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MILLSTONE NUCLEAR POWER STATION
EMERGENCY PLAN IMPLEMENTING PROCEDURE



Event Assessment, Classification, and
Reportability

EPIP 4400

Rev. 7

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Approval Date: 9-10-99

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**Millstone All Units
Emergency Plan Implementing Procedure**

Event Assessment, Classification, and Reportability

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1. PURPOSE

1.1 Objective

Provide a method for the SM/CR DSEO and ADTS for a timely and accurate means of identifying, assessing, and determining the reportability of initial or escalating emergency conditions.

1.2 Discussion

The Station Emergency Response Organization (SERO) is activated at an Alert, State Posture Code Charlie–One or higher classification. If the event is classified as an Unusual Event, State Posture Code Delta–One or Delta–Two, activation of the SERO is not required, however, SERO members will be notified of the emergency conditions.

Regulations require that notification to the DEP Monitoring and Radiation Control Division and Local Officials shall be accomplished within 15 minutes of an emergency event classification, e.g., Unusual Event and above.

NRC regulations require the licensee to notify the NRC immediately after notification to the State DEP Monitoring and Radiation Control Division and not later than one hour after declaration of an emergency classification.

2. PREREQUISITES

2.1 General

N/A

2.2 Documents

2.2.1 EPIP Form 4400–1, “Millstone Unit 1 Emergency Action Levels”

2.2.2 EPIP Form 4400–2, “Millstone Unit 2 Emergency Action Levels”

2.2.3 EPIP Form 4400–3, “Millstone Unit 3 Emergency Action Levels”

2.2.4 EPIP 4404, “Notification and Communications”

2.2.5 EPOP 4411, “Director of Station Emergency Operations”

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2.3 Definitions

- 2.3.1 EAL – Emergency Action Level
- 2.3.2 Barrier Failure Reference Table – A list of symptoms defining the loss or potential loss of a barrier (i.e., containment, fuel cladding, etc.). A combination of barrier failure losses that determines the emergency classification as defined in the EAL Tables.
- 2.3.3 Event – An actual occurrence (e.g., failure of a structure, system, or component).
- 2.3.4 Event Category – A generic group of plant conditions categorized on the EAL Tables (i.e., Loss of Power, Equipment Failure, Radiation Hazard, etc.).
- 2.3.5 Initiating Condition – One of a predetermined subset of nuclear power plant conditions where either the potential exists for a radiological emergency or such an emergency has occurred.
- 2.3.6 MRDA – Manager of Radiological Dose Assessment (SERO on-call position comprised of chemistry personnel)
- 2.3.7 Prompt notification – The official notification to the State DEP Monitoring and Radiation Control Division and Local Officials and Agencies within 15 minutes, and notification to the NRC immediately after notification to the State DEP and not later than one hour after declaration of an emergency classification.
- 2.3.8 SERO – Station Emergency Response Organization
- 2.3.9 Significant Transient – Includes response to automatic or manually initiated functions such as scrams, runbacks involving greater than 25% thermal power change, ECCS injections, or thermal power oscillations of 10% or greater.

2.3.10 Transient – A condition that is:

- Beyond the expected steady–state fluctuations in temperature, pressure, power level, or water level, and
- Beyond the normal manipulations of the Control Room operating crew, and
- Expected to require actuation of fast–acting automatic control or protection systems to bring the reactor to a new safe, steady–state condition.

3. PRECAUTIONS

- 3.1 The potential for an event to escalate to a higher event classification must always be considered when evaluating emergency plant conditions.
- 3.2 From the identification of the initiating event, Operations has 15 minutes to further assess plant conditions. EOPs may require actions to be taken to mitigate an event or perform diagnostics prior to classification. This diagnosis of the event is an assessment tool. After the event has been classified, regulations require notification of off–site authorities within 15 minutes for emergency events classified on the EAL tables (Unusual Event or higher classification).
- 3.3 The Shift Manager, acting as the CR DSEO, has full authority and responsibility to **classify** an emergency event, without further discussion, especially if such discussion would jeopardize notification within 15 minutes of the time conditions warranting classification are known. If the classification is subsequently found to be too conservative, it can be downgraded and terminated in a followup message.

