vent	3HVQ*RE49	Gas	Gas Isotopic
	ESF Bldg. 36'6"	Particulate	Particulate Isotopic
		Iodine	Iodine Isotopic

Completed by: ______(MRDA/AMRDA)

Date: _____ Time: _____

 ADTS Approval:
 Date:
 Time:

.

.

MP-26-EPI-FAP11-012 Rev. 000-01 Page 1 of 1

Docket Nos. 50-245 50-336 50-423 B18353

Attachment 11

Millstone Nuclear Power Station, Unit Nos. 1, 2, and 3

Emergency Plan Procedures Emergency Procedures Implementing (EPI) Functional Administrative Procedure (FAP) <u>MP-26-EPI-FAP15-006, "OFIS Instruction," Major Revision 0, Minor Revision 1</u>

the second se	/27/00 roval Date	e .					6/30/00 Effective Date	
	Doc	cument Ac	tion R	eques	t	SPG#	010123-09	94710
Initiated By:	P. Lucke	ey	Date:	1/23/01	Department:	EPSD	Ext.:	5474
Document No.: Title: OFIS Instr		e-EPI-FAP15-006			Rev. No.:		Minor Rev.: _	01
Reason for R	equest	(attach commitments, essing R* Time OFIS			outer.			
Instructions:			<u></u>					Continu
ТРС						<u></u>		Continu
Interim Approval (1) Plant	Mngt Staff Member	Print/Sign/l	Date	(2) SM/SRO/0	CFH on Unit F	Print/Sign/Date	
Procedure R	equest/	Feedback Dispos	sition					
Priority:	Perform	Now Perform	n Later - Se	ee Commei	nts 🔲 F	Rejected - Se	e Comments	• ••• ·•• ·••
Activity:	Revision	Minor Revision	Cleanu	Rev 🔲	Biennial Review	Cancellati	on 🔲 Supers	edure
	See D OTC	C-GDL01 for guidance]	Г	_] Edit Corr.:⇒			
	010					Plant Mng	t Staff Member	Appro
Comments:								
					N/DPC Print	Name and Date		Contin
Reviews		Print		Sig			SQR Qualified	
						Yes	No Dep	t.
		· · · · · · · · · · · · · · · · · · ·			÷			
)				<u> </u>
Cross Disc.		Leslie C Ban	ics P		Banka		EPSD	
RCD		K. Burgess		KBuze		<u> -24/61</u> 24/a 🛛	EPSD	
		K. Burgess		Burgess	· · ·			
Safety Evaluation					ental Review R			
		Final Review and	Approval	2.	SORC/PORC	XRVDH Fina	Review and	Appro
Appr	oval 🛛	Disapproval	J		epartment He	ad/Responsi	ble Individual /	Date
KBai	(1 3 A A	, l	chi	-	Meeting No.:	•		
11.0	X	pendent Reviewer /	Date		Meeting No			
Par	$l $ U_{i}	Basion				pproval Sign	ature	
epartme	30/	Responsible Individ	JUAI		P	ipprovar orgin	aur	
		roval Date				Approval D	ate	<u> </u>
F-11 P		FEB 2 4 2001	· · · · · · · · · · · · · · · · · · ·		· · · · · · · · · · · · · · ·			
Effective D	ale:							

