

Dominion Nuclear Connecticut, Inc.
Millstone Power Station
Rope Ferry Road
Waterford, CT 06385



Dominion™

APR 26 2004

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

Serial No. 04-265
MPS Lic/BAK R0
Docket Nos. 50-245
50-336
50-423
License Nos. DPR-21
DPR-65
NPF-49

DOMINION NUCLEAR CONNECTICUT, INC.
MILLSTONE POWER STATION UNITS 1, 2 AND 3
REVISED EMERGENCY PLAN PROCEDURES

In accordance with 10 CFR 50, Appendix E, Dominion Nuclear Connecticut, Inc. hereby notifies the U.S. Nuclear Regulatory Commission that the following Emergency Plan procedures have been implemented:

- MP-26-EPI-FAP15-001, "DSEO/ADTS Briefing Sheet," Major Revision 1, Minor Revision 1, transmitted via Attachment 1;
- MP-26-EPI-FAP06, "Classification and PARs," Major Revision 0, Minor Revision 5, transmitted via Attachment 2;
- MP-26-EPI-FAP06-005, "Control Room Protective Action Recommendations," Major Revision 0, Minor Revision 2, transmitted via Attachment 3;
- MP-26-EPI-FAP06-006, "EOF Protective Action Recommendations," Major Revision 0, Minor Revision 3, transmitted via Attachment 4;
- MP-26-EPI-FAP06-007, "Protective Actions Comparisons," Major Revision 0, Minor Revision 1, transmitted via Attachment 5;
- MP-26-EPI-FAP04-003, "Manager of Radiological Dose Assessment (MRDA)," Major Revision 1, Minor Revision 4, transmitted via Attachment 6.

These minor revisions to the procedures went into effect on March 24, 2004, therefore this transmittal is beyond the 30 days specified in 10 CFR 50, Appendix E,

A001

Appendix E, Section V. If you have any questions or require additional information, please contact Mr. David W. Dodson at (860) 447-1791, extension 2346.

Very truly yours,

A handwritten signature in black ink, appearing to read "J. Alan Price". The signature is stylized with a large initial "J" and "A".

J. Alan Price
Site Vice President - Millstone

Attachments: 6

Commitments made in this letter: None.

cc: U.S. Nuclear Regulatory Commission (2 copies)
Region I
475 Allendale Road
King of Prussia, PA 19406-1415

Mr. R. J. Conte, Chief
Operational Safety Branch
U.S. Nuclear Regulatory Commission
Region I
475 Allendale Road
King of Prussia, PA 19406-1415

cc: w/o attachments

Mr. D. G. Holland
Project Manager
U.S. Nuclear Regulatory Commission
One White Flint North
11555 Rockville Pike
Mail Stop 7E1
Rockville, MD 20852-2738

Mr. R. Prince
NRC Inspector
U.S. Nuclear Regulatory Commission
Region I
475 Allendale Road
King of Prussia, PA 19406-1415

Mr. V. Nerses
Senior Project Manager
U.S. Nuclear Regulatory Commission
One White Flint North
11555 Rockville Pike
Mail Stop 8C2
Rockville, MD 20852-2738

Mr. S. M. Schneider
NRC Senior Resident Inspector
Millstone Power Station

Attachment 1

**Emergency Procedures Implementing (EPI)
Functional Administrative Procedure (FAP)
MP-26-EPI-FAP15-001, "DSEO/ADTS Briefing Sheet,"
Major Revision 1, Minor Revision 1**

**Millstone Power Station Units 1, 2 and 3
Dominion Nuclear Connecticut, Inc. (DNC)**

3-18-04
Approval Date

3-24-04
Effective Date

DSEO/ADTS Briefing Sheet

1) Classification

Time Declared: _____

EAL No: _____

- General Emergency Alpha Bravo
- Site Area Emergency (Charlie-Two)
- Alert (Charlie-One)
- Unusual Event Delta-1 Delta-2

Basis: _____

2) Fission Product Barrier Status

	FUEL	RCS	CTMT
Intact:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Potential Loss:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Loss:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3) Onsite Protective Actions

- None
- Early Dismissal: No Yes
- Local (on-site) Area(s) Evacuated: No Yes
- Evacuation/Accountability: No Yes
Status: _____
- Search & Rescue: No Yes
Status: _____
- Potassium Iodide Issued: No Yes

4) Personnel Status

- None
- Injuries (No. _____): No Yes
- Contamination(s): No Yes
- Over Exposure(s): No Yes
- Emerg Exposures Authorized: No Yes
- Details (names of injured, status of family notification):

5) Unit Status

- On-Line At Power: _____ %
- Off-Line Cooling Down
- Cold Shutdown
- Reducing Power

Time of Rx Shutdown: _____

- Stable Degrading Improving

Systems/Equipment Affected: _____

Equipment Out of Service: _____

Teams Dispatched/Corr Actions/Priorities: _____

Outstanding Actions: _____

EOPs in Use: _____

Security Controls in Effect: _____

§50.54(x) Invoked: No Yes

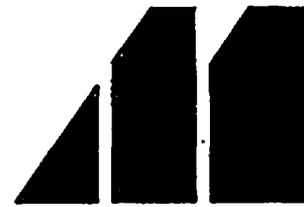
Time NRC Notified: _____

Attachment 2

**Emergency Procedures Implementing (EPI)
Functional Administrative Procedure (FAP)
MP-26-EPI-FAP06, "Classification and PARs,"
Major Revision 0, Minor Revision 5**

**Millstone Power Station Units 1, 2 and 3
Dominion Nuclear Connecticut, Inc. (DNC)**

**Functional
Administrative
Procedure**



Millstone Station

Classification and PARs

MP-26-EPI-FAP06

Rev. 000-05

Approval Date: 3-18-04

Effective Date: 3-24-04



TABLE OF CONTENTS

1. PURPOSE.....2

 1.1 Objective.....2

 1.2 Applicability.....2

 1.3 Supporting Documents.....2

 1.4 Discussion.....3

2. INSTRUCTIONS.....5

 2.1 Event Classification Based on EAL Tables.....5

 2.2 Transitory Events.....7

 2.3 Emergency Termination and Transition to Recovery.....8

 2.4 Plant Based Protective Action Recommendations (PARs).....9

 2.5 Dose Assessment Based Protective Action Recommendations (PARs).....10

3. SUMMARY OF CHANGES.....11

 3.1 Revision 000-05.....11

 3.2 Revision 000-04.....11

 3.3 Revision 000-03.....11

 3.4 Revision 000-02.....11

 3.5 Revision 00-01.....11

 3.6 Revision 000.....11

ATTACHMENTS AND FORMS

Attachment 1 Definitions and Abbreviations.....12

Attachment 2 Responsibilities.....13

Attachment 3 OU1-Determination Criteria.....14

Attachment 4 PAR Zone Descriptions.....15

Attachment 5 State and Local Posture Code Response and Protective Actions.....16

MP-26-EPI-FAP06-001, "Millstone Unit 1 Emergency Action Levels"

MP-26-EPI-FAP06-002, "Millstone Unit 2 Emergency Action Levels"

MP-26-EPI-FAP06-003, "Millstone Unit 3 Emergency Action Levels"

MP-26-EPI-FAP06-004, "Termination Checklist"

MP-26-EPI-FAP06-005, "Control Room Protective Action Recommendations"

MP-26-EPI-FAP06-006, "EOF Protective Action Recommendations"

MP-26-EPI-FAP06-007, "Protective Action Comparisons"

1. PURPOSE

1.1 Objective

This procedure provides guidance on:

- The use of Emergency Action Levels (EALs) for classifying an emergency.
- Determining the offsite Protective Action Recommendation (PAR).
- Terminating the emergency and transitioning into Recovery.