4. INSTRUCTIONS

4.1 Initial Event Classification

SM

- 4.1.1 IF sufficient cause exists for classifying an emergency event, **PERFORM** the following:
- a. **ANALYZE** available information and **DEVELOP** a general understanding of events in progress.
 - b. **ASSIGN** staff to collect and track information.
 - c. IF necessary, **REQUEST** assistance from any of the following, as applicable, to classify and respond to event:
 - Other units
 - STA
 - Security Shift Supervisor
 - Operations Manager
 - Duty Officer
 - Regulatory Affairs
 - Unit Chemistry Supervision
 - On-shift Chemistry Technician
 - On-shift Health Physics Technician
 - Unit Environmental Coordinator
 - Site Fire Protection
 - d. IF sufficient information is *not* available, **NOTIFY** individuals associated with event and **OBTAIN** additional information.
 - e. IF event is addressed by a unit event based **Emergency Action Level** table, Go To Section 4.2.
- 4.1.2 IF event has been evaluated AND is *not* addressed by a unit Emergency Action Level table, Go To EPIP 4400A, "Non-Emergency Station Events."
- 4.1.3 IF event has been classified as an Unusual Event, **TERMINATE** event once conditions cease to meet the EAL threshold.
- 4.1.4 IF other conditions exist, **REPEAT** Section 4.1.

– End of Section 4.1 –

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4.2 Event Classification Based on Emergency Action Level Tables

SM or ADTS

4.2.1 Refer To and IMPLEMENT one of the following EAL tables for the affected unit:

- EPIP Form 4400-1, "Millstone Unit 1 Emergency Action Levels"
- EPIP Form 4400-2, "Millstone Unit 2 Emergency Action Levels"
- EPIP Form 4400-3, "Millstone Unit 3 Emergency Action Levels"

4.2.2 DETERMINE classification as follows:

- a. SEARCH EAL table column headings from left to right for applicable category column.
- b. IF applicable column is not found, REVIEW definitions from "CLASSIFICATION" column for applicability.
- c. READ applicable column from top to bottom for initiating condition that best matches current event or condition.
- d. READ classification for applicable row.
- e. READ remainder of table briefly for other possible classifications.
- f. IF two or more classified conditions exist, APPLY highest classification.
- g. Refer To Attachment 1, "State and Local Protective Action Recommendations Table," and REVIEW off-site response actions associated with state posture codes.

4.2.3 IF event is an Unplanned Radiological Release, Refer To Attachment 2, "OU1 - Determination Criteria," and REVIEW classification and reporting requirements.

4.2.4 DIRECT Shift Technician to refer to EPIP 4404, "Notifications and Communications," and perform notifications, as appropriate.

ADTS

4.2.5 IF event is loss of off-site power or loss of coolant accident, Go To Section 4.3.

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4.2.6 IF event is classified as Unusual Event or higher, Refer To EPOP 4411, "Director of Station Emergency Operations," and PERFORM applicable steps for the event in progress.

– End of Section 4.2 –

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ADTS

4.3 **Actions Performed for Loss of Off-Site Power (LOP) or Loss of Coolant Accident (LOCA)**

NOTE

Actions for Loss of Off-Site Power or Loss of Coolant Accident are a design basis commitment for Unit 3. Similar requirements (unspecified) exist for Unit 1 and Unit 2.

- 4.3.1 **REQUEST** Technical Support Center staff provide AC load reduction recommendations within 24 hours of LOP or LOCA. [♣ Ref 6.1.9]

NOTE

Any vehicle delivering diesel fuel oil to the site for the purpose of filling the Millstone Unit 2 emergency diesel generator supply (day) tanks, must have a pump capacity of at least 10 gpm at 30 psig and adequate length of hose (100 ft.). The flame arrestor (vent) connection may be used to fill the supply (day) tanks. Steps should be taken to ensure the filling of the (day) tanks is performed in accordance with the Station Spill Prevention, Control and Countermeasures Plan, including the erection of a temporary berm around the delivery truck, and measures to prevent or contain tank overflow.

- 4.3.2 Within 4 hours of LOP or LOCA event, **PERFORM** the applicable action:
- **IF** Unit 1 and Unit 2, **EVALUATE** need to order emergency diesel generator or gas turbine fuel to extend on-site capacity and Go To Section 4.1, "Initial Event Classification."
 - **IF** Unit 3, **PLACE** an order for emergency diesel generator fuel and **SPECIFY** delivery is required within 24 hours.

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4.3.3 IF fuel oil can *not* be delivered within the specified time, **PERFORM** the applicable action:

- a. Refer To affected unit procedures and **EVALUATE** load reduction alternatives.
- b. **PROVIDE** recommendations to MCRO.
- c. Go To Section 4.1, "Initial Event Classification."