MP-05-DC-SAP01-001 Rev. 002-01 Page _____ of ____

FEB	24	2001
-----	----	------

1 30 01 Approval Date

Effective Date

OFIS Instructions

	Access TSO from LAN based Personal		Access TSO from Mainframe Terminal
	Computer	1.	Ensure the terminal and monitor are on.
1.	Ensure the computer and monitor are on.	2.	Enter CICSOFIS.
2.	At the "Novell Netware" screen, enter	3.	Press the ENTER key.
_	your identification and password.	4.	Refer to Section B and perform the
3.	At the initial Windows screen, locate and open either the "IBM Extra" or the		following for the assigned SERO position
	"Connect to the Mainframe" icon.		a) Enter the logon ID.
4.	Navigate to the "Application" entry.		b) Press the ENTER key.
5.	Enter CICSNPRX.		c) Enter the password.d) Press the ENTER key.
6.	Press the ENTER key.	5.	Press the "Clear" key to clear the screen.
7.	Refer to Section B and perform the	5. 6.	Type "OFIS," and press the ENTER key.
	following for the assigned SERO position:	0. 7.	Press the "PF" key for the appropriate
	a) At the log-on prompt (LOGONID) enter the logon ID.		Unit:
	b) Press the TAB key.		PF-1 - Unit 1 PF-2 - Unit 2 PF-3 - Uni
	 c) At the password prompt (PASSWORD) enter the password. 		Access R*TIME OFIS from Personal
	d) Press the ENTER key.		Computer
8.	Press the "Pause/Break" key to clear the	1.	1
	screen.	2.	Select "Connect to the Millstone LAN" from the "Millstone OFIS Connection
9.	Type "OFIS," and press the ENTER key.		Menu."
10.	Press the function key for the appropriate Unit:	3.	Select "MP3 OFIS" or "MP2 OFIS" from the "Millstone Station PPC Top Menu."
	F1 - Unit 1 F2 - Unit 2 F3 - Unit 3	4.	If the connection is <i>not</i> successful, perform the following:
			a) Open the "OFIS" icon.
			 b) Select "Connect to Unit 3 PPC or Unit 2 PPC" from the "Millstone OFIS Connection Menu."
			c) Select "OFIS" from the "Unit 3 PPC" or "Unit 2 PPC" Top Menu.

MP-26-EPI-FAP15-006 Rev. 000-01 Page 1 of 2

Section B: TSO Equipment Log On Identification and Passwords

The following computer IDs and Passwords are only for use when supporting Millstone Emergency Plan functions.

Emergency Function	Computer ID and Password
Director of Station Emergency Operations	MP840ZA - OPERAT
Manager of On-site Resources	MP840ZB - RESOUR
Manager of Communications	MP840ZD - COMMUN
Manager of Rad Consequences Assessment	MP840ZE - RADIOL
Manager of Security	MP840ZF - SECURI
Technical Assistant (JMC)	later a start a start start and
U1 Manager of Control Room Ops/STA	MP840ZG - OPERAT
U2 Manager of Control Room Ops/STA	MP840ZH - OPERAT
U3 Manager of Control Room Ops/STA	MP840ZP - OPERAT
U2 Manager of Tech Support/TSC Staff	MP840ZJ - SUPPOR
U3 Manager of Tech Support/TSC Staff	MP840ZQ - SUPPOR
General Use	MP840ZK - STASTA
General Use	MP840ZL - STASTA
General Use	MP840ZR - STASTA
U2 Control Room Data Coordinator	MP840ZN - MP2DATA
U3 Control Room Data Coordinator	MP840ZS -MP3DATA
Manager of Rad Dose Assessment	MP840ZO -DRAGON
Chemistry Technicians	BE091DZ or BE091EZ - DRAGON

MP-26-EPI-FAP15-006 Rev. 000-01 Page 2 of 2

Docket Nos. 50-245 50-336 50-423 B18353

Attachment 12

Millstone Nuclear Power Station, Unit Nos. 1, 2, and 3

Emergency Plan Procedures Emergency Procedures Implementing (EPI) Functional Administrative Procedure (FAP) MP-26-EPI-FAP15-007, "Critical Parameter Data Sheet - MP1," <u>Major Revision 0, Minor Revision 1</u>