1.2 Applicability

1.2.1 Conditions exist which, in the judgment of the Shift Manager/DSEO, could be classified as an emergency.

1.2.2 Conditions have been stabilized and the DSEO is preparing to terminate the emergency and enter into Recovery.

1.3 Supporting Documents

EPI-FAP07, "Notifications and Communications"

EPI-FAP14, "Recovery"

RAC 14, "Non-Emergency Station Events "

| ①

1.4 Discussion

1.4.1 Event Classification

- a. The decisions to classify an event and recommend protective actions are non-delegable responsibilities of the DSEO. Personnel will assist with the analysis of the event and the development of recommendations, but the ultimate approval authority rests with the DSEO. Input and recommendations that support the decision are provided by the ADTS/TIC | ⑤ for operational and EAL table input, the ADEOF for PAR and notification information, and the MOS for security considerations.
- b. To ensure classification upgrades are timely and effective, a continuous communications network has been established between the CRDC in the affected Unit's Control Room, and the TIC in the EOF. The CRDC provides data on changing plant status and parameters. The TIC provides this information to the DSEQ, answers operational and technical questions, and alerts the DSEO of potential impact on classification. | ⑤
- c. A 15 minute goal has been established by the NRC as a reasonable period of time for assessing and classifying an emergency once indications are available that an EAL initiating condition has been exceeded. After the event has been classified, regulations require the prompt notification of off-site authorities within 15 minutes.

1.4.2 Protective Action Recommendations (PARs) General Guidance

- a. PARs are made whenever a General Emergency is declared. Millstone will not issue PARs for any accident classified below a General Emergency.
- b. PARs provided in response to a radioactive release include evacuation, sheltering, and implementation of State Potassium Iodide (KI) strategy. | ⑤
 - Evacuation is the preferred action unless external conditions impose a greater risk from the evacuation than from the dose received.
 - Station personnel do not typically have the necessary information to determine whether offsite conditions would require sheltering instead of an evacuation. Therefore, an effort to base PARs on external factors (such as road conditions, traffic/traffic control, weather or offsite emergency worker response) should not be attempted.
 - The recommendation that the State implement their Potassium Iodide (KI) strategy for the general public is based on projected or actual dose to the thyroid (Committed Dose Equivalent – CDE) of 5 Rem or greater. The 5 Rem threshold is based on recommendations from the Food and Drug Administration. | ⑤

- c. At a minimum, a plant condition driven PAR to evacuate a 2 mile radius, and shelter all other Subzones (General Emergency Bravo), is issued at the declaration of a General Emergency. Depending on plant conditions, the following may be issued instead of the minimum PAR:
- 2 mile radius and 5 miles downwind, and shelter all other Subzones (General Emergency Alpha)
 - 5 mile radius and 10 miles downwind, and shelter all other Subzones and possibly the recommendation for State implementation of their Potassium Iodide (KI) strategy for the general public.
- d. PARs are provided directly to the State DEP (via the IRF as part of the classification posture code or by phone communications).
- The PAR must be provided to the State within 15 minutes of the classification of the General Emergency or any change in recommended actions.
 - The PAR must be provided to the NRC as soon as possible and within 60 minutes of (1) the classification of the General Emergency or (2) any change in recommended actions.
- e. The DSEO may elect to specify PARs for any combinations of Subzones or the entire EPZ (or beyond) regardless of plant and dose based guidance.
- f. Once a PAR has been issued to the State, it should not be lessened or reduced until the threat is fully under control (e.g., "evacuation" recommendations for specific zones should not be changed to "shelter" recommendations. "Shelter" recommendations should not be changed to "no action" recommendations.).
- g. PARs should not be extended based on the results of dose projections unless the postulated release is likely to occur within a short period of time. Plant based PARs are inherently conservative such that expanding the evacuation zone as an added precaution would result in a greater risk from the evacuation than from the radiological consequences of a release. It also would dilute the effectiveness of the offsite resources used to accommodate the evacuation.
- h. Many assumptions exist in dose assessment calculations, involving both source term and meteorological factors, which make computer predictions over long distances highly questionable. In the event dose assessment results indicate the need to recommend actions beyond the outer EPZ boundaries (past 10 miles), field monitoring teams will be dispatched to downwind areas to verify the calculated exposure rates prior to issuing PARs outside the EPZ.

5

5

2. INSTRUCTIONS

2.1 Event Classification Based on EAL Tables

2.1.1 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 additional assistance to support assessment of indications.

2.1.2 Determine whether a classifiable emergency exists as follows:

- a. Review the applicable unit EAL tables:
 - EPI-FAP06-001, "Millstone Unit 1 EAL Table"
 - EPI-FAP06-002, "Millstone Unit 2 EAL Table"
 - EPI-FAP06-003, "Millstone Unit 3 EAL Table"

NOTE

If an applicable category (column) is not found, the most applicable definition from the classification column should be used.

Attachment 5 describes offsite response and actions for each classification State Posture Code.

- b. Search the EAL table for applicable accident category (column) and review the possible initiating conditions from most to least severe (top to bottom).
- c. Review the remainder of the EAL table for other possible classification initiating conditions.
- d. IF the event involves an unplanned release, Refer To Attachment 3, "OU1-Determination Criteria," to determine the classification and notification requirements as appropriate.
 - 1) Notify the Unit Chemistry Supervisor to provide assistance in determining the magnitude of the release for OU1 determinations.
 - 2) Evaluate the magnitude of the release.
 - 3) IF a release has exceeded the specified limits, Go To step 2.1.2.e.

- e. Declare the emergency and record the classification decision and declaration time in the logbook.
- IF two or more initiating conditions are met within a single classification level, declare the emergency based on the EAL which appears most limiting to the personnel or plant safety.
 - IF two or more initiating conditions are met for several classification levels, declare the emergency based on the EAL for the highest classification level that applies.

NOTE

If a higher classification level is reached before SERO and Offsite notifications have been performed, the lower classification notification is halted and notification for the higher classification is then made

- f. Direct the Emergency Communicator to Refer To EPI-FAP07, "Notifications and Communications," and initiate notifications, as appropriate. | ③
- g. IF the event is classified as Unusual Event or higher, Refer To the following checklists and perform the applicable steps for the event in progress. | ②
- 1) EPI-FAP01-001, "Control Room Director of Station Emergency Operations (CR-DSEO)"
 - 2) EPI-FAP04-001, "Director of Station Emergency Operations (DSEO)"
- 2.1.3 IF the event has been evaluated and is not addressed by the Emergency Action Level tables, Go To RAC 14, "Non-Emergency Station Events." | ①

2.2 Transitory Events

2.2.1 IF the currently declared event has abated to a lower classification level or the situation has been resolved prior to completion of off-site notifications:

a. For Unusual Event level emergencies:

- 1) Complete the initial notifications of SERO, State, and NRC personnel noting that the initiating conditions no longer exist on the call-in message and notification forms.
- 2) Terminate the emergency and enter into EPI-FAP14, "Recovery." | ④

b. For Alert and higher level emergencies:

- 1) Complete the initial notifications of SERO, State and NRC personnel noting that the initiating conditions no longer exist on the call-in message and notification forms.
- 2) IF applicable, maintain the classification level until all facility activation activities are completed.
- 3) Terminate the emergency and enter into EPI-FAP14, "Recovery." | ④

NOTE

Event declarations are used to initiate notification processes and predefined response activities. Once an emergency has been declared, there is little to be gained from downgrading the classification level. Termination of the emergency and entry into Recovery is preferred over downgrading whenever possible.