– End of Section 4.3 –

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5. REVIEW AND SIGNOFF

N/A

6. REFERENCES

6.1 Developmental Documents

- 6.1.1 Code of Federal Regulations Title 10 Part 50; Appendix E, "Emergency Planning and Preparedness for Production and Utilization Facilities"
- 6.1.2 Code of Federal Regulations Title 10 Part 50.72; "Immediate Notification Requirements for Operating Nuclear Power Reactors"
- 6.1.3 "Final Safety Analysis Report Unit 1," Appendix G
- 6.1.4 "Final Safety Analysis Report Unit 2," Appendix 12A
- 6.1.5 "Final Safety Analysis Report Unit 3," Section 13.3 and Section 9.5.4
- 6.1.6 "Millstone Nuclear Power Station Emergency Plan"
- 6.1.7 NUREG-0654, "Criteria for Preparation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants"
- 6.1.8 NUREG-0737, "Clarification of TMI Action Plan Requirements, Supplement 1, Requirements for Emergency Response Capability"
- 6.1.9 J. F. Opeka letter to the US NRC, "Millstone Unit 3 Request for Additional Information, Proposed Revision to Technical Specifications, Emergency Diesel Generator Fuel Oil Storage Capacity"

6.2 Supporting Documents

- 6.2.1 EPIP Form 4400-1, "Millstone Unit 1 Emergency Action Levels"
- 6.2.2 EPIP Form 4400-2, "Millstone Unit 2 Emergency Action Levels"
- 6.2.3 EPIP Form 4400-3, "Millstone Unit 3 Emergency Action Levels"

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6.2.4 EPIP 4404, "Notification and Communications"

6.2.5 EPOP 4411, "Director of Station Emergency Operations"

7. SUMMARY OF CHANGES

7.1 Incorporated previously SORC approved change 1 to revision 6.

7.2 Removed all material pertaining to the assessment, classification, and reportability of non-emergency events. The material now contained in this procedure is applicable to Unusual Event or higher event classifications.

Developed new procedure EPIP 4400A, "Non-Emergency Station Events," to incorporate non-emergency events previously addressed in this procedure.

7.3 Modified Discussion step 1.2 to clarify that if an event is classified as an Unusual Event, State Posture Code Delta-One or Delta-Two, activation of the SERO is not required, however, SERO members will be notified of the emergency conditions.

7.4 Added the on-shift Health Physics Technician to the listing of personnel in step 4.1.1 to assist, as applicable, in classifying and responding to an event.

7.5 Added step 4.1.2 to go to EPIP 4400A, "Non-emergency Station Events," if an event has been evaluated and is not addressed by a unit Emergency Action Level table.

7.6 Added step 4.1.4 to repeat Section 4.1 if other conditions exist.

7.7 Added step 4.2.2.g to refer to Attachment 1, "State and Local Protective Action Recommendations Table," and REVIEW off-site response actions associated with state posture codes.

7.8 Added step 4.2.3 to refer to Attachment 2, "OU1 - Determination Criteria," if an event is an unplanned radiological release, and review classification and reportability requirements.

7.9 Modified step 4.2.6 for the SM to refer to EPOP 4411, Director of Station Emergency Operations if event is classified as an Unusual Event or higher and perform applicable steps for the event in progress.

7.10 Added reference in Attachment 2, "OU1 - Determination Criteria," to the 1/1/92 version of 10CFR 20 for radiological effluents.

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Attachment 1
State and Local Protective Action Recommendations Table
(Sheet 1 of 1)