Approvar	00 Date	•					/30/00 ctive Date	9
D	ocumen	t Action F	Reques	st	SI	^{PG#} 0	10125-0	09260
Initiated By: P. L	uckey	Date	1/25/01	Department	EPS	D	Ext.	: 547
Document No.:	AP-26-EPI-FAP1	5-007		- Rev. No.:	000	Minor	Rev.:	01
Title: Critical Parame			"n , ,		<u> </u>	_		
Reason for Requ Add Computer ID for	-		, OEs etc <u>)</u>					
Instructions:								Conti
								Conti
TPC Interim	•		<u> </u>					
		Member Print/Sign	/Date	(2) SM/SRO/	CFH on U	nit Print/	Sign/Dat	te
Procedure Reque		Disposition Perform Later - S	See Comme	nts 🗖	Rejected -	See Co	mments	
		Pevision Clean						
Activity: Revis	SION X MINOT H	I				onauvi)		ISCUUIE
	Place							
Comments:					Plant	Mngt Sta	ff Membe	r - Appr
		Print	F F Sig	RI/DPC Print	Plant Name and Date	Date	ff Membe Qualified	Contir
Comments:		Print		RI/DPC Print	Name and Date	Date	Qualified	Contir
Comments:		Print		RI/DPC Print	Name and Date	Date SQR	Qualified	Contir
Comments:		Print		RI/DPC Print	Name and Date	Date SQR	Qualified	Contir
Comments:		Print		RI/DPC Print	Name and Date	Date SQR	Qualified	Contir
Comments:		Print		RI/DPC Print	Name and Date	Date SQR	Qualified	Contir
Comments: Reviews [[[[[[RCD [[[[[[[[[[[[[[[[[[[RI/DPC Print	Name and Date	Date SQR Yes No	Qualified De De D E E E E D E E E E E E E E E E E	Conti d .pt.
Comments: Reviews [[[[[RCD [Independent [[[[[[[[[[[[[[[[[[[K. Burgess K. Burgess		Sig K Burges K Burge	RI/DPC Print in	Name and Date	Date SQR Yes No	Qualified De De De Control De Con	Conti d .pt.
Comments: Reviews [[[[RCD [RCD [Safety Evaluation Requ	K. Burgess K. Burgess Yes	No	Sig K Burges K Burge	RI/DPC Print in 20 20 20 20 20 20 20 20 20 20 20 20 20	Name and Date i/25/0/	Date SQR Yes No D C D C D C D C D C D C D C D C D C D C	Qualified De De De EPSD RepSD No	Contir d
Comments: Reviews [[[RCD Independent Safety Evaluation Requ 1. X SQR Progr	K. Burgess K. Burgess K. Burgess K. Burgess Yes am Final Revie	No w and Approval	Sig K Burges K Burge	RI/DPC Print in	Name and Date i/25/0/	Date SQR Yes No D C D C D C D C D C D C D C D C D C D C	Qualified De De De EPSD RepSD No	Contir d
Comments: Reviews [[[[RCD [RCD [Safety Evaluation Requ	K. Burgess K. Burgess K. Burgess K. Burgess Yes am Final Revie	No w and Approval	Sig KBurges KBurges Environn 2.	RI/DPC Print in 20 20 20 20 20 20 20 20 20 20 20 20 20	Name and Date i/25/0/ i/25/0/ i/25/0/ lequired C/RI/DH F	Date SQR Yes No Date Date No D	Qualified De De De De De De De De De De De De De	Contin d pt.
Comments: Reviews [[[RCD Independent Safety Evaluation Requ 1. X SQR Progr	K. Burgess K. Burgess K. Burgess K. Burgess Yes am Final Revie	No w and Approval	Sig KBurges KBurges Environn 2.	RI/DPC Print In In In In In In In In In In In In In	Name and Date i/25/0/2000 i/25/0/200000000000000000000000000000000	Date SQR Yes No Date Date No D	Qualified De De De De De De De De De De De De De	Contin d pt.
Comments: Reviews [[[[[[[[[[[[[[[[[[[K. Burgess K. Burgess K. Burgess K. Burgess Yes am Final Revie	No w and Approval oval [/31/0]	Sig KBurges KBurges Environn 2.	RI/DPC Print in 	Name and Date i/25/0/2000 i/25/0/200000000000000000000000000000000	Date SQR Yes No Date Date No D	Qualified De De De De De De De De De De De De De	Contin d pt.
Comments: Reviews [[[[RCD [[RCD [] Independent [Safety Evaluation Requ 1. SQR Progr Approval KBuger SQR Dualified	K. Burgess K. Burgess K. Burgess K. Burgess K. Burgess K. Burgess K. Burgess Disappro	No w and Approval oval \Box I(31 01) yiewer / Date	Sig KBurges KBurges Environn 2.	RI/DPC Print n Sorrental Review F SORC/POR repartment He Meeting No.:	Name and Date i/25/0/2000 i/25/0/200000000000000000000000000000000	Date SQR Yes No Date Date Date No No Date No D	Qualified De De De De De De De De De De De De De	Conti d pt.
Comments: Reviews [[[[[[[[[[[[[[[[[[[K. Burgess K. Burgess K. Burgess K. Burgess K. Burgess ired Yes am Final Revie Disappro	No w and Approval oval \Box I(31 01) yiewer / Date	Sig KBurges KBurges Environn 2.	RI/DPC Print n Sorrental Review F SORC/POR repartment He Meeting No.:	Name and Date i/25/oj i/25/oj i/25/oj equired C/RI/DH F ead/Respo	Date SQR Yes No Date No Date Yes No Date N	Qualified De De De De De De De De De De De De De	Contin d pt.
Comments: Reviews [[[[[[[[[[[[[[[[[[[K. Burgess K. Burgess K. Burgess K. Burgess Image: State of the state of	No w and Approval oval //3//0/ vjewer / Date //4 e Individual	Sig KBurges KBurges Environn 2.	RI/DPC Print n Sorrental Review F SORC/POR repartment He Meeting No.:	Name and Date i/25/0/ i/25/0/ i/25/0/ equired C/RI/DH F ead/Responder	Date SQR Yes No Date No Date Yes No Date N	Qualified De De De De De De De De De De De De De	Conti d pt.