2.2.2 IF an emergency declaration is found to be too conservative, it can be:

- a. Reclassified at the appropriate classification level once the immediate actions (onsite and offsite) have been conducted or controlled.
- b. Terminated into Recovery to initiate follow-up activities.

2.3 Emergency Termination and Transition to Recovery

Termination of the emergency and entry into Recovery enables the on-site and off-site response organizations to disband or reduce their staff and begin the process of returning to a normal mode of operation. Termination also signifies that the safety of the public, company employees and the plant is no longer jeopardized.

2.3.1 IF entering Recovery from an Unusual Event, complete EPI-FAP06-004, "Termination Checklist." ④

NOTE

Generally, the activities following an Unusual Event will not require the formation of a Recovery Organization or a transition period before event termination and entry into Recovery.

- a. Determine the need for a Recovery Plan and support organization.
- b. Go To EPI-FAP14, "Recovery," for further guidance on the generation of required reports.

2.3.2 IF entering Recovery from an ALERT or higher classification level, complete EPI-FAP06-004, "Termination Checklist."

- a. If conditions will allow for the termination of the emergency and entry into Recovery, Go To EPI-FAP14, "Recovery."
- b. IF conditions do not support termination of the emergency and entry into Recovery, continue following the guidance provided in Section 2.1.

2.4 Plant Based Protective Action Recommendations (PARs)

2.4.1 Refer To EPI-FAP06-005, "Control Room Protective Action Recommendations" or EPI-FAP06-006, "EOF Protective Action Recommendations," to determine the proper PAR.

2.4.2 Evacuation of a 5 mile radius and 10 miles downwind (with sheltering of all other Subzones) will be recommended for plant conditions in which:

- a. All three fission product barriers, as determined from the EAL Barrier Failure reference table, have been lost. (5)
- b. Containment Radiation Monitors reading:
 - 1) >19,000 R/Hr for Unit 2.
 - 2) >30,000 R/Hr for Unit 3.
- c. EPA PAGs (≥ 1 Rem TEDE or ≥ 5 Rem CDE thyroid) are or are suspected to be exceeded at or beyond 5 miles.
- d. GE Alpha has been declared. (5)

2.4.3 Evacuation of a 5 mile radius and 10 miles downwind (with sheltering of all other Subzones in "A" and "B" only) will be recommended for a General Emergency - Alpha declaration not meeting the criteria identified in step 2.4.2.

2.4.4 At a minimum, evacuation of a 2 mile radius and sheltering of all other Subzones will be recommended for a General Emergency - Bravo declaration.

2.4.5 IF dose projections or actual dose is equal to or greater than 5 Rem thyroid (Committed Dose Equivalent), recommend the State implement their KI strategy for the general public. (5)

2.4.6 IF a release is in progress:

- a. Perform offsite dose assessment as soon as possible to determine if PAGs are exceeded and if additional Subzones require evacuation.
- b. Add any Subzones requiring evacuation as determined by dose assessment to the plant based PARs.

2.4.7 IF no release is in progress:

- a. Perform offsite dose projections on possible conditions as time permits to determine if PAGs could be exceeded.
- b. Consider adding any Subzones requiring evacuation as determined by dose projection to the plant based PARs.

2.5 Dose Assessment Based Protective Action Recommendations (PARs)

NOTE

Dose projections are not required to support the decision process in EPI-FAP06-005, "Control Room PARs," or EPI-FAP06-006, "EOF PARs."

- 2.5.1 From the Control Room: If a release is in progress and time permits, perform offsite dose assessment in accordance with EPI-FAP10 to determine whether the plant based protective actions are adequate.
- 2.5.2 From the Emergency Operations Facility: Conduct offsite dose assessment in accordance with EPI-FAP10 to determine whether the plant based protective actions are adequate.
- 2.5.3 IF dose projections or actual dose is equal to or greater than 5 Rem thyroid (Committed Dose Equivalent), recommend the State implement their Potassium Iodide (KI) strategy for the general public. (5)
- 2.5.4 In the event dose assessment results indicate the need to recommend actions beyond the outer EPZ boundaries, that is past 10 miles:
 - a. Dispatch RMTs to downwind areas to verify the calculated exposure rates prior to issuing PARs outside the EPZ.
 - b. Many assumptions exist in dose assessment calculations, involving both source term and meteorological factors, which make computer predictions over long distances highly questionable.
- 2.5.5 The ADEOF and the MRDA shall discuss dose assessment and projection analysis results and evaluate their applicability prior to issuing PARs to the State if possible.

3. SUMMARY OF CHANGES

3.1 Revision 000-05

- 3.1.1 Added information throughout procedure supporting the recommendation for the State to implement their strategy for Potassium Iodide (KI) for the general public.
- 3.1.2 Added information per NRC RIS 2003-12 clarifying regulatory requirement to develop/communicate PARs which take into account previous PARs.
- 3.1.3 Added additional notes regarding the 15-minute requirement for any and all PARs transmitted to the State.
- 3.1.4 Deleted TSCSM in Continuous Communication loop from step 1.4.1.b.
- 3.1.5 Added "as determined from the EAL Barrier Failure Reference Table" to step 2.4.2.a.
- 3.1.6 Added information to both the Control Room and EOF PAR process flow charts for making recommendations to the State regarding Potassium Iodide (KI) for the general public.

3.2 Revision 000-04

- 3.2.1 CR-03-02490/AR 03001702-04/CR-03-03301
- 3.2.2 In step 2.2.1, added information to terminate the event and enter into EPI-FAP14, "Recovery."
- 3.2.3 In step 2.3.1, added information to complete the Termination Checklist before entering recovery from an Unusual Event.

3.3 Revision 000-03

- 3.3.1 Step 2.1.2.f, changed Shift Technician to Emergency Communicator (CR-03-01242)

3.4 Revision 000-02

- 3.4.1 Added the word "checklist" on page 6 step 2.1.2.g.
- 3.4.2 Added the definition of "Lead Unit" to Attachment 1.
- 3.4.3 Corrected route numbers in Attachment 4.

3.5 Revision 00-01

- 3.5.1 Procedure EPIP 4400A, "Non-Emergency Station Events," was converted to RAC 14, "Non-Emergency Station Events."

3.6 Revision 000

- 3.6.1 Original issue

Attachment 1

Definitions and Abbreviations

(Sheet 1 of 1)

Definitions

Event Category - A list of plant or other conditions used to organize the columns of the EAL tables (i.e. Loss of Power, Equipment Failure, Radiation Hazard, etc.)

Lead Unit - The unit which assumes classification responsibilities for reportable events. The lead unit may be any of the following:

- In unit specific events, the affected unit
- For non-unit specific events Unit 3 is the lead unit, unless otherwise designated .
- In situations involving multiple events, the unit experiencing the most severe event has the lead.
- A non-affected unit may be requested to assume the lead by the affected unit (e.g., loss of control room habitability).