CLASSIFICATION OF RADIOLOGICAL INCIDENTS AND POSTURE CODES			
	INCIDENT CLASS	POSTURE CODE	INCIDENT DESCRIPTION AND POSTURE CODE ACTIONS*
1	NOTIFICATION OF UNUSUAL EVENT (Least Serious)	Delta 1	Unusual occurrence. No unplanned release of radioactivity. <u>ACTIONS:</u> No public protective actions required.
		Delta 2	Unusual occurrence with unplanned release of minute amounts of radioactivity. <u>ACTIONS:</u> No public protective actions required. Possible standby for key staff.
2	ALERT	Charlie 1	Actual or potential release of small amounts of radioactivity. <u>ACTIONS:</u> Standby for key staff. If appropriate, activate emergency staff/EOC, and monitor food/water/milk. Bring EBS to standby status.
3	SITE AREA EMERGENCY	Charlie 2	Actual or potential release of small amounts of radioactivity. <u>ACTIONS:</u> Activate emergency staff/EOC. Monitor food/water/milk. Consider placing milk animals on stored feed. Alert EBS and public warning, as appropriate.
4	GENERAL EMERGENCY (Most Serious)	Bravo	Events with a potential delayed release of relatively large amounts of radioactivity such as station blackout or loss of Control Room security. <u>ACTIONS:</u> Activate emergency staff/EOC. If not constrained, implement evacuation in an approximate 2 mile radius. If constrained, implement take shelter in an approximate 2 mile radius. Assess need to extend distance. Alert EBS and public warning, as appropriate. If appropriate, control food/water/milk.
		Alpha	Actual or potential release of large amounts of radioactivity. Actual or potential breach in containment. <u>ACTIONS:</u> Activate emergency staff/EOC. If not constrained, implement evacuation in an approximate 5 mile radius and, if necessary, take shelter in an approximate 5 to 10 mile radius. Assess need for additional evacuation. If constrained, take shelter in an approximate 10 mile radius. Alert EBS. Activate EBS and public warning, as appropriate. Control food/water/milk.
* The Incident Class defines seriousness with regard to public safety. The Posture Code guides off-site response actions. The above listed actions for state and local officials summarize major public protection for each Posture Code.			

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Attachment 2
OUI – Determination Criteria
(Sheet 1 of 2)

NRC AND STATE INCIDENT CLASSIFICATION SCHEME						
Reportable Event Description	NRC Classification Requirements	NRC Reporting Requirement	State Posture Code	State Reporting Requirement <small>(DEP Monitoring and Radiation Control Division)</small>	Notes (Sheet 2)	CR/LER Category
<p>Any airborne radioactive release that, when averaged over a period of 1 hour, results in concentrations in unrestricted area that exceed 2 times the applicable concentration limits specified in Appendix B, part 20.1–20.601 Table II, Column 1.</p> <p>Refer to part 20 for implementing the provisions of part 20.1001 – 20.2401 of this chapter, 2 times the applicable concentration specified in Appendix B, part 20.1001 – 20.2401, Table 2, Column 1, of part 20 of this chapter. (See Note 2)</p>	<p>UNUSUAL EVENT 10CFR50.72(b)(2)(iv)(A)</p> <p>Non-emergency event 4 hour report, being reported within 1 hour due to State Reg.</p>	<p>Within 1 hour via ENS 10CFR50, App. E 10CFR50.72(b)(2)</p>	D-2	<p>Within 15 minutes State Reg. 22a-135-1</p>	NOTE 1, 2	As Appropriate Refer to NU Reporting Guide
<p>Any liquid effluent release that when averaged over a time of 1 hour, exceeds 2 times the applicable concentration specified in Appendix B to part 20, Table 2, Column 2, at the point of entry into the receiving waters (i.e., unrestricted area) for all radionuclides except tritium and dissolved noble gases. (Immediate notification made under this paragraph also satisfy the requirements of §20.403 of this chapter. (See Note 2)</p>	<p>UNUSUAL EVENT 10CFR50.72(b)(2)(iv)(B)</p> <p>Non-emergency event 4 hour report, being reported within 1 hour due to State Reg.</p>	<p>Within 1 hour via ENS 10CFR50, App. E 10CFR50.72(b)(2)</p>	D-2	<p>Within 15 minutes State Reg. 22a-135-1</p>	NOTE 1, 2	As Appropriate Refer to NU Reporting Guide

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Attachment 2
OU1 – Determination Criteria
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NOTES

- NOTE 1** Follow-up notification. Telephone notifications made for non-emergency one (1) and four (4) hour events will require follow-up notifications in addition to the initial notification during the course of the event as follows:
- a. **Immediate Report:**
 - (i) Any further degradation in the level of safety of the plant or other worsening plant conditions, including those that required the declaration of any of the Emergency Classes, if such a declaration has not been previously made, or
 - (ii) Any change from one Emergency Class to another, or
 - (iii) A termination of the emergency classification.
 - b. **Immediate Report:**
 - (i) The result of engineering evaluations or assessments of plant conditions
 - (ii) The effectiveness of response or protective measures taken, and
 - (iii) Information related to plant behavior that is not understood.
 - c. NRC may request an open, continuous communication channel with the NRC Operations Center.
- NOTE 2** NU is using the 1/1/92 version of 10CFR20 for radiological effluents. (Per Technical Specifications)

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