MP-05-DC-SAP01-001 Rev. 002-01 Page _____ of ____ Approval Date

R/27/01 Effective Date

Critical Parameter Data Sheet - MP1

PARAMETER (EAL Threshold)			TIME							
Barrier Affected	ID*									
MP1 Spent Fuel Pool Island ARM	RM-SFPI-01									
SFP Level										
SFP Temperature										
······································										
	······································									
				- <u>115-</u>						
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,									· ·	

*Note: If these specific data points are not available, others that measure an equivalent parameter may be used.

MP-26-EPI-FAP15-007 Rev. 000-01 Page 1 of 1

Docket Nos. 50-245 50-336 50-423 B18353

Attachment 13

Millstone Nuclear Power Station, Unit Nos. 1, 2, and 3

Emergency Plan Procedures

Emergency Procedures Implementing (EPI) Functional Administrative Procedure (FAP) MP-26-EPI-FAP15-008, "Critical Parameter Data Sheet - MP2," <u>Major Revision 0, Minor Revision 1</u>

Approva	l Dat	e						Effecti	ive Date	
C)0(cument Act	ion F	Reques	st		SPG	[#] 01	0125-0	92826
Initiated By: P. L	uck	ey	Date:	1/25/01	Departme	nt: _E	PSD		Ext.:	547
Document No.:		26-EPI-FAP15-008 Data Sheet - MP2		<u></u>	Rev. No).: <u>000</u>)	Minor F	Rev.:	.01
•		t (attach commitments, C 2 WRGM Site Stack E		-						
Instructions:										Contin
										Contin
TPC Interim		,								
	lant	Mngt Staff Member P	rint/Sign	/Date	(2) SM/SRC)/CFH on	Unit	Print/Si	ign/Date	;
Procedure Requ	est/	Feedback Disposi	tion							
Priority: Per	form	Now DPerform	Later - S	ee Commei	nts	Rejecte	d - Se	e Com	ments	
Activity: Revis		Minor Revision	🗌 Cleanu	ip Rev 🔲 I	Biennial Review					
	See D	C-GDL01 for guidance								••••••
Птрс Потс				i C] Edit Corr.:⇒					
		Place in VOID		C] Edit Corr.:⇒		int Min	gt Staff I	Member	- Appro
				C] Edit Corr.:⇒		nt Mn	gt Staff I	Member	- Appro
				<u>_</u>		Pla				
Comments:				<u>_</u>	N/DPC Prin			e		
Comments:		Place in VOID		R	N/DPC Prin	Pla t Name a	nd Date	e SQR Q	Pualified	Contin
TPC OTC Comments: Reviews		Place in VOID		R	N/DPC Prin	Pla t Name a		e		Contin
Comments:		Place in VOID		R	N/DPC Prin	Pla t Name a	nd Date	e SQR Q	Pualified	Contin
Comments:		Place in VOID		R	N/DPC Prin	Pla t Name a	nd Date	e SQR Q	Pualified	Contin
Comments:		Place in VOID		R	N/DPC Prin	Pla t Name a	nd Date	e SQR Q	Pualified	Contin
Comments: Reviews [[[[[[[[[[[[[[[[[[[Place in VOID		Fi Sig	I/DPC Prin n	Pla t Name a	nd Date	e SQR Q	Pualified Dep	Contin
Comments: Reviews [[[[[[RCD [[[[[[[[[[[[[[[[[[[Place in VOID Print K. Burgess		R	I/DPC Prin n	Pla t Name a	Yes	e SQR Q	Pualified Dep EPSD	Contin
Comments: Reviews [[[[[RCD [Independent [] [[[[[[[[[[[[[[[[[Place in VOID Print K. Burgess K. Burgess		 Sig K. Buzes K. Buzes	II/DPC Prin n	Pla t Name an Date	rd Dat		Dep Dep EPSD EPSD	Contin