Release in Progress - ANY radioactive release which is a result of, or associated with, the emergency event.

Significant Transient - Includes response to automatic or manually initiated functions such as trips, runbacks involving greater than 25% thermal power changes, ECCS injections, or thermal power oscillations of 10% or greater.

Transient - A condition that is:

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

Abbreviations

EAL - Emergency Action Level

KI - Potassium Iodide

PAR - Protective Action Recommendation

⑤

Attachment 2 Responsibilities

(Sheet 1 of 1)

1. The Shift Manager/CRDSEO is responsible for assessing and classifying events and making PARs until relieved by the DSEO in the EOF.

Attachment 3
OUI-Determination Criteria

(Sheet 1 of 1)

Initiating Condition 1

Any airborne radioactive release that, when averaged over a period of 1 hour, results in concentrations in unrestricted areas that exceed 2 times the applicable concentration limits specified in 10 CFR 20 part 20.1-20.601, Appendix B or Table II, Column 1.*

Initiating Condition 2

Any liquid effluent release that when averaged over a time of 1 hour, exceeds 2 times the applicable concentration specified in Part 20 Appendix B 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.*

* Millstone uses the 1/1/92 version of 10 CFR 20 for radiological effluents.

Attachment 4 PAR Zone Descriptions

(Sheet 1 of 1)

Zone	Town	Area
A	Waterford	The western and southern boundaries follow the Niantic River out to the shoreline along the Long Island Sound. The eastern boundary follows the town line up to Route 1. The northern boundary follows Route 1 to the northern end of the Niantic River to the intersection of the town line.
	East Lyme	The eastern and southern boundaries follow the Niantic River out to the shoreline along the Long Island Sound. The western boundary follows the Lyme Town Line (Fourmile River) up to Interstate 95. The northern boundary follows Interstate 95 to interchange #75 (Route 1 exit) and then follows Route 1 to the intersection with the Waterford town line.
B	East Lyme	The southern boundary begins at the intersection of Interstate 95 and the Lyme town line. It follows Interstate 95 to interchange #75 (Route 1 exit). The northern boundary follows Route 1 to the intersection with the Lyme town line. The western boundary follows the Lyme town line to where it intersects with Interstate 95.
	Waterford	The southern boundary begins at the intersection of Route 1 and the town line of East Lyme at the northern end of the Niantic River. It then follows Route 1 to the New London town line. The eastern boundary follows the town line to Route 95. The northern boundary follows Route 95 to 85, along Route 85 to the intersection of Route 395, and then along Route 395 to the west town line. The western boundary follows the East Lyme town line down to where it intersects Route 1 at the north end of the Niantic River.
	New London	All of New London is contained in this Subzone.
C	East Lyme	The southern boundary follows Route 1 from the town line to Route 95 and Route 95 to the east town line. The eastern boundary follows the town line. The northern boundary follows the town line. The western boundary follows the town line down to Route 1.
	Waterford	The southern boundary follows Route 395 from the town line to the intersection of Route 85, Route 85 to Route 95, then along Route 95 to the town line. The eastern boundary follows the Thames River to the town line. The northern boundary follows the town line. The western boundary follows the town line to Route 395.
	Montville	The southern boundary follows the town line. The eastern boundary follows the waterline through Horton Cove to Route 32. The northern boundary follows Route 32 to Raymond Hill Road, Raymond Hill Road to Route 395, Route 395 to Route 163, Route 163 to Chesterfield Road, Chesterfield Road (including Oakdale Heights) to Route 85, Route 85 to the Salem town line, and the Salem town line to the East Lyme town line. The western town line follows the town line from East Lyme to Waterford.
D	Old Lyme Lyme	All of Old Lyme is contained in this Subzone. The southern boundary follows the town line from Route 156. The eastern boundary follows the town line to Beaver Brook Road. The northern boundary follows Beaver Brook Road to the intersection of Route 156. The western boundary follows Route 156 to the town line.
E	Ledyard	The southern boundary follows the town line from the Thames River to Route 117. The eastern and northern boundaries follow Route 117 to Sandy Hollow Road, Sandy Hollow Road to Whalehead Road, Whalehead Road to the southern leg of the Tom Allyn Brook, and the Tom Allyn Brook to the Thames River. The western boundary follows the Thames River from the pond inlet north of Allyn Point down to the town line.
	Groton	All of Groton is contained in this Subzone.
F	Fishers Is.	All of Fishers Island is contained in this Subzone.
N/A	Plum Is.	All of Plum Island is contained in this Subzone.

Attachment 5
State and Local Posture Code Response and Protective Actions

(Sheet 1 of 1)

Unusual Event

Delta 1: Unusual occurrence with no unplanned release of radioactivity.

Offsite officials will make no public protective actions.

Delta 2: Unusual occurrence with an unplanned release of minute amounts of radioactivity.

Possible stand-by for key staff. Offsite officials will make no public protective actions.

Alert

Charlie 1: Actual or potential release of minute amounts of radioactivity.

Key staff on stand-by. Optional activation of the EOCs. Bring EAS to stand-by status. Consideration given to monitoring food, water, and milk pathways.

Site Area Emergency

Charlie 2: Actual or potential release of limited amounts of radioactivity.

Activation of the EOC. Coordinate activation of EAS and offsite sirens. Monitor food, water, and milk pathways. Consideration given to placing milk animals on stored feed.

General Emergency

Bravo: Events with a potential delayed release of relatively large amounts of radioactivity such as station blackout or loss of Control Room security.

Activation of the EOC (if not already done). Coordinate activation of EAS and offsite sirens. Evacuation of Zone 'A'. Shelter all other Zones. Control food, water, and milk.

Alpha: Actual or potential release of large amounts of radioactivity. Actual or potential breach in containment.

Activation of the EOC (if not already done). Coordinate activation of EAS and offsite sirens. Evacuation of Zones 'A' and 'B'. Shelter all other Zones. Assess the need to evacuate additional Zones. Control food, water, and milk.

Attachment 3

**Emergency Procedures Implementing (EPI)
Functional Administrative Procedure (FAP)
MP-26-EPI-FAP06-005, "Control Room Protective Action Recommendations,"
Major Revision 0, Minor Revision 2**

**Millstone Power Station Units 1, 2 and 3
Dominion Nuclear Connecticut, Inc. (DNC)**

3-18-04

Approval Date

3-24-04

Effective Date

Control Room Protective Action Recommendations

NOTE

The State must be notified within 15 minutes after a decision is made to issue or update PARs. Prior to State EOC activation:

- If a General Emergency BRAVO is declared, State officials automatically implement a PAR to evacuate a 2 mile radius. The Incident Report Form serves as PAR notification in this instance.
- If a General Emergency ALPHA is declared with actions only necessary out to 5 miles, State officials automatically implement a PAR to evacuate a 5 mile radius. The Incident Report Form serves as PAR notification in this instance.
- If a General Emergency ALPHA is declared with actions necessary out to 10 miles, PARs are verbally transmitted to the 24 hour DEP Dispatcher in Hartford.