Comments: Reviews [[[[[[RCD [Independent [[[[[[[[[[[[[[[[[[[Place in VOID Print K. Burgess K. Burgess		 Sig K. Buzes K. Buzes	si/DPC Prin n	Pla t Name an Date	rd Dat		Dep Dep EPSD EPSD	Contin
Comments: Reviews [[[[[[[[[[[[[[[[[[[□ Place in VOID Print K. Burgess K. Burgess Yes No Final Review and Ap		 Sig K. Buzes K. Buzes	II/DPC Prin n	The provide the providence of the providence of the providence of the providence of the provided set of th	Yes	e SQR Q □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □	epsD EPSD No	Contin t.
Comments: Reviews [[[[[RCD [Independent [Safety Evaluation Requ		□ Place in VOID Print K. Burgess K. Burgess Yes No Final Review and Ap		K. Burges K. Burges K. Burges Environm 2.	N/DPC Prin n 4 4 5 ental Review SORC/POF	Pla t Name al Date (25/01 //25/01 Required RC/R1/DH	rd Date	e SQR Q	EPSD EPSD No Ew and J	Contin t.
Comments: Reviews [[[RCD Independent Safety Evaluation Requ 1. X SQR Progr		□ Place in VOID Print K. Burgess K. Burgess I Yes No Final Review and Ap		K. Burger K. Burger K. Burger Environm 2. D	N/DPC Prin n 4 4 5 ental Review SORC/POF epartment H	Pla t Name and Date $1/2 \le 161$ $1/2 \le 161$ Required Required Required Read/Res	rd Date	e SQR Q	EPSD EPSD No Ew and J	Contin t.
Comments: Reviews [[[[[[[[[[[[[[[[[[[□ Place in VOID Print K. Burgess K. Burgess I Yes No Final Review and Ap		K. Burger K. Burger K. Burger Environm 2. D	N/DPC Prin n 4 4 5 ental Review SORC/POF	Pla t Name and Date $1/2 \le 161$ $1/2 \le 161$ Required Required Required Read/Res	rd Date	e SQR Q	EPSD EPSD No Ew and J	Contin t.
Comments: Reviews [[[[[[[[[[[[[[[[[[[Print Print K. Burgess K. Burgess K. Burgess ☐ Yes No Final Review and Ap Disapproval ☐ //3// pendent Reviewer / D	pproval 01 pate	K. Burger K. Burger K. Burger Environm 2. D	N/DPC Prin n A A A A A A A A A A A A A A A A A A	Pla t Name al Date [25/0] [25/	rd Datu Yes	e SQR Q	EPSD EPSD No Ew and J	Contin t.
Comments: Reviews [[[[[[[[[[[[[[[[[[[Print Print K. Burgess K. Burgess K. Burgess Print Print I Print Print I Print I Print Print I Print I Print Print I	pproval 01 pate	K. Burger K. Burger K. Burger Environm 2. D	N/DPC Prin n A A A A A A A A A A A A A A A A A A	Pla t Name and Date $1/2 \le 161$ $1/2 \le 161$ Required Required Required Read/Res	rd Datu Yes	e SQR Q	EPSD EPSD No Ew and J	Contin t.
Comments: Reviews [[[[[[[[[[[[[[[[[[[Place in VOID Print K. Burgess K. Burgess K. Burgess Yes No Final Review and Ap Disapproval	pproval 01 pate	K. Burger K. Burger K. Burger Environm 2. D	N/DPC Prin n A A A A A A A A A A A A A A A A A A	Pla t Name al Date [25/0] [25/	Yes	e SQR Q No D D D D S X Revie	EPSD EPSD No Ew and J	Contin t.

MP-05-DC-SAP01-001 Rev. 002-01 Page _____ of ____

Approval Date

Critical Parameter Data Sheet - MP2

<u>2/27/01</u> Effective Date

Rev. 000-01 Page 1 of 1

PARAMETER (EAL Threshold)				TIME			
Barrier Affected	Computer ID*				<u> </u>		
RCS Subcooling (30° F) - RCS	CETHSUB					 	
RVLMS Reading (0%) - Fuel	RXLVL-A						
	RXLVL-B						
Core Exit Thermocouple Reading (800°/1300° F) - Fuel, CTMT	INTAMX						
RM-8240/8241 (300/5/1200 R/hr) - Fuel, RCS, CTMT	R8240						
	R8241						
CTMT Pressure (10 psig) - CTMTPTR Offsite Releases	CTMTPR						
MP2 Kaman Vent Monitor Reading (0.02/0.2/2 μCi/cc) - Offsite Releases	RIC8168						
MSL Monitor (RM-4299A/B/C) Reading	R4299A					 	
(0.03/0.3/2R/hr) * (R4299A, B, C - 1012, 1013, 1014) - Offsite Releases	R4299B						
	R4299C		<u> </u>				
MP2 WRGM Site Stack Effluent Activity Reading (≥ 1/10/30 µCi/cc) Offsite Releases	R8169 or RU1						

Docket Nos. 50-245 50-336 50-423 B18353

Attachment 14

Millstone Nuclear Power Station, Unit Nos. 1, 2, and 3

Emergency Plan Procedures Emergency Procedures Implementing (EPI) Functional Administrative Procedure (FAP) MP-26-EPI-FAP15-009, "Critical Parameter Data Sheet - MP3," <u>Major Revision 0, Minor Revision 1</u>