Section A: Evaluating Protective Action Recommendations (PARs)

1. Refer To Section B, "CR PAR Process Flowchart" and determine the appropriate PAR.
2. IF PARs are warranted out to ten miles, perform the following:
 - a) Record the current wind direction in degrees (from 142 ft level): _____ | ①
 - b) Check the appropriate row on the PAR table.
3. Perform PAR notification as follows:
 - a) IF conditions do not warrant PARs out to 10 miles, transmit the Incident Report Form to serve as notification of necessary PARs.
 - b) IF conditions do warrant PARs out to 10 miles, verbally transmit PARs to the DEP Dispatcher in Hartford as follows:
 - (1) Contact the DEP Dispatcher in Hartford (number is in EPA-REF08B). | ①
 - (2) Identify yourself and read the applicable EVACUATE and SHELTER recommendations from Section B, "ALPHA - 10 Mile PARs."
 - (3) IF dose projections done by Chemistry Technicians are equal to or exceed 5 Rem Committed Dose Equivalent (CDE), recommend the State implement Potassium Iodide (KI) strategy for the general public. | ②
 - (4) Request the dispatcher inform the DEP Duty Officer that a PAR has been issued.
 - (5) Log the date and time of notification.

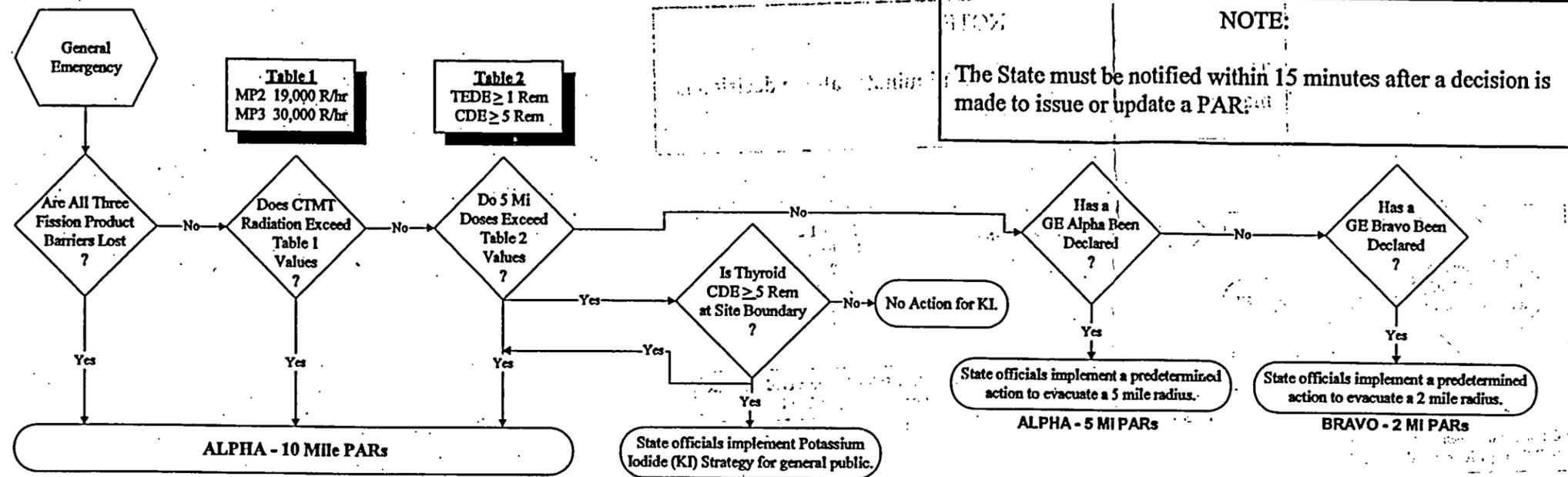
Section A: Evaluating Protective Action Recommendations (PARs)

NOTE

The DEP Duty Officer will call back to verify the PAR and obtain additional information relative to public safety.

4. IF necessary, Refer To and review EPI-FAP06 Att 4, "PAR Zone Descriptions."

Section B: Control Room PAR Process Flowchart



1. EVACUATE THE FOLLOWING ZONES

✓	Wind From	Zones to Evacuate
	030°-051°	A and B
	052°-088°	A and B and Old Lyme in D
	089°-093°	A and B and D
	094°-138°	A and B and D and East Lyme in C
	139°-154°	A and B and C and Lyme in D
	155°-177°	A and B and C
	178°-186°	A and B and Montville and Waterford in C
	187°-193°	A and B and Montville and Waterford in C and Ledyard in E
	194°-218°	A and B and E and Montville and Waterford in C
	219°-229°	A and B and E and Waterford in C
	230°-244°	A and B and E
	245°-257°	A and B and Groton City & Town in E
	258°-286°	A and B and F and Groton City & town in E
	287°-316°	A and B and F
	317°-339°	A and B
	340°-029°	A and B and Plum Island

2. SHELTER ALL OTHER ZONES

3. IF THYROID CDE ≥ 5 REM AT SITE BOUNDARY, RECOMMEND STATE OFFICIALS IMPLEMENT POTASSIUM IODIDE (KI) STRATEGY FOR THE GENERAL PUBLIC.

Attachment 4

**Emergency Procedures Implementing (EPI)
Functional Administrative Procedure (FAP)
MP-26-EPI-FAP06-006, "EOF Protective Action Recommendations,"
Major Revision 0, Minor Revision 3**

**Millstone Power Station Units 1, 2 and 3
Dominion Nuclear Connecticut, Inc. (DNC)**

3-18-04

Approval Date

3-24-04

Effective Date

EOF Protective Action Recommendations

NOTE

1. The State must be notified within 15 minutes after a decision is made to issue or update PARs.
2. Prior to State EOC activation, PARs are verbally transmitted to the 24 hour DEP Dispatcher in Hartford.
3. After State EOC activation, PARs are transmitted to DEP representatives at the State EOC directly over a hotline on the DSEO's desk.
4. Do not lessen or reduce PARs after they have been transmitted to the State. | ③

Section A: Evaluating Protective Action Recommendations (PARs)

- 1. Refer To Section B, "EOF PAR Process Flowchart," and determine the appropriate PAR.
 - a) Record the current wind direction in degrees (from): _____
 - b) Check the appropriate row on the PAR table.
- 2. IF the State EOC is activated, complete Section C, "State DEP PAR Transmittal Form," as follows:
 - a) Using the information from the Section B, "EOF PAR Process Flowchart," circle 'E' for communities that will be evacuated, 'S' for communities that will be sheltered and check recommendation that the State implement/not implement their KI strategy for the general public (provide any other actions as appropriate). | ③
 - b) Check one or more of the blocks in the 'Technical Bases' section as applicable (provide any comments as appropriate).
 - c) Verify DSEO review and approval by completion of the 'Authorization' section.
 - d) Record the date and time the DSEO provides the PAR notification to the State via the DEP hotline.

Date: _____ Time: _____
 - e) Fax the State DEP PAR Transmittal Form to the State EOC and record the date and time completed.

Date: _____ Time: _____

Section A: Evaluating Protective Action Recommendations (PARs)

- f) Record the date and time the DSEO informs the Chief Technical Spokesperson in the JMC of the PARs. ②

Date: _____ Time: _____

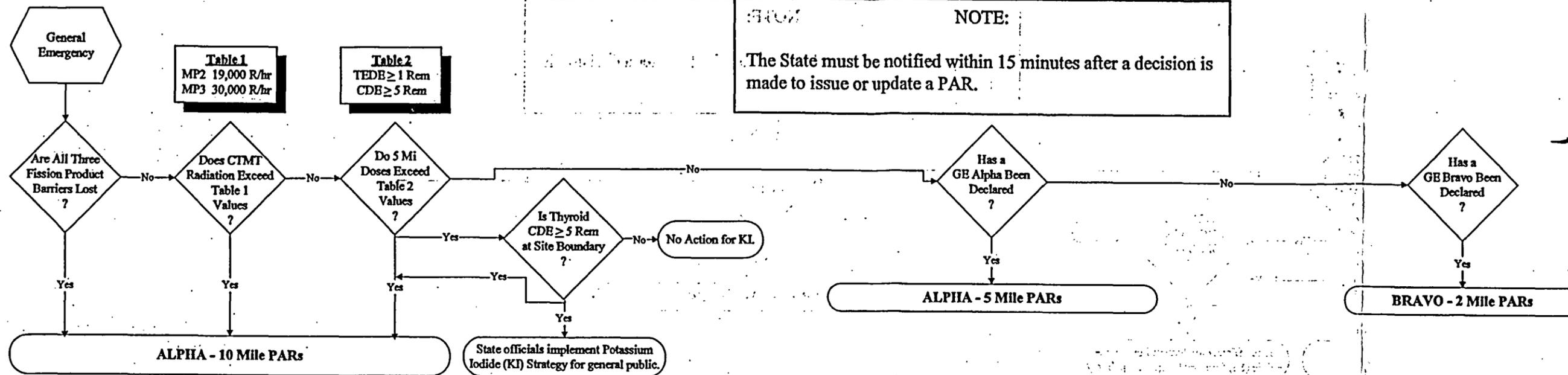
3. IF the State EOC is not activated, ensure the DSEO verbally transmits PARs to the DEP Dispatcher in Hartford as follows:

- a) Contact the DEP Dispatcher in Hartford (number is in EPA-REF08B). ②
- b) Identify yourself and read the EVACUATE, SHELTER, and KI recommendations from the applicable Section B table row. ③
- c) Request the dispatcher inform the DEP Duty Officer that a PAR has been issued.
- d) Log the date and time of notification.

NOTE

The DEP Duty Officer will call back to verify the PAR and obtain additional information relative to public safety. ①

Section B: EOF PAR Process Flowchart



1. EVACUATE THE FOLLOWING ZONES

✓	Wind	Zones to Evacuate
	030°-051°	A and B
	052°-088°	A and B and Old Lyme in D
	089°-093°	A and B and D
	094°-138°	A and B and D and East Lyme in C
	139°-154°	A and B and C and Lyme in D
	155°-177°	A and B and C
	178°-186°	A and B and Montville and Waterford in C
	187°-193°	A and B and Montville and Waterford in C and Ledyard in E
	194°-218°	A and B and E and Montville and Waterford in C
	219°-229°	A and B and E and Waterford in C
	230°-244°	A and B and E
	245°-257°	A and B and Groton City & Town in E
	258°-286°	A and B and F and Groton City & Town in E
	287°-316°	A and B and F
	317°-339°	A and B
	340°-029°	A and B and Plum Island

2. SHELTER ALL OTHER ZONES

3. IF THYROID CDE ≥ 5 REM AT SITE BOUNDARY, RECOMMEND STATE OFFICIALS IMPLEMENT POTASSIUM IODIDE (KI) STRATEGY FOR GENERAL PUBLIC.

1. EVACUATE THE FOLLOWING ZONES

✓	Wind	Zones to Evacuate
	083°-139°	A and East Lyme in B
	140°-167°	A and East Lyme and Waterford in B
	168°-189°	A and Waterford in B
	190°-243°	A and Waterford and New London in B
	244°-290°	A and New London in B
	291°-082°	A

1. EVACUATE ZONE 'A'

Section C: State DEP PAR Transmittal Form

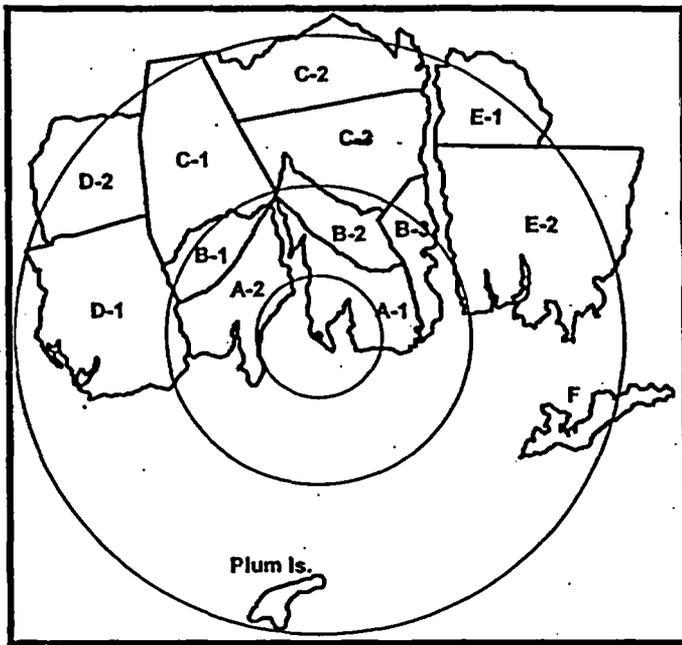
Millstone Station Protective Action Recommendations

Circle 'E' for Evacuate or 'S' for Shelter

Zone	Community	PAR ⁽¹⁾
(0-2 mi) A	Waterford (A-1) East Lyme (A-2)	E S

(2-5 mi) B	East Lyme (B-1) Waterford (B-2) New London (B-3)	E S E S E S
---------------	--	-------------------

(5-10 mi) C	East Lyme (C-1) Montville (C-2) Waterford (C-3)	E S E S E S
D	Old Lyme (D-1) Lyme (D-2)	E S E S
E	Ledyard (E-1) Groton City & Town (E-2)	E S E S
F	Fishers Island	E S
N/A	Plum Island	E S



- Recommend State implement KI strategy for the general public.
- Recommend State **DO NOT** implement KI strategy for the general public.

Note (1) Ensure all previous PARs issued to State have been reviewed and new PAR does not reduce previous PAR.

Other: _____

Technical Basis (check at least one)

- GE-Alpha
- GE-Bravo
- Plant Conditions
- Projected Dose
- Measured Dose
- Wind Shift
- Other

Comments: _____

Authorization

Approved By: _____ Date: _____ Time: _____

DSEO Signature

Attachment 5

**Emergency Procedures Implementing (EPI)
Functional Administrative Procedure (FAP)
MP-26-EPI-FAP06-007, "Protective Actions Comparisons,"
Major Revision 0, Minor Revision 1**

**Millstone Power Station Units 1, 2 and 3
Dominion Nuclear Connecticut, Inc. (DNC)**

3/18/04

Approval Date

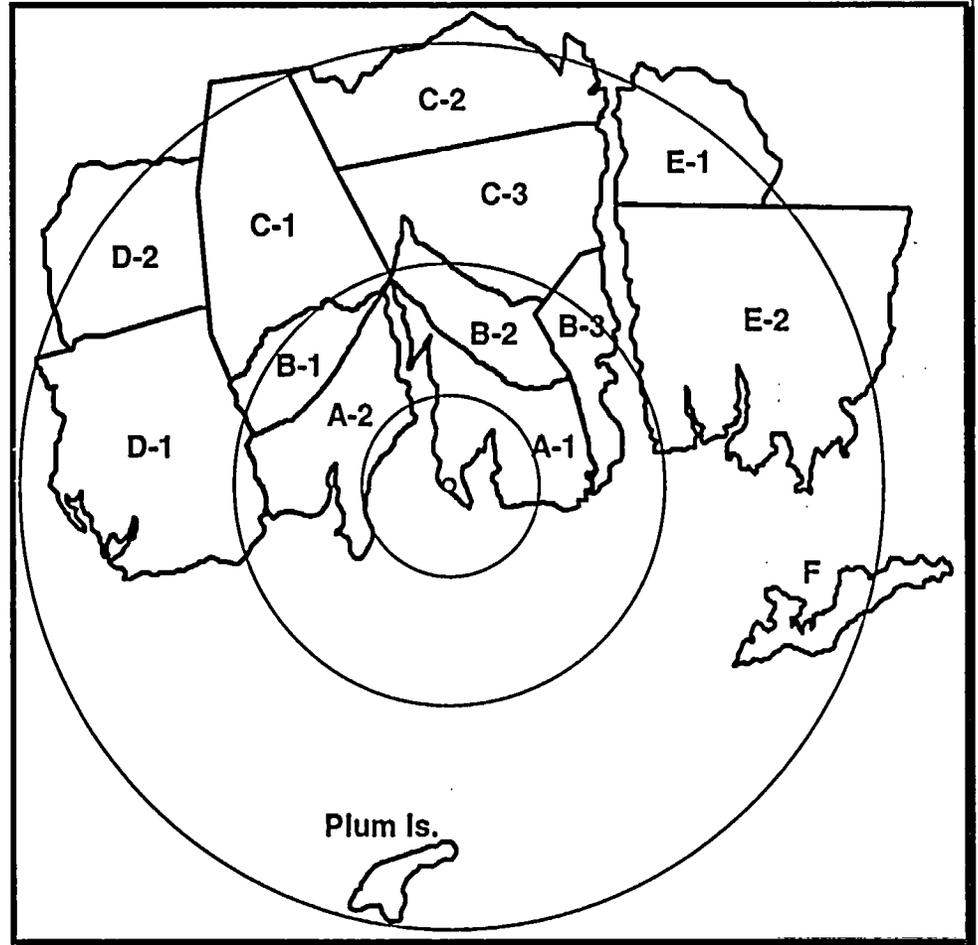
3/24/04

Effective Date

Protective Action Comparisons

Circle 'E' for Evacuate, 'S' for Shelter, and check 'Other' for applicable KI strategy.

Zone	Community	Station	State
A	(0-2 mi) Waterford (A-1)		
	East Lyme (A-2)	E S	E S
B	(2-5 mi) East Lyme (B-1)	E S	
	Waterford (B-2)	E S	E S
	New London (B-3)	E S	
C	(5-10 mi) East Lyme (C-1)	E S	
	Montville (C-2)	E S	E S
	Waterford (C-3)	E S	
D	Old Lyme (D-1)	E S	
	Lyme (D-2)	E S	E S
E	Ledyard (E-1)	E S	
	Groton City & Town (E-2)	E S	E S
F	Fishers Island	E S	E S
N/A	Plum Island	E S	



- Other: Station Recommendation
- State implement KI strategy
 - State DO NOT implement KI strategy
- State Action
- State implemented KI strategy
 - State DID NOT implement KI strategy

Attachment 6

**Emergency Procedures Implementing (EPI)
Functional Administrative Procedure (FAP)
MP-26-EPI-FAP04-003, "Manager of Radiological Dose Assessment (MRDA),"
Major Revision 1, Minor Revision 4**

**Millstone Power Station Units 1, 2 and 3
Dominion Nuclear Connecticut, Inc. (DNC)**

3-18-04

Approval Date

3-24-04

Effective Date

Manager of Radiological Dose Assessment (MRDA)

This form provides guidance to the MRDA for emergency response actions during events that activate the SERO.

Section A: Initial Activation

- 1. Sign in on the EOF Staffing Board and log date and arrival time on the SERO Log Sheet.
- 2. Notify the ADEOF of arrival and obtain event conditions and status update.
- 3. Maintain a log of significant events and communications on the SERO Log Sheet.
- 4. Assume coordination and supervision of the Radiological Dose Assessment Team (RDAT).
- 5. Review RDAT assignments and reassign actions, as necessary.
- 6. Upon DSEO turnover, perform the following:
 - Ensure the AMRDA has relieved the on-shift Chem Tech of dose assessment responsibilities.
 - Notify the ADEOF of dose assessment turnover from the on-shift Chem Tech.
- 7. Ensure the off-site RMTs are assembled, briefed and prepared for dispatch.
 - Coordinate RMT access to locked site areas with the MOS in the TSC, as necessary.
 - IF over water surveys are required, request the MOR provide transportation to the Environmental Laboratory and the boat location.
- 8. IF not constrained, direct the FTDC to dispatch off-site RMTs (specifically to the vicinity of site boundary in the downwind direction) and establish field communications as soon as possible.
- 9. IF a release impacts the EOF, ensure the EOF high radiation ventilation filtration system is activated by the EOF HP Technician.
- 10. Assess the need to suspend eating, drinking, and smoking in EOF and if warranted provide recommendation to DSEO.
- 11. Assign a RDAT member to test phones, hotlines, and fax machines.

3

Section B: Radiological Controls

▽ CAUTION ▽

1. EPA-400 allows for an unrestricted emergency worker exposure of 5 Rem during a declared event, regardless of 10 CFR 20 occupational exposure previously received.
2. For ALARA purposes at Millstone, an ALERT or higher declaration automatically increases exposures to 4.5 Rem TEDE less annual exposure to date. If dosimetry records are unavailable for prompt deployment, a 1.5 Rem TEDE limit may be assumed. (4.5 Rem emergency worker limit minus 3 Rem station administration limit on dose from all licensees combined).

1. Consult with the MRCA on radiological conditions and on-site personnel protective action decisions.

NOTE

State/local authorities may deploy offsite responders such as the National Guard or State/local police to the Millstone Station in response to a security-related threat. The State of CT and Waterford Police will be responsible for protective measures for these forces, as necessary (i.e., providing and issuing potassium iodide (KI) in a timely manner, maintaining doses ALARA, and upgrading exposures). Emergency workers exposures are determined in accordance with EPA-400 tables.

②

2. Refer To and implement EPI-FAP09, "Radiation Exposure Controls," to:
- Establish/upgrade off-site RMT exposure limits.
 - Evaluate/issue KI to offsite RMTs.
 - Determine DDE limit reductions.
3. Inform the State DEP of assumed DDE limit reductions.

Section C: Meteorological Data

CAUTION

1. Plant and dose based PARs use 15 minute average meteorological data. The EDAN and MP3 OFIS provide 15 minute average data.
2. The MP2 OFIS provides instantaneous readings which may *not* accurately identify the average of the plume direction. The MP2 OFIS data should only be used if it is trended.

NOTE

1. Wind direction data are critical to making PARs and accurate dose projections. Data is provided as a 3 digit number between 000°-360° representing the bearing from which the wind is blowing at the applicable release height (000° and 360° are from north; 180° is from south).
2. If no release is ongoing, the default height is the 142' elevation at MP.

- 1. IF necessary, Refer To EPI-FAP04-010, "Meteorological Assistant," and perform essential steps.
- 2. Maintain meteorological data applicable to the release elevations.

Section D: Dose Projections

NOTE

Time permitting, "What If" and "Worse Case" calculations are encouraged. Results shall be described as "hypothetical" or "bounding" in discussions with the ADEOF and DEP.

- 1. Immediately notify the ADEOF, DSEO, and MRCA any time off-site radiological or meteorological conditions change significantly or are expected to change.
- 2. Verify the release pathway and characteristics with the MTSC or the AMTL.
- 3. Evaluate the need to request effluent pathway samples from TSC as a means for quantifying/validating release parameters.
- 4. Brief the RAE on critical dose assessment inputs (e.g., release direction, core damage status, release filtering, containment spray, etc.)

3

Section D: Dose Projections

- 5. Ensure the following are performed by the assigned staff:
 - a) IF a release is in progress, obtain effluent radiation monitor readings, radiation survey results, and TEDE and CDE thyroid dose calculations at site boundary, 5 mile, and 10 mile using EPI-FAP10, "Dose Assessment."
 - b) "What If" dose projections are developed for known source terms released to the RCS or containment.
 - c) "Worst Case" dose projections are developed for severe accident sequences in cooperation with AMTL or MTSC, as appropriate.

- 6. Identify maximum off-site airborne doses (both TEDE and CDE thyroid) at the site boundary, 5 miles, and 10 miles downwind.

- 7. Communicate dose assessment results and basis to the ADEOF, State DEP, and the NRC.

- 8. Immediately notify the ADEOF when EPA PAG limits exceed or are projected to exceed off-site TEDE ≥ 1 Rem or CDE-thyroid ≥ 5 Rem.
 - a. IF CDE thyroid ≥ 5 Rem, inform ADEOF that a recommendation should be made to State officials that they implement Potassium Iodide (KI) strategy for the general public. (4)

- 9. IF dose projections indicate EPA PAGs may be exceeded beyond the 10 mile EPZ, perform the following:
 - a) Dispatch RMTs to define boundary beyond 10 mile EPZ.
 - b) Verify projected doses with RMT readings.
 - c) Inform the ADEOF of boundaries and doses to areas beyond 10 mile EPZ that may exceed EPA PAGs.

- 10. IF a radioactive liquid release via the quarry has occurred, calculate dose to the maximum individual using the REMODCM methods.

- 11. IF a radioactive liquid release via the storm drain system has occurred, calculate dose to the maximum individual using the REMODCM methods with the following input values:
 - Flow - 0.22 CFS
 - Dilution factor for fish, invertebrate, and boat pathways - 100
 - Dilution factor for shore and swim pathways - 240

- 12. Update the radiological status boards.

Section E: Routine Activities

- 1. Provide input on radiological emergency classification or PAR changes to the ADEOF.
- 2. Discuss status of actual or potential release scenarios with the ADEOF.
- 3. Direct the EOF HP Technician to monitor habitability and provide radiological coverage for building access, as necessary.
- 4. After an initial PAR has been issued, notify the ADEOF of actual meteorological or radiological conditions that require an updated PAR to be issued.
- 5. Determine personnel resources and establish individual work priorities. (e.g., off-site dose assessment strategy).
- 6. IF an effluent sample is required, Refer To EPI-FAP11, "Core Damage Assessment."
- 7. IF an environmental sample is required, Refer To the appropriate RPM procedure as follows:
 - RPM 2.9.5, "Milk Sampling"
 - RPM 2.9.6, "BIOTA Sampling"
 - RPM 2.9.8, "Soil Sampling"
 - RPM 2.9.9, "Terrestrial Water Sampling"
- 8. Assign, brief, and dispatch RMTs to obtain environmental sample.
- 9. Monitor changes in the radiological release pathways via OFIS, TIC, or AMT.
- 10. Provide input to NRC questions on radiological information via the HPN, as necessary.
- 11. Consult with the State DEP representative on the following:
 - Dose assessments and field team coordination
 - RMT data
 - Meteorological data
- 12. Immediately notify the ADEOF, and MRCA when off-site radiological conditions have changed significantly or are expected to change.

Section E: Routine Activities

- 13. Consult with the MTSC or AMTL regarding radiological data that may affect the following:
 - Plant recovery plans that may effect radiological conditions
 - Accident sequence
 - Radiation release paths
 - Core uncover time
 - Performance information regarding radioactivity mitigating systems
 - Compared results of radiologically based core damage estimates with results obtained using thermal hydraulic methods.

- 14. Provide a routine briefing to the RDAT on radiological status.

- 15. Maintain radiological status boards in EOC, as necessary.

- 16. Request additional personnel from the MOR, as necessary.

- 17. Process requests for samples (refer to EPI-FAP11, "Core Damage Assessment" for Sample Points/Analysis Options) when warranted or requested by the ADTS. | ①

- 18. Direct the RAE to calculate core damage estimates when data becomes available, as needed. |

Section F: Environmental Sampling

Sample Location and Schedule

- 1. Refer To Table 1 "Sample Location References" and the following to determine which areas to begin searching for contamination:
 - For Stack Releases..... Obtain data from the 374' met data
 - For Rooftop Releases Obtain data from the 142' met data
 - For Ground Releases Obtain data from the 33' met data
 - **DAYTIME - Wind Speed Less than 4 mph (2m/sec)**
Survey in downwind sector and 3 sectors to each side
 - **DAYTIME - Wind Speed Greater than 4 mph (2m/sec)**
Survey in downwind sector and 1 sector on each side
 - **NIGHTTIME - Wind Speed Less than 2 mph (1m/sec)**
Survey in downwind sector and 2 sectors on each side
 - **NIGHTTIME - Wind Speed Greater than 2 mph (1m/sec)**
Survey in downwind sector and 1 sector on each side
- 2. Coordinate sampling locations, schedule and strategies through State DEP.
- 3. Periodically, provide environmental sampling teams with the following:
 - Wind Direction
 - Plant Status
 - Sample Collection directions (including TLD)

Analytic Requirements

- 1. Determine the needed analytic requirements for the requested samples types:
 - HPGe or NaI
 - Iodine chemistry
 - Strontium chemistry
 - Tritium
- 2. Determine the required Minimum Detectable Levels (MDLs).

Laboratory Selection

- 1. Send samples to primary contractor for analysis.
- 2. Obtain assistance from additional contractor, as necessary.

Table 1: Sample Location References

SAMPLE TYPE	LOCATIONS	MAPS
TLDs	Emergency TLD locations and their backgrounds as identified in the Environmental Operating Report	Millstone REMODCM
Air Particulates & Iodine	Environmental Operating Report	Millstone REMODCM
Aquatic, Ground Cover (Broad Leaf Vegetation, Grass, Snow, etc.)	As taken by the Environmental Sampling Team in the Environmental Operating Report	Millstone Power Station Field Monitoring Map Books
Milk (or Pasture Grass)	Dairy cow and goat census in Annual Environmental Operating Report.	Millstone REMODCM
Vegetables, Fruits and Water	Environmental Operating Report	Millstone REMODCM