6/27/00 Approval Da						6/30/00 Effective D	
Do	cument Act	ion Reque	st		SPG#	01012	5-0930
Initiated By: P. Luc	······································	Date: 1/25/01	Departmen	it El	PSD	E	Ext.: 54
Document No.: MP	-26-EPI-FAP15-009		 Rev. No.	.: 000	N	/inor Rev.:	
itle: Critical Parameter		· · · · · · · · · · · · · · · · · · ·					
	it (attach commitments, C P3 SLCRS Gas Monitor						
		····					Con
Instructions:							
			<u> </u>				Cont
TPC Interim							
Approval (1) Plan	t Mngt Staff Member Pr		(2) SM/SRO/	/CFH on	Unit Pi	rint/Sign/D	Date
	/Feedback Disposit		_				
	n Now Perform					Commen	
Activity: 🗌 Revision	Minor Revision	Cleanup Rev	Biennial Review	Car	ncellation	n 🔲 Sup	persedure
						- •	
See	DC-GDL01 for guidance		Edit Corr.:⇒		••••••		••••••
			******	Plan	nt Mrngt	Staff Memi	ber - App
	DC-GDL01 for guidance		******	Plan	nt Mngt	Staff Memi	ber - App
See	DC-GDL01 for guidance		Edit Corr.:⇒			Staff Memi	
TPC OTC	DC-GDL01 for guidance		☐ Edit Corr.:⇒ RI/DPC Print	Plan Name and Date	d Date	Staff Memi	Conti
TPC OTC	DC-GDL01 tor guidance		☐ Edit Corr.:⇒ RI/DPC Print	Name and	d Date	QR Qualifi	Conti
TPC OTC	DC-GDL01 tor guidance		☐ Edit Corr.:⇒ RI/DPC Print	Name and	d Date S	QR Qualifi	Conti
TPC OTC	DC-GDL01 tor guidance		☐ Edit Corr.:⇒ RI/DPC Print	Name and	d Date S	QR Qualifi	Conti
TPC OTC	DC-GDL01 tor guidance		☐ Edit Corr.:⇒ RI/DPC Print	Name and	d Date S	QR Qualifi	Conti
TPC OTC	DC-GDL01 tor guidance		☐ Edit Corr.:⇒ RI/DPC Print	Name and	d Date S	QR Qualifi	Conti
TPC OTC	DC-GDL01 tor guidance	Sig	Edit Corr.:⇒ RI/DPC Print gn	Name and Date	d Date S	QR Qualifi	Conti ied Dept.
TPC OTC	DC-GDL01 tor guidance		☐ Edit Corr.:⇒ RI/DPC Print gn	Name and Date	d Date S	SQR Qualifi	Conti ied Dept.
TPC OTC Comments:	DC-GDLOI tor guidance	K. Buye K. Buye	☐ Edit Corr.:⇒ RI/DPC Print gn	Name and Date	J Date S	CR Qualifi	Conti ied Dept.
TPC OTC	DC-GDLOI tor guidance	K. Burge K. Burge Environn	□ Edit Corr.:⇒ RI/DPC Print gn	Name and Date	Date S Yes D D D D D D D D D D D D D D D D D D D	SQR Qualifi	Conti ied Dept.
TPC OTC	DC-GDUI trigutance Place in VOID Print K. Burgess K. Burgess Yes No Final Review and App	Sig Sig K.Buye K.Buye Environn proval 2.	Edit Corr.:⇒ RI/DPC Print gn 2.4/3 4.0 N nental Review R SORC/PORC	Name and Date	J Date S Yes D D D D D S S S Final F	AR Qualifi	Conti ied Dept.
TPC OTC Comments: Reviews	DC-GDUI trigutance Place in VOID Print K. Burgess K. Burgess Yes No Final Review and App	Sig Sig K.Buye K.Buye Environn proval 2.	Edit Corr.:⇒ RI/DPC Print gn 243 1 1 1 1 1 1 1 1 1	Name and Date	J Date S Yes D D D D D S S S Final F	AR Qualifi	Conti ied Dept.
TPC OTC	DC-GDUI torgutance Place in VOID Print K. Burgess K. Burgess K. Burgess Disapproval Disapproval 1/3//0	Sig Sig K.Buye K.Buye Environn proval 2.	Edit Corr.:⇒ RI/DPC Print gn 2.4/3 4.0 N nental Review R SORC/PORC	Name and Date	J Date S Yes D D D D D S S S Final F	AR Qualifi	Conti ied Dept.
TPC OTC Comments: Reviews Reviews Comments: Reviews Comments: Reviews Comments: Reviews Comments: Comments: Co	CC-GDUI In guiance Place in VOID Print K. Burgess K. Burgess K. Burgess Disapproval Disapproval Uisapproval Ui	K. Buye K. Buye K. Buye Environn proval 2.	Edit Corr.:⇒ RI/DPC Print gn 2.4.0 J Automatical Review R SORC/PORC Department He	Name and Date	J Date S Yes D D D D D S S S Final F	AR Qualifi	Conti ied Dept.
TPC OTC	DC-GDUI torgutance Place in VOID Print K. Burgess K. Burgess K. Burgess Disapproval Disapproval 1/3//0	K. Buye K. Buye K. Buye Environn proval 2.	Edit Corr.:⇒ RI/DPC Print gn 243 40 Nental Review R SORC/PORC Department He Meeting No.:	Name and Date	J Date S Yes D D D D D D D D S S Final F S Onsible	AR Qualifi	Conti ied Dept.
TPC OTC	CC-GDUI In guiance Place in VOID Print K. Burgess K. Burgess K. Burgess Disapproval Disapproval Uisapproval Ui	K. Buye K. Buye K. Buye Environn proval 2.	Edit Corr.:⇒ RI/DPC Print gn 243 40 Nental Review R SORC/PORC Department He Meeting No.:	Name and Date	J Date S Yes Image: Signate Signate	CR Qualifi	Conti ied Dept.

MP-05-DC-SAP01-001 Rev. 002-01 Page _____ of ____

Approval Date

2/27/ 01 Effective Date

Critical Parameter Data Sheet - MP3

PARAMETER (EAL Threshold)			TIME						 7	
Barrier Affected	Computer ID*							<u> </u>	T	1
RCS Subcooling (32° F/115° F Adverse CTMT) - RCS	CVSUBCOOL							<u> </u>		
RVLMS (19%) Plenum - Fuel	CVPLENLVLA/B									
Core Exit TC Temperature (718°/1200° F) - Fuel	CVCETMX									
RE-04A/05A Reading (500/5/2000 R/hr) - Fuel, RCS, CTMT	RMS-R04A/R05A									
CTMT Pressure (60 PSIA) - CTMT	CVCTPRESS									
MP3 Kaman Vent Mon (RE-10A) Reading (.01/.1/.8 μCi/cc) - Offsite Releases	CVHVR 10A1/10B									 1
MP3 SLCRS Gas Monitoring Reading ($\geq 1/10/30$ µCi/cc) Offsite Releases	CVHVR19A1									16
										1
						1				1.
			· ·							 1

*Note: If these specific data points are not available, others that measure the parameter may be used.

MP-26-EPI-FAP15-009 Rev. 000-01 Page 1 of 